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COMMISSION DELEGATED REGULATION (EU) 2021/2139

of 4 June 2021

supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives

(Text with EEA relevance)

(OJ L 442, 9.12.2021, p. 1)

Amended by:

		Official Journal		
		No	page	date
►M1	Commission Delegated Regulation (EU) 2022/1214 of 9 March 2022	L 188	1	15.7.2022

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COMMISSION DELEGATED REGULATION (EU) 2021/2139

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supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives

(Text with EEA relevance)

Article 1

The technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives laid down in Article 9 of Regulation (EU) 2020/852 are set out in Annex I to this Regulation.

Article 2

The technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives laid down in Article 9 of Regulation (EU) 2020/852 are set out in Annex II to this Regulation.

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Article 2a

Review

When performing the review referred to in Article 19(5) of Regulation (EU) 2020/852, the Commission shall also review and assess the necessity to amend the dates referred to in Annex I, Section 4.27, Section 4.28, Section 4.29, point 1(b), Section 4.30, point 1(b) and Section 4.31, point 1(b).

Any review of the date referred to in point (2) of Sections 4.27 and 4.28 to Annex I shall take into account the technical progress in accident-tolerant fuel commercialisation in the Union and worldwide.

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Article 3

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from 1 January 2022.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

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ANNEX I

Technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives

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Appendix A Generic criteria for DNSH to climate change adaptation

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1. FORESTRY

1.1. **Afforestation**

Description of the activity

Establishment of forest through planting, deliberate seeding or natural regeneration on land that, until then, was under a different land use or not used. Afforestation implies a transformation of land use from non-forest to forest, in accordance with the Food and Agriculture Organisation of the United Nations ('FAO') definition of afforestation ([1]), where forest means a land matching the forest definition as set out in national law, or where not available, is in accordance with the FAO definition of forest ([2]). Afforestation may cover past afforestation as long as it takes place in the period between the planting of the trees and the time when the land use is recognised as a forest.

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

Technical screening criteria

Substantial contribution to climate change mitigation

1. *Afforestation plan and subsequent forest management plan or equivalent instrument*

1.1. The area on which the activity takes place is covered by an afforestation plan of a duration of at least five years, or the minimum period prescribed in national law, developed prior to the start of the activity and continuously updated, until this area matches the definition of forest as set out in national law or where not available, is in line with the FAO definition of forest.

([1]) Establishment of forest through planting or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use form non-forest to forest, *FAO Global Resources Assessment 2020. Terms and definitions* (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([2]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use, *FAO Global Resources Assessment 2020. Terms and definitions* (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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The afforestation plan contains all elements required by the national law relating to environmental impact assessment of afforestation.

1.2. Preferably through the afforestation plan, or if information is missing, through any other document, detailed information is provided on the following points:

(a) description of the area according to its gazetting in the land registry;

(b) site preparation and its impacts on pre-existing carbon stocks, including soils and above-ground biomass, in order to protect land with high carbon stock ([3]);

(c) management goals, including major constraints;

(d) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(e) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;

(f) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

(g) measures deployed to establish and maintain the good condition of forest ecosystems;

(h) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(i) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(j) assessment of impact on food security;

(k) all DNSH criteria relevant to afforestation.

1.3. When the area becomes a forest, the afforestation plan is followed by a subsequent forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([4]). The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated.

1.4. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:

(a) management goals, including major constraints ([5]);

(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;

(d) definition of the area according to its gazetting in the land registry;

(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

([3]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([4]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised,
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([5]) Including an analysis of (i) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimising soil impacts.

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(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH criteria relevant to forest management.

1.5. The activity follows the best afforestation practices laid down in national law, or, where no such best afforestation practices have been laid down in national law, the activity complies with one of the following criteria:

(a) the activity complies with Commission Delegated Regulation (EU) No 807/2014 ([6]);

(b) the activity follows the "Pan-European Guidelines for Afforestation and Reforestation with a special focus on the provisions of the UNFCCC" ([7]).

1.6. The activity does not involve the degradation of land with high carbon stock ([8]).

1.7. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010 of the European Parliament and of the Council ([9]).

1.8. The afforestation plan and the subsequent forest management plan or equivalent instrument provide for monitoring that ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Climate benefit analysis*

2.1. For areas that comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;

(b) long-term climate benefits are considered demonstrated by proof of alignment with Article 29(7), point (b), of Directive (EU) 2018/2001.

2.2. For areas that do not comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity.

([6]) Commission Delegated Regulation (EU) No 807/2014 of 11 March 2014 supplementing Regulation (EU) No 1305/2013 of the European Parliament and of the Council on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and introducing transitional provisions (OJ L 227, 31.7.2014, p. 1).

([7]) Forest Europe Pan-European Guidelines for Afforestation and Reforestation with a special focus on the provisions of the UNFCCC adopted by the MCPFE Expert Level Meeting on 12-13 November, 2008 and by the PEBLDS Bureau on behalf of the PEBLDS Council on 4 November, 2008 (version of 4.6.2021: https://www.foresteurope.org/docs/other_meetings/2008/Geneva/Guidelines_Aff_Ref_ADOPTED.pdf).

([8]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([9]) Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market (OJ L 295, 12.11.2010, p. 23).

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(b) the projected long-term average net GHG balance of the activity is lower than the long-term average GHG balance projected for the baseline, referred to in point 2.2, where long term corresponds to the longer duration between 100 years and the duration of an entire forest cycle.

2.3. The calculation of climate benefit complies with all of the following criteria:

(a) the analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories ([10]). The climate benefit analysis is based on transparent, accurate, consistent, complete and comparable information, covers all carbon pools impacted by the activity, including above-ground biomass, below-ground biomass, deadwood, litter and soil, relies on the most conservative assumptions for calculations and includes appropriate considerations about the risks of non-permanence and reversals of carbon sequestration, the risk of saturation and the risk of leakage.

(b) the business as-usual practices, including harvesting practices, are ones of the following:

(i) the management practices as documented in the latest version of the forest management plan or equivalent instrument before the start of the activity, if any;

(ii) the most recent business-as-usual practices prior to the start of the activity;

(iii) the practices corresponding to a management system ensuring that carbon stocks and sinks levels in the forest area are maintained or strengthened over the long term as set out in Article 29(7), point (b), of Directive (EU) 2018/2001.

(c) the resolution of the analysis is proportionate to the size of the area concerned and values specific to the area concerned are used.

(d) emissions and removals that occur due to natural disturbances, such as pests and diseases infestations, forest fires, wind, storm damages, that impact the area and cause underperformance do not result in non-compliance with Regulation (EU) 2020/852, provided that the climate benefit analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories regarding emissions and removals due to natural disturbances.

2.4. Forest holdings under 13ha are not required to perform a climate benefit analysis.

3. *Guarantee of permanence*

3.1. In accordance with national law, the forest status of the area in which the activity takes place is guaranteed by one of the following measures:

(a) the area is classified in the permanent forest estate as defined by the FAO ([11]);

(b) the area is classified as a protected area;

(c) the area is the subject of any legal or contractual guarantee ensuring that it will remain a forest.

3.2. In accordance with national law, the operator of the activity commits that future updates to the afforestation plan and the subsequent forest management plan or equivalent instrument, beyond the activity that is financed, will continue to seek the climate benefits as determined in point 2. Besides, the operator of the activity commits to compensate any reduction in the climate benefit determined in point 2 with an equivalent climate benefit resulting from the conduct of an activity that corresponds to one of the forestry activities defined in this Regulation.

([10]) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/).

([11]) Forest area that is designated to be retained as forest and may not be converted to other land use, *FAO Global Resources Assessment 2020. Terms and definitions* (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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4. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

5. *Group assessment*

The compliance with the criteria for substantial contribution to climate change mitigation and with DNSH criteria may be checked:

(a) at the level of the forest sourcing area ([12]) as defined in Article 2, point (30), of Directive (EU) 2018/2001;

(b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (k) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC of the European Parliament and of the Council ([13]), with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 of the European Parliament and of the Council ([14]) or national rules on fertilisers or soil improvers for agricultural use.

([12]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

([13]) Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides (OJ L 309, 24.11.2009, p. 71).

([14]) Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003 (OJ L 170, 25.6.2019, p. 1).

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	Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([15]) of the European Parliament and of the Council ([16]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade ([17]), the Minamata Convention on Mercury ([18]), the Montreal Protocol on Substances that Deplete the Ozone Layer ([19]), and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard ([20]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in points 1.2(k) (Afforestation plan) and 1.4(i) (Forest management plan or equivalent system) include provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions. (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil;

([15]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([16]) Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (OJ L 169, 25.6.2019, p. 45).

([17]) Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (OJ L 63, 6.3.2003, p. 29).

([18]) Minamata Convention on Mercury (OJ L 142, 2.6.2017, p. 6.).

([19]) Montreal Protocol on Substances that Deplete the Ozone Layer (OJ L 297, 31.10.1988, p. 21).

([20]) The WHO Recommended Classification of Pesticides by Hazard (version 2019), (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	(e) promoting biodiversity-friendly practices that enhance forests' natural processes;
	(f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones;
	(g) ensuring the diversity of associated habitats and species linked to the forest;
	(h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

1.2. **Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event**

Description of the activity

Rehabilitation and restoration of forests as defined by national law. Where national law does not contain such a definition, rehabilitation and restoration corresponds to a definition with broad agreement in the peer-reviewed scientific literature for specific countries or a definition in line with the FAO concept of forest restoration ([21]) or a definition in line with one of the definitions of ecological restoration ([22]) applied to forest, or forest rehabilitation ([23]) under the Convention on Biological Diversity ([24]). The economic activities in this category also include forest activities in line

([21]) Forest restoration includes:
— rehabilitation, meaning the restoration of desired species, structures or processes to an existing ecosystem;
— reconstruction, meaning restoration of native plants on land which is in another use;
— reclamation, meaning restoration of severely degraded land devoid of vegetation;
— most radically replacement, in which species maladapted for a given location and unable to migrate are replaced with introduced species as climates change rapidly,
Forest restoration module. In Sustainable Forest Management (SFM) Toolbox (version of 4.6.2021: http://www.fao.org/sustainable-forest-management/toolbox/modules/forest-restoration/basic-knowledge/en/).

([22]) Ecological Restoration (Also Ecosystem Restoration):
— the process of returning an ecosystem to a natural pre-disturbance structure and function;
— the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed;
— the process of intentionally altering a site to establish a defined, indigenous ecosystem. The goal of this process is to emulate the structure, function, diversity and dynamics of the specified ecosystem;
— human intervention … designed to accelerate the recovery of damaged habitats, or to bring ecosystems back to as close an approximation as possible of their pre-disturbance states,
Most used definitions/descriptions of key terms related to ecosystem restoration. 11th conference of the Parties to the Convention on Biological Diversity. 2012. UNEP/CBD/COP/11/INF/19 (version of 4.6.2021: https://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-19-en.pdf).

([23]) Forest rehabilitation is the process of restoring the capacity of a forest to provide goods and services again, where the state of the rehabilitated forest is not identical to its state before degradation,
Most used definitions/descriptions of key terms related to ecosystem restoration. 11th Conference of the Parties to the Convention on Biological Diversity. 2012. UNEP/CBD/COP/11/INF/19 (version of 4.6.2021: https://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-19-en.pdf).

([24]) (version of 4.6.2021: https://www.cbd.int/convention/text/).

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with the FAO definition of ‘reforestation’ ([25]) and ‘naturally regenerating forest’ ([26]) after an extreme event, where extreme event is defined by national law, and where national law does not contain such a definition, is in line with the IPCC definition of extreme weather event ([27]); or after a wildfire, where wildfire is defined by national law, and where national law does not contain such a definition, as defined in the European Glossary for wildfires and forest fires ([28]).

The economic activities in this category imply no change of land use and occurs on degraded land matching the forest definition as set out in national law, or where not available, in accordance with the FAO definition of forest ([29]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

([25]) Re-establishment of forest through planting and/or deliberate seeding on land classified as forest,
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([26]) Forest predominantly composed of trees established through natural regeneration,
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([27]) An extreme weather event is an event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season). See IPCC, 2018: *Annex I: Glossary* (version of 4.6.2021: https://www.ipcc.ch/sr15/chapter/glossary/).

([28]) Any uncontrolled vegetation fire which requires a decision or action regarding suppression, 2012 European Glossary for wildfires and forest fires, developed under the European Forest Fire Network- ‘EUFOFINET’ project, as part of the INTERREG IVC programme (version of 4.6.2021: https://www.ctif.org/index.php/library/european-glossary-wildfires-and-forest-fires).

([29]) Land spanning more than 0.5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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Technical screening criteria

Substantial contribution to climate change mitigation

1. *Forest management plan or equivalent instrument*

1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([30]).

The forest management plan or the equivalent instrument covers a period of 10 years or more, and is continuously updated.

1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:

(a) management goals, including major constraints ([31]);

(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;

(d) definition of the area according to its gazetting in the land registry;

(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH criteria relevant to forest management.

1.3. The sustainability of the forest management systems, as documented in the plan referred to in point 1.1, is ensured by choosing the most ambitious of the following approaches:

(a) the forest management matches the applicable national definition of sustainable forest management;

(b) the forest management matches the Forest Europe definition ([32]) of sustainable forest management, and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([33]);

(c) the management system in place complies with the forest sustainability criteria laid down in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.

([30]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised.
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([31]) Including an analysis of (i) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimizing soil impacts.

([32]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf).

([33]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

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1.4. The activity does not involve the degradation of land with high carbon stock ([34]).

1.5. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.

1.6. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Climate benefit analysis*

2.1. For areas that comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;

(b) long-term climate benefits are considered demonstrated by proof of alignment with Article 29(7), point (b), of Directive (EU) 2018/2001.

2.2. For areas that do not comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity.

(b) the projected long-term average net GHG balance of the activity is lower than the long-term average GHG balance projected for the baseline, referred to in point 2.2, where long term corresponds to the longer duration between 100 years and the duration of an entire forest cycle.

2.3. The calculation of climate benefit complies with all of the following criteria:

(a) the analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories ([35]). The climate benefit analysis is based on transparent, accurate, consistent, complete and comparable information, covers all carbon pools impacted by the activity, including above-ground biomass, below-ground biomass, deadwood, litter and soil, relies on the most conservative assumptions for calculations and includes appropriate considerations about the risks of non-permanence and reversals of carbon sequestration, the risk of saturation and the risk of leakage.

(b) the business-as-usual practices, including harvesting practices, are one of the following:

(i) the management practices as documented in the latest version of the forest management plan or equivalent instrument before the start of the activity, if any;

(ii) the most recent business-as-usual practices prior to the start of the activity;

(iii) the practices corresponding to a management system ensuring that carbon stocks and sinks levels in the forest area are maintained or strengthened over the long term as set out in Article 29(7), point (b), of Directive (EU) 2018/2001.

([34]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([35]) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/).

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(c) the resolution of the analysis is proportionate to the size of the area concerned and values specific to the area concerned are used.

(d) emissions and removals that occur due to natural disturbances, such as pests and diseases infestations, forest fires, wind, storm damages, that impact the area and cause underperformance do not result in non-compliance with Regulation (EU) 2020/852, provided that the climate benefit analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories regarding emissions and removals due to natural disturbances.

2.4. Forest holdings under 13ha are not required to perform a climate benefit analysis.

3. *Guarantee of permanence*

3.1. In accordance with national law, the forest status of the area in which the activity takes place is guaranteed by one of the following measures:

(a) the area is classified in the permanent forest estate as defined by the FAO ([36]);

(b) the area is classified as a protected area;

(c) the area is the subject of any legal or contractual guarantee ensuring that it will remain a forest.

3.2. In accordance with national law, the operator of the activity commits that future updates to the forest management plan or equivalent instrument, beyond the activity that is financed, will continue to seek the climate benefits as determined in point 2. Besides, the operator of the activity commits to compensate any reduction in the climate benefit determined in point 2 with an equivalent climate benefit resulting from the conduct of an activity that corresponds to one of the forestry activities defined in this Regulation.

4. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

5. *Group assessment*

The compliance with the criteria for substantial contribution to climate change mitigation and with DNSH criteria may be checked:

(a) at the level of the forest sourcing area ([37]) as defined in Article 2, point (30), of Directive (EU) 2018/2001;

(b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

([36]) Forest area that is designated to be retained as forest and may not be converted to other land use, (*FAO Global Resources Assessment 2020. Terms and definitions* version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([37]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood-based products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in the Annex I, part A, of Regulation (EU) 2019/1021 ([38]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia (‘extremely hazardous’) or Ib (‘highly hazardous’) in the WHO Recommended Classification of Pesticides by Hazard. The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law.

([38]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3).

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	Detailed information referred to in point 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions. (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

1.3. **Forest management**

Description of the activity

Forest management as defined by national law. Where national law does not contain such a definition, forest management corresponds to any economic activity resulting from a system applicable to a forest that influences the ecological, economic or social functions of the forest. Forest management assumes no change in land use and occurs on land matching the definition of forest as set out in national law, or where not available, in accordance with the FAO definition of forest ([39]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

([39]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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Technical screening criteria

Substantial contribution to climate change mitigation

1. *Forest management plan or equivalent instrument*

1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([40]).

The forest management plan or equivalent instrument covers a period of 10 years or more and is continuously updated.

1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:

(a) management goals, including major constraints ([41]);

(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;

(d) definition of the area according to its gazetting in the land registry;

(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH criteria relevant for forest management.

1.3. The sustainability of the forest management systems, as documented in the plan referred to in point 1.1, is ensured by choosing the most ambitious of the following approaches:

(a) the forest management matches the applicable national definition of sustainable forest management;

(b) the forest management matches the Forest Europe definition ([42]) of sustainable forest management, and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([43]);

([40]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised.
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([41]) Including an analysis of (i) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimizing soil impacts.

([42]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf).

([43]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

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(c) the management system in place shows compliance with the forest sustainability criteria set out in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.

1.4. The activity does not involve the degradation of land with high carbon stock ([44]).

1.5. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.

1.6. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Climate benefit analysis*

2.1. For areas that comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;

(b) long-term climate benefits are considered demonstrated by proof of alignment with Article 29(7), point (b), of Directive (EU) 2018/2001.

2.2. For areas that do not comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity.

(b) the projected long-term average net GHG balance of the activity is lower than the long-term average GHG balance projected for the baseline, referred to in point 2.2, where long term corresponds to the longer duration between 100 years and the duration of an entire forest cycle.

2.3. The calculation of climate benefit complies with all of the following criteria:

(a) the analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories ([45]). The climate benefit analysis is based on transparent, accurate, consistent, complete and comparable information, covers all carbon pools impacted by the activity, including above-ground biomass, below-ground biomass, deadwood, litter and soil, relies on the most conservative assumptions for calculations and includes appropriate considerations about the risks of non-permanence and reversals of carbon sequestration, the risk of saturation and the risk of leakage.

(b) the business-as-usual practices, including harvesting practices, are one of the following:

(i) the management practices as documented in the latest version of the forest management plan or equivalent instrument before the start of the activity, if any;

(ii) the most recent business-as-usual practices prior to the start of the activity;

(iii) the practices corresponding to a management system ensuring that carbon stocks and sinks levels in the forest area are maintained or strengthened over the long term as set out in Article 29(7), point (b), of Directive (EU) 2018/2001.

(c) the resolution of the analysis is proportionate to the size of the area concerned and values specific to the area concerned are used.

([44]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([45]) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/).

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(d) emissions and removals that occur due to natural disturbances, such as pests and diseases infestations, forest fires, wind, storm damages, that impact the area and cause underperformance do not result in non-compliance with Regulation (EU) 2020/852, provided that the climate benefit analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories regarding emissions and removals due to natural disturbances.

2.4. Forest holdings under 13ha are not required to perform a climate benefit analysis.

3. *Guarantee of permanence*

3.1. In accordance with national law, the forest status of the area in which the activity takes place is guaranteed by one of the following measures:

(a) the area is classified in the permanent forest estate as defined by the FAO ([46]);

(b) the area is classified as a protected area;

(c) the area is the subject of any legal or contractual guarantee ensuring that it will remain a forest.

3.2. In accordance with national law, the operator of the activity commits that future updates to the forest management plan or equivalent instrument, beyond the activity that is financed, will continue to seek the climate benefits as determined in point 2. Besides, the operator of the activity commits to compensate any reduction in the climate benefit determined in point 2 with an equivalent climate benefit resulting from the conduct of an activity that corresponds to one of the forestry activities defined in this Regulation.

4. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity the substantial contribution to climate change mitigation criteria and the DNSH criteria is verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

5. *Group assessment*

The compliance with the criteria for substantial contribution to climate change mitigation and with DNSH criteria may be checked:

(a) at the level of the forest sourcing area ([47]) as defined in Article 2, point (30), of Directive (EU) 2018/2001;

(b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

([46]) Forest area that is designated to be retained as forest and may not be converted to other land use.
(FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([47]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood-based products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimised the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 of the European Parliament and of the Council ([48]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia (‘extremely hazardous’) or Ib (‘highly hazardous’) in the WHO Recommended Classification of Pesticides by Hazard ([49]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law.

([48]) Which implements in the Union the Stockholm Convention on persistent organic pollutants. Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([49]) The WHO Recommended Classification of Pesticides by Hazard (version 2019), (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	Detailed information referred to in point 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem condition (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

1.4. **Conservation forestry**

Description of the activity

Forest management activities with the objective of preserving one or more habitats or species. Conservation forestry assumes no change in land category and occurs on land matching the forest definition as set out in national law, or where not available, in accordance with the FAO definition of forest ([50]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products, and 02.40, i.e. support services to forestry.

([50]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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Technical screening criteria

Substantial contribution to climate change mitigation

1. *Forest management plan or equivalent instrument*

1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national regulation dos not define a forest management plan, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([51]).

The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated.

1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:

(a) management goals, including major constraints;

(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(c) definition of the forest habitat context, main forest tree species and those intended and their extent and distribution, in accordance to the local forest ecosystem context;

(d) definition of the area according to its gazetting in the land registry;

(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH relevant to forest management.

1.3. The forest management plan or the equivalent instrument:

(a) shows a primary designated management objective ([52]) that consists in protection of soil and water ([53]), conservation of biodiversity ([54]) or social services ([55]) based on the FAO definitions;

(b) promotes biodiversity-friendly practices that enhance forests' natural processes;

([51]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([52]) The primary designated management objective assigned to a management unit (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([53]) Forest where the management objective is protection of soil and water. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([54]) Forest where the management objective is conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([55]) Forest where the management objective is social services. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf)

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(c) includes an analysis of:

(i) impacts and pressures on habitat conservation and diversity of associated habitats;

(ii) condition of harvesting minimizing soil impacts;

(iii) other activities that have an impact on conservation objectives, such as hunting and fishing, agricultural, pastoral and forestry activities, industrial, mining, and commercial activities.

1.4. The sustainability of the forest management systems as documented in the plan referred to in point 1.1 is ensured by choosing the most ambitious of the following approaches:

(a) the forest management matches the national definition of sustainable forest management, if any;

(b) the forest management matches the Forest Europe definition ([56]) of sustainable forest management and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([57]);

(c) the management system in place shows compliance with the forest sustainability criteria as defined in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.

1.5. The activity does not involve the degradation of land with high carbon stock ([58]).

1.6. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.

1.7. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Climate benefit analysis*

2.1. For areas that comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;

(b) long-term climate benefits are considered demonstrated by proof of alignment with Article 29(7), point (b), of Directive (EU) 2018/2001.

2.2. For areas that do not comply with the requirements at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained or strengthened over the long term in accordance with Article 29(7), point (b), of Directive (EU) 2018/2001 the activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity.

([56]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf)

([57]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

([58]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

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(b) the projected long-term average net GHG balance of the activity is lower than the long-term average GHG balance projected for the baseline, referred to in point 2.2, where long term corresponds to the longer duration between 100 years and the duration of an entire forest cycle.

2.3. The calculation of climate benefit complies with all of the following criteria:

(a) the analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories ([59]). The climate benefit analysis is based on transparent, accurate, consistent, complete and comparable information, covers all carbon pools impacted by the activity, including above-ground biomass, below-ground biomass, deadwood, litter and soil, relies on the most conservative assumptions for calculations and includes appropriate considerations about the risks of non-permanence and reversals of carbon sequestration, the risk of saturation and the risk of leakage.

(b) the business as-usual practices, including harvesting practices, are one of the following:

(i) the management practices as documented in the latest version of the forest management plan or equivalent instrument before the start of the activity, if any;

(ii) the most recent business-as-usual practices prior to the start of the activity;

(iii) the practices corresponding to a management system ensuring that carbon stocks and sinks levels in the forest area are maintained or strengthened over the long term as set out in Article 29(7), point (b), of Directive (EU) 2018/2001.

(c) the resolution of the analysis is proportionate to the size of the area concerned and values specific to the area concerned are used.

(d) emissions and removals that occur due to natural disturbances, such as pests and diseases infestations, forest fires, wind, storm damages, that impact the area and cause underperformance do not result in non-compliance with the criteria of Regulation (EU) 2020/852, provided that the climate benefit analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories regarding emissions and removals due to natural disturbances.

2.4. Forest holdings under 13ha are not required to perform a climate benefit analysis.

3. *Guarantee of permanence*

3.1. In accordance with national law, the forest status of the area in which the activity takes place is guaranteed by one of the following measures:

(a) the area is classified in the permanent forest estate as defined by the FAO ([60]);

(b) the area is classified as a protected area;

(c) the area is the subject of any legal or contractual guarantee ensuring that it will remain a forest.

3.2. In accordance with national law, the operator of the activity commits that future updates to the forest management plan or equivalent instrument, beyond the activity that is financed, will continue to seek the climate benefits as determined in point 2. Besides, the operator of the activity commits to compensate any reduction in the climate benefit determined in point 2 with an equivalent climate benefit resulting from the conduct of an activity that corresponds to one of the forestry activities defined in this Regulation.

4. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

([59]) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/).

([60]) Forest area that is designated to be retained as forest and may not be converted to other land use.
(*FAO Global Resources Assessment 2020. Terms and definitions* version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

5. *Group assessment*

The compliance with the criteria for substantial contribution to climate change mitigation and with DNSH criteria may be checked:

(a) at the level of the forest sourcing area ([61]) as defined in Article 2, point (30), of Directive (EU) 2018/2001;

(b) at the level of a group of forest holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2.(i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood-based products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The activity does not use pesticides or fertilisers. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([62]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard ([63]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.

([61]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

([62]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([63]) The WHO Recommended Classification of Pesticides by Hazard (version 2019), (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in in point 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

2. ENVIRONMENTAL PROTECTION AND RESTORATION ACTIVITIES

2.1. **Restoration of wetlands**

Description of the activity

Restoration of wetlands refers to economic activities that promote a return to original conditions of wetlands and economic activities that improve wetland functions without necessarily promoting a return to pre-disturbance

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conditions, with wetlands meaning land matching the international definition of wetland ([64]) or of peatland ([65]) as set out in the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) ([66]). The concerned area matches the Union definition of wetlands, as provided in the Commission Communication on the wise use and conservation of wetlands ([67]).

The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006, but relate to class 6 of the statistical classification of environmental protection activities (CEPA) established by Regulation (EU) No 691/2011 of the European Parliament and of the Council ([68]).

Technical screening criteria

Substantial contribution to climate change mitigation

1. *Restoration plan*

1.1. The area is covered by a restoration plan, which is consistent with the Ramsar Convention's principles and guidelines on wetland restoration ([69]), until the area is classified as a wetland and is covered by a wetland management plan, consistent with the Ramsar Convention's guidelines for management planning for Ramsar sites and other wetlands ([70]). For peatlands, the restoration plan follows the recommendations contained in relevant resolutions of the Ramsar Convention, including the resolution XIII/13.

1.2. The restoration plan contains careful consideration of local hydrological and pedological conditions, including the dynamics of soil saturation and the change of aerobic and anaerobic conditions.

1.3. All wetland management relevant DNSH criteria are addressed in the restoration plan.

1.4. The restoration plan provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

([64]) *Wetlands include a wide variety of inland habitats such as marshes, wet grasslands and peatlands, floodplains, rivers and lakes, and coastal areas such as saltmarshes, mangroves, intertidal mudflats and seagrass beds, and coral reefs and other marine areas no deeper than six meters at low tide, as well as human-made wetlands such as dams, reservoirs, rice paddies and waste water treatment ponds and lagoons*. An Introduction to the Ramsar Convention on Wetlands, 7th ed. (previously The Ramsar Convention Manual). Ramsar Convention Secretariat, Gland, Switzerland.

([65]) Peatlands are ecosystems with a peat soil. Peat consists of at least 30 % dead, partially decomposed plant remains that have accumulated in situ under waterlogged and often acidic conditions. Resolution XIII.12 *Guidance on identifying peatlands as Wetlands of International Importance (Ramsar Sites) for global climate change regulation as an additional argument to existing Ramsar criteria*, Ramsar convention adopted on 21- 29 October 2018.

([66]) The Convention on Wetlands of International Importance especially as Waterfowl Habitat (version of 4.6.2021: https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf).

([67]) Communication from the Commission to the Council and the European Parliament of 29 May 1995 on wise use and conservation of wetlands, COM(95) 189 final.

([68]) Regulation (EU) No 691/2011 of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts (OJ L 192, 22.7.2011, p. 1).

([69]) Ramsar Convention (2002) Principles and guidelines for wetland restoration. Adopted by Resolution VIII.16 (2002) of the Ramsar Convention (version of 4.6.2021: https://www.ramsar.org/sites/default/files/documents/pdf/guide/guide-restoration.pdf).

([70]) Ramsar Convention (2002) Resolution VIII.14 New Guidelines for management planning for Ramsar sites and other wetlands (version of 4.6.2021: https://www.ramsar.org/sites/default/files/documents/pdf/res/key_res_viii_14_e.pdf).

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2. *Climate benefit analysis*

2.1. The activity complies with the following criteria:

(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;

(b) the projected long-term average net GHG balance of the activity is lower than the long-term average GHG balance projected for the baseline, referred to in point 2.2, where long term corresponds to 100 years.

2.2. The calculation of climate benefit complies with all of the following criteria:

(a) the analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories ([71]). In particular, if the wetland definition used in that analysis differs from the wetland definition used in the national GHG inventory, the analysis includes an identification of the different land categories covered by the involved area. The climate benefit analysis is based on transparent, accurate, consistent, complete and comparable information, covers all carbon pools impacted by the activity, including above-ground biomass, below-ground biomass, deadwood, litter and soil, relies on the most conservative assumptions for calculations and includes appropriate considerations about the risks of non-permanence and reversals of carbon sequestration, the risk of saturation and the risk of leakage. For coastal wetlands, climate benefit analysis considers projections of expected relative sea level rise and the potential that the wetlands will migrate;

(b) the business-as-usual practices, including harvesting practices, are one of the following:

(i) the management practices as documented before the start of the activity, if any;

(ii) the most recent business-as-usual practices prior to the start of the activity.

(c) the resolution of the analysis is proportionate to the size of the area concerned and values specific to the area concerned are used;

(d) emissions and removals that occur due to natural disturbances, such as pests and diseases infestations, fires, wind, storm damages, that impact the area and cause underperformance do not result in non-compliance with the criteria of Regulation (EU) 2020/852, provided that the climate benefit analysis is consistent with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories regarding emissions and removals due to natural disturbances.

4. *Guarantee of permanence*

4.1. In accordance with national law, the wetland status of the area in which the activity takes place is guaranteed by one of the following measures:

([71]) 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/).

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(a) the area is designated to be retained as wetland and may not be converted to other land use;

(b) the area is classified as a protected area;

(c) the area is the subject of any legal or contractual guarantee ensuring that it will remain a wetland.

4.2. In accordance with the national law, the operator of the activity commits that future updates to the restoration plan, beyond the activity that is financed, will continue to seek the climate benefits as determined in point 2. Besides, the operator of the activity commits to compensate any reduction in the climate benefit determined in point 2 with an equivalent climate benefit resulting from the conduct of an activity that corresponds to one of the environmental protection and restoration activities defined in this Regulation.

5. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and with the DNSH criteria are verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

6. *Group assessment*

The compliance with the criteria for substantial contribution to climate change mitigation and with DNSH criteria may be checked at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Peat extraction is minimised.

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(5) Pollution prevention and control	The use of pesticides is minimised and alternative approaches or techniques, which may include non-chemical alternatives to pesticides are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([72]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO recommended Classification of Pesticides by Hazard ([73]). The activity complies with the relevant national implementing law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. The plan referred to in point 1 (Restoration plan) of this Section includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive species.

3. MANUFACTURING

3.1. **Manufacture of renewable energy technologies**

Description of the activity

Manufacture of renewable energy technologies, where renewable energy is defined in Article 2(1) of Directive (EU) 2018/2001.

The economic activities in this category could be associated with several NACE codes, in particular C25, C27, C28 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([72]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3).
([73]) The WHO Recommended Classification of Pesticides by Hazard (version 2019), (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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An activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The economic activity manufactures renewable energy technologies.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and re-used components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the lifecycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.2. **Manufacture of equipment for the production and use of hydrogen**

Description of the activity

Manufacture of equipment for the production and use of hydrogen.

The economic activities in this category could be associated with several NACE codes, in particular C25, C27, C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

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Technical screening criteria

Substantial contribution to climate change mitigation

The economic activity manufactures equipment for the production of hydrogen compliant with the Technical Screening Criteria set out in Section 3.10 of this Annex and equipment for the use of hydrogen.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and re-used components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.3. **Manufacture of low carbon technologies for transport**

Description of the activity

Manufacture, repair, maintenance, retrofitting, repurposing and upgrade of low carbon transport vehicles, rolling stock and vessels.

The economic activities in this category could be associated with several NACE codes, in particular C29.1, C30.1, C30.2, C30.9, C33.15, C33.17 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

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Technical screening criteria

Substantial contribution to climate change mitigation
The economic activity manufactures, repairs, maintains, retrofits [74], repurposes or upgrades:
(a) trains, passenger coaches and wagons that have zero direct (tailpipe) CO_2 emissions;
(b) trains, passenger coaches and wagons that have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode);
(c) urban, suburban and road passenger transport devices, where the direct (tailpipe) CO_2 emissions of the vehicles are zero;
(d) until 31 December 2025, vehicles designated as categories M2 and M3 [75] that have a type of bodywork classified as 'CA' (single-deck vehicle), 'CB' (double-deck vehicle), 'CC' (single-deck articulated vehicle) or 'CD' (double-deck articulated vehicle) [76], and comply with the latest EURO VI standard, i.e. both with the requirements of Regulation (EC) No 595/2009 of the European Parliament and of the Council [77] and, from the time of the entry into force of amendments to that Regulation, in those amending acts, even before they become applicable, and with the latest step of the Euro VI standard set out in Table 1 of Appendix 9 to Annex I to Commission Regulation (EU) No 582/2011 [78] where the provisions governing that step have entered into force but have not yet become applicable for this type of vehicle [79]. Where such standard is not available, the direct CO_2 emissions of the vehicles are zero;
(e) personal mobility devices with a propulsion that comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity;
(f) vehicles of category M_1 and N_1 classified as light-duty vehicles [80] with:
(i) until 31 December 2025: specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631 of the European Parliament and of the Council [81], lower than 50 g CO_2/km (low- and zero-emission light-duty vehicles);
(ii) from 1 January 2026: specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631, are zero;
(g) vehicles of category L [82] with tailpipe CO_2 emissions equal to 0 g CO_2e/km calculated in accordance with the emission test laid down in Regulation (EU) 168/2013 of the European Parliament and of the Council [83];

[74] For points (j) to (m), the criteria related to retrofitting are covered in Sections 6.9 and 6.12 of this Annex.

[75] As referred to in Article 4(1), point (a), of Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC (OJ L 151, 14.06.2018, p. 1).

[76] As set out in point 3 of part C of Annex I to Regulation (EU) 2018/858.

[77] Regulation (EC) No 595/2009 of the European Parliament and of the Council of 18 June 2009 on type-approval of motor vehicles and engines with respect to emissions from heavy duty vehicles (Euro VI) and on access to vehicle repair and maintenance information and amending Regulation (EC) No 715/2007 and Directive 2007/46/EC and repealing Directives 80/1269/EEC, 2005/55/EC and 2005/78/EC (OJ L 188, 18.7.2009, p. 1).

[78] Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (OJ L 167, 25.6.2011, p. 1).

[79] Until 31/12/2022, the EURO VI, step E as set out in Regulation (EC) No 595/2009.

[80] As defined in Article 4(1), points (a) and (b) of Regulation (EU) 2018/858).

[81] Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO_2 emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011 (OJ L 111, 25.4.2019, p. 13).

[82] As defined in Article 4 of Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles (OJ L 60, 2.3.2013, p. 52).

[83] Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles (OJ L 60, 2.3.2013, p. 52).

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(h) vehicles of categories N2 and N3, and N1 classified as heavy-duty vehicles, not dedicated to transporting fossil fuels with a technically permissible maximum laden mass not exceeding 7,5 tonnes that are 'zero-emission heavy-duty vehicles' as defined in Article 3, point (11), of Regulation (EU) 2019/1242 of the European Parliament and of the Council ([84]);

(i) vehicles of categories N2 and N3 not dedicated to transporting fossil fuels with a technically permissible maximum laden mass exceeding 7,5 tonnes that are zero-emission heavy-duty vehicles', as defined in Article 3, point (11), of Regulation (EU) 2019/1242 or 'low-emission heavy-duty vehicles' as defined in Article 3, point (12) of that Regulation;

(j) inland passenger water transport vessels that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, are hybrid and dual fuel vessels using at least 50 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation;

(k) inland freight water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emission;

(ii) until 31 December 2025, have direct (tailpipe) emissions of CO_2 per tonne kilometre (g CO_2/tkm), calculated (or estimated in case of new vessels) using the Energy Efficiency Operational Indicator ([85]), 50 % lower than the average reference value for emissions of CO_2 defined for heavy duty vehicles (vehicle subgroup 5-LH) in accordance with Article 11 of Regulation (EU) 2019/1242;

(l) sea and coastal freight water transport vessels, vessels for port operations and auxiliary activities, that are not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, are hybrid and dual fuel vessels that derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(iii) until 31 December 2025, and only where it can be proved that the vessels are used exclusively for operating coastal and short sea services designed to enable modal shift of freight currently transported by land to sea, the vessels that have direct (tailpipe) CO_2 emissions, calculated using the International Maritime Organization (IMO) Energy Efficiency Design Index (EEDI) ([86]), 50 % lower than the average reference CO_2 emissions value defined for heavy duty vehicles (vehicle subgroup 5-LH) in accordance with Article 11 of Regulation (EU) 2019/1242;

([84]) Regulation (EU) 2019/1242 of the European Parliament and of the Council of 20 June 2019 setting CO_2 emission performance standards for new heavy-duty vehicles and amending Regulations (EC) No 595/2009 and (EU) 2018/956 of the European Parliament and of the Council and Council Directive 96/53/EC (OJ L 198, 25.7.2019, p. 202).

([85]) The Energy Efficiency Operational Indicator is defined as the ratio of mass of CO_2 emitted per unit of transport work. It is a representative value of the energy efficiency of the ship operation over a consistent period which represents the overall trading pattern of the vessel. Guidance on how to calculate this indicator is provided in the document MEPC.1/Circ. 684 from IMO.

([86]) Energy Efficiency Design Index (version of 4.6.2021: http://www.imo.org/fr/MediaCentre/HotTopics/GHG/Pages/EEDI.aspx).

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(iv) until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 April 2022 ([87]) if the vessels are able to run on zero direct (tailpipe) CO_2 emission fuels or on fuels from renewable sources ([88]);

(m) sea and coastal passenger water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, hybrid and dual fuel vessels derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(iii) until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 April 2022 if the vessels are able to run on zero direct (tailpipe) CO_2 emission fuels or on fuels from renewable sources ([89]).

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and re-used components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Where applicable, vehicles do not contain lead, mercury, hexavalent chromium and cadmium, in accordance with Directive 2000/53/EC of the European Parliament and of the Council ([90]).
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([87]) EEDI requirements applicable on 1 April 2022 as agreed by the Marine Environment Protection Committee of the International Maritime Organization on its seventy fourth session.

([88]) Fuels that meet the technical screening criteria specified in Sections 3.10 and 4.13 of this Annex.

([89]) Fuels that meet the technical screening criteria specified in Sections 3.10 and 4.13 of this Annex.

([90]) Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 on end-of life vehicles (OJ L 269, 21.10.2000, p. 34).

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3.4. **Manufacture of batteries**

Description of the activity

Manufacture of rechargeable batteries, battery packs and accumulators for transport, stationary and off-grid energy storage and other industrial applications. Manufacture of respective components (battery active materials, battery cells, casings and electronic components).

Recycling of end-of-life batteries.

The economic activities in this category could be associated with NACE code C27.2 and E38.32 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The economic activity manufactures rechargeable batteries, battery packs and accumulators (and their respective components), including from secondary raw materials, that result in substantial GHG emission reductions in transport, stationary and off-grid energy storage and other industrial applications.

The economic activity recycles end-of-life batteries.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	For manufacturing of new batteries, components and materials, the activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) information on and traceability of substances of concern throughout the life cycle of the manufactured products. Recycling processes meet the conditions set out in Article 12 of Directive 2006/66/EC of the European Parliament and of the Council ([91]) and in Annex III, Part B, to that Directive, including the use of the latest relevant Best Available Techniques, the achievement of the efficiencies specified for lead-acid batteries, nickel-cadmium batteries and for other chemistries. These processes ensure the recycling of the metal content to the highest degree that is technically feasible while avoiding excessive costs. Where applicable, facilities carrying out recycling processes meet the requirements laid down in Directive 2010/75/EU of the European Parliament and of the Council ([92]).

([91]) Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC (OJ L 266, 26.9.2006, p. 1).

([92]) Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17)

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(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Batteries comply with the applicable sustainability rules on the placing on the market of batteries in the Union, including restrictions on the use of hazardous substances in batteries, including Regulation (EC) No 1907/2006 of the European Parliament and of the Council ([93]) and Directive 2006/66/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.5. **Manufacture of energy efficiency equipment for buildings**

Description of the activity

Manufacture of energy efficiency equipment for buildings.

The economic activities in this category could be associated with several NACE codes, in particular C16.23, C23.11, C23.20, C23.31, C23.32, C23.43, C.23.61, C25.11, C25.12, C25.21, C25.29, C25.93, C27.31, C27.32, C27.33, C27.40, C27.51, C28.11, C28.12, C28.13, C28.14, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The economic activity manufactures one or more of the following products and their key components ([94]):

(a) windows with U-value lower or equal to 1,0 W/m^2K;

(b) doors with U-value lower or equal to 1,2 W/m^2K;

(c) external wall systems with U-value lower or equal to 0,5 W/m^2K;

(d) roofing systems with U-value lower or equal to 0,3 W/m^2K;

(e) insulating products with a lambda value lower or equal to 0,06 W/mK;

(f) household appliances falling into the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 of the European Parliament and of the Council ([95]) and delegated acts adopted under that Regulation;

(g) light sources rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(h) space heating and domestic hot water systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

([93]) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).

([94]) Where relevant, the U-value is calculated according to the applicable standards, e.g. EN ISO 10077-1:2017 (windows and doors), EN ISO 12631:2017 (curtain walls) and EN ISO 6946:2017 (other building components and elements).

([95]) Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU (OJ L 198, 28.7.2017, p. 1).

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(i) cooling and ventilation systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(j) presence and daylight controls for lighting systems;

(k) heat pumps compliant with the technical screening criteria set out in Section 4.16 of this Annex;

(l) façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation;

(m) energy-efficient building automation and control systems for residential and non-residential buildings;

(n) zoned thermostats and devices for the smart monitoring of the main electricity loads or heat loads for buildings, and sensoring equipment;

(o) products for heat metering and thermostatic controls for individual homes connected to district heating systems, for individual flats connected to central heating systems serving a whole building, and for central heating systems;

(p) district heating exchangers and substations compliant with the district heating/cooling distribution activity set out in Section 4.15 of this Annex;

(q) products for smart monitoring and regulating of heating system, and sensoring equipment.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.6. **Manufacture of other low carbon technologies**

Description of the activity

Manufacture of technologies aimed at substantial GHG emission reductions in other sectors of the economy, where those technologies are not covered in Sections 3.1 to 3.5 of this Annex.

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The economic activities in this category could be associated with several NACE codes, in particular from C22, C25, C26, C27 and C28 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The economic activity manufactures technologies that are aimed at and demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative technology/product/solution available on the market.

Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU ([96]) or, alternatively, ISO 14067:2018 ([97]) or ISO 14064-1:2018 ([98]).

Quantified life-cycle GHG emission savings are verified by an independent third party.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([96]) Commission Recommendation 2013/179/EU of 9 April 2013 on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations (OJ L 124, 4.5.2013, p. 1).

([97]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([98]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

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3.7. **Manufacture of cement**

Description of the activity

Manufacture of cement clinker, cement or alternative binder.

The economic activities in this category could be associated with NACE code C23.51 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity manufactures one of the following:

(a) grey cement clinker where the specific GHG emissions ([99]) are lower than 0,722 ([100]) tCO_2e per tonne of grey cement clinker;

(b) cement from grey clinker or alternative hydraulic binder, where the specific GHG emissions ([101]) from the clinker and cement or alternative binder production are lower than 0,469 ([102]) tCO_2e per tonne of cement or alternative binder manufactured.

Where CO_2 that would otherwise be emitted from the manufacturing process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for the production of cement, lime and magnesium oxide ([103]). No significant cross-media effects occur ([104]). For manufacture of cement employing hazardous wastes as alternative fuels, measures are in place to ensure the safe handling of waste.

([99]) Calculated in accordance with Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council (OJ L 59, 27.2.2019, p. 8).

([100]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Commission Implementing Regulation (EU) 2021/447 of 12 March 2021 determining revised benchmark values for free allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council, (OJ L 87, 15.3.2021, p. 29).

([101]) Calculated in accordance with Regulation (EU) 2019/331.

([102]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) for grey cement clinker as set out in the Annex to the Implementing Regulation (EU) 2021/447, multiplied by the clinker to cement ratio of 0,65.

([103]) Commission Implementing Decision 2013/163/EU of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (OJ L 100, 9.4.2013, p. 1).

([104]) See Best Available Techniques Reference Document (BREF) on Economics and Cross-Media Effects (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/ecm_bref_0706.pdf).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.8. **Manufacture of aluminium**

Description of the activity

Manufacture of aluminium through primary alumina (bauxite) process or secondary aluminium recycling.

The economic activities in this category could be associated with NACE code C24.42, C24.53 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity manufactures one of the following:

(a) primary aluminium where the economic activity complies with two of the following criteria until 2025 and with all of the following criteria ([105]) after 2025:

(i) the GHG emissions ([106]) do not exceed 1,484 ([107]) tCO_2e per ton of aluminium manufactured ([108]):

(ii) the average carbon intensity for the indirect GHG emissions ([109]) does not exceed 100 g CO_2e/kWh;

(iii) the electricity consumption for the manufacturing process does not exceed 15,5 MWh/t Al.

(b) secondary aluminium.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([105]) Combined to a single threshold resulting in the sum of direct and indirect emissions, calculated as the average value of the top 10 % of installations based on the data collected in the context of establishing the EU ETS industrial benchmarks for the period of 2021-2026 and calculated in accordance with the methodology for setting the benchmarks set out in Directive 2003/87/EC plus the substantial contribution to climate change mitigation criterion for electricity generation (100 g CO_2e/kWh) multiplied by the average energy efficiency of aluminium manufacturing (15,5 MWh/t Al).

([106]) Calculated in accordance with Regulation (EU) 2019/331.

([107]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([108]) The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis.

([109]) Indirect greenhouse gas emissions are the life-cycle greenhouse gas emissions produced from the generation of the electricity used for the manufacturing of primary aluminium.

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(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for the non-ferrous metals industries ([110]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.9. **Manufacture of iron and steel**

Description of the activity

Manufacture of iron and steel.

The economic activities in this category could be associated with several NACE codes, in particular C24.10, C24.20, C24.31, C24.32, C24.33, C24.34, C24.51 and C24.52 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity manufactures one of the following:

(a) iron and steel where GHG emissions ([111]), reduced by the amount of emissions assigned to the production of waste gases in accordance with point 10.1.5(a) of Annex VII to Regulation (EU) 2019/331 do not exceed the following values applied to the different manufacturing process steps:

(i) hot metal = 1,331 ([112]) tCO_2e/t product;

(ii) sintered ore = 0,163 ([113]) tCO_2e/t product;

(iii) coke (excluding lignite coke) = 0,144 ([114]) tCO_2e/t product;

(iv) iron casting = 0,299 ([115]) tCO_2e/t product;

(v) electric Arc Furnace (EAF) high alloy steel = 0,266 ([116]) tCO_2e/t product;

(vi) electric Arc Furnace (EAF) carbon steel = 0,209 ([117]) tCO_2e/t product.

([110]) Commission Implementing Decision (EU) 2016/1032 of 13 June 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the non-ferrous metals industries (OJ L 174, 30.6.2016, p. 32).

([111]) Calculated in accordance with Regulation (EU) 2019/331.

([112]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([113]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([114]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([115]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([116]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([117]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

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(b) steel in electric arc furnaces (EAFs) producing EAF carbon steel or EAF high alloy steel, as defined in Commission Delegated Regulation (EU) 2019/331 and where the steel scrap input relative to product output is not lower than:

(i) 70 % for the production of high alloy steel;

(ii) 90 % for the production of carbon steel.

Where the CO_2 that would otherwise be emitted from the manufacturing process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for iron and steel production ([118]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.10. **Manufacture of hydrogen**

Description of the activity

Manufacture of hydrogen and hydrogen-based synthetic fuels.

The economic activities in this category could be associated with NACE code C20.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with the life-cycle GHG emissions savings requirement of 73,4 % for hydrogen [resulting in life-cycle GHG emissions lower than $3tCO_2e/tH_2$] and 70 % for hydrogen-based synthetic fuels relative to a fossil fuel comparator of 94 g CO_2e/MJ in analogy to the approach set out in Article 25(2) of and Annex V to Directive (EU) 2018/2001.

([118]) Commission Implementing Decision 2012/135/EU of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (OJ L 70, 8.3.2012, p. 63).

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Life-cycle GHG emissions savings are calculated using the methodology referred to in Article 28(5) of Directive (EU) 2018/2001 or, alternatively, using ISO 14067:2018 ([119]) or ISO 14064-1:2018 ([120]).

Quantified life-cycle GHG emission savings are verified in line with Article 30 of Directive (EU) 2018/2001 where applicable, or by an independent third party.

Where the CO_2 that would otherwise be emitted from the manufacturing process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12, respectively, of this Annex.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of chlor-alkali ([121]) and the best available techniques (BAT) conclusions for common waste water and waste gas treatment/ management systems in the chemical sector ([122]); (b) the best available techniques (BAT) conclusions for the refining of mineral oil and gas ([123]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.11. **Manufacture of carbon black**

Description of the activity

Manufacture of carbon black.

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([119]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([120]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

([121]) Commission Implementing Decision 2013/732/EU of 9 December 2013 establishing the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the production of chlor-alkali (OJ L 332, 11.12.2013, p. 34).

([122]) Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for common waste water and waste gas treatment/ management systems in the chemical sector (OJ L 152, 9.6.2016, p. 23).

([123]) Commission Implementing Decision 2014/738/EU of 9 October 2014 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions, for the refining of mineral oil and gas (OJ L 307, 28.10.2014, p. 38).

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An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

GHG emissions ([124]) from the carbon black production processes are lower than 1,141 ([125]) tCO_2e per tonne of product.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the Large Volume Inorganic Chemicals – Solids and Others industry ([126]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([127]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.12. **Manufacture of soda ash**

Description of the activity

Manufacture of disodium carbonate (soda ash, sodium carbonate, carbonic acid disodium salt).

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([124]) Calculated in accordance with Regulation (EU) 2019/331.
([125]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.
([126]) Best Available Techniques (BAT) Reference Document for the Large Volumes Inorganic Chemicals- Solids and Others industry, (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic-s_bref_0907.pdf).
([127]) Implementing Decision (EU) 2016/902.

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

GHG emissions ([128]) from the soda ash production processes are lower than 0,789 ([129]) tCO_2e per tonne of product.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the Large Volume Inorganic Chemicals – Solids and Others industry ([130]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([131]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.13. **Manufacture of chlorine**

Description of the activity

Manufacture of chlorine.

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([128]) Calculated in accordance with Regulation (EU) 2019/331.
([129]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.
([130]) Best Available Techniques (BAT) Reference Document for the Large Volumes Inorganic Chemicals- Solids and Others industry (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic-s_bref_0907.pdf).
([131]) Implementing Decision (EU) 2016/902.

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Technical screening criteria

Substantial contribution to climate change mitigation
Electricity consumption for electrolysis and chlorine treatment is equal or lower than 2.45 MWh per tonne of chlorine. Average life-cycle GHG emissions of the electricity used for chlorine production is at or lower than 100 g CO_2e/kWh. Life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([132]) or ISO 14064-1:2018 ([133]). Quantified life-cycle GHG emissions are verified by an independent third party.

Do no significant harm ('DNSH')	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of chlor-alkali ([134]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([135]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.14. **Manufacture of organic basic chemicals**

Description of the activity

Manufacture of:

(a) high value chemicals (HVC):

(i) acetylene;

(ii) ethylene;

(iii) propylene;

(iv) butadiene.

([132]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).
([133]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).
([134]) Implementing Decision 2013/732/EU.
([135]) Implementing Decision (EU) 2016/902.

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(b) Aromatics:

(i) mixed alkylbenzenes, mixed alkylnaphthalenes other than HS 2707 or 2902;

(ii) cyclohexane;

(iii) benzene;

(iv) toluene;

(v) o-Xylene;

(vi) p-Xylene;

(vii) m-Xylene and mixed xylene isomers;

(viii) ethylbenzene;

(ix) cumene;

(x) biphenyl, terphenyls, vinyltoluenes, other cyclic hydrocarbons excluding cyclanes, cyclenes, cycloterpenes, benzene, toluene, xylenes, styrene, ethylbenzene, cumene, naphthalene, anthracene;

(xi) benzol (benzene), toluol (toluene) and xylol (xylenes)

(xii) naphthalene and other aromatic hydrocarbon mixtures (excluding benzole, toluole, xylole).

(c) vinyl chloride;

(d) styrene;

(e) ethylene oxide;

(f) monoethylene glycol;

(g) adipic acid.

The economic activities in this category could be associated with NACE code C20.14 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

GHG emissions ([136]) from the organic basic chemicals production processes are lower than:

(a) for HVC: 0,693 ([137]) tCO_2e/t of HVC;

(b) for aromatics: 0,0072 ([138]) tCO_2e/t of complex weighted throughput;

(c) for vinyl chloride: 0,171 ([139]) tCO_2e/t of vinyl chloride;

(d) for styrene: 0,419 ([140]) tCO_2e/t of styrene;

([136]) Calculated in accordance with Regulation (EU) 2019/331.

([137]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([138]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([139]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([140]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

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(e) for ethylene oxide/ethylene glycols: 0,314 ([141]) tCO_2e/t of ethylene oxide/glycol;

(f) for adipic acid: 0,32 ([142]) tCO_2e /t of adipic acid.Where the organic chemicals in scope are produced wholly or partially from renewable feedstock, the life-cycle GHG emissions of the manufactured chemical, manufactured wholly or partially from renewable feedstock, are lower than the life-cycle GHG emissions of the equivalent chemical manufactured from fossil fuel feedstock.

Life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([143]) or ISO 14064-1:2018 ([144]).

Quantified life-cycle GHG emissions are verified by an independent third party.

Agricultural biomass used for the manufacture of organic basic chemicals complies with the criteria laid down in Article 29, paragraphs 2 to 5 of Directive (EU) 2018/2001. Forest biomass used for the manufacture of organic basic chemicals complies with the criteria laid down in Article 29, paragraphs 6 and 7 of that Directive.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of large volumes organic chemicals ([145]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([146]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([141]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([142]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([143]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([144]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

([145]) Commission Implementing Decision (EU) 2017/2117 of 21 November 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of large volume organic chemicals (OJ L 323, 7.12.2017, p. 1).

([146]) Implementing Decision (EU) 2016/902.

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3.15. **Manufacture of anhydrous ammonia**

Description of the activity

Manufacture of anhydrous ammonia.

The economic activities in this category could be associated with NACE code C20.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one of the following criteria:

(a) ammonia is produced from hydrogen that complies with the technical screening criteria set out in Section 3.10 of this Annex (Manufacturing of hydrogen);

(b) ammonia is recovered from waste water.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers ([147]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([148]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.16. **Manufacture of nitric acid**

Description of the activity

Manufacture of nitric acid.

The economic activities in this category could be associated with NACE code C20.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([147]) Best Available Techniques (BAT) Reference Document for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic_aaf.pdf).

([148]) Implementing Decision (EU) 2016/902.

▼B

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

GHG emissions ([149]) from the manufacture of nitric acid are lower than 0,038 ([150]) tCO_2e per tonne of nitric acid.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers ([151]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([152]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.17. **Manufacture of plastics in primary form**

Description of the activity

Manufacture resins, plastics materials and non-vulcanisable thermoplastic elastomers, the mixing and blending of resins on a custom basis, as well as the manufacture of non-customised synthetic resins.

The economic activities in this category could be associated with NACE code C20.16 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([149]) Calculated in accordance with the Regulation (EU) 2019/331.
([150]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.
([151]) Best Available Techniques (BAT) Reference Document for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic_aaf.pdf).
([152]) Implementing Decision (EU) 2016/902.

▼B

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one of the following criteria:

(a) the plastic in primary form is fully manufactured by mechanical recycling of plastic waste;

(b) where mechanical recycling is not technically feasible or economically viable, the plastic in primary form is fully manufactured by chemical recycling of plastic waste and the life-cycle GHG emissions of the manufactured plastic, excluding any calculated credits from the production of fuels, are lower than the life-cycle GHG emissions of the equivalent plastic in primary form manufactured from fossil fuel feedstock. Life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([153]) or ISO 14064-1:2018 ([154]). Quantified life-cycle GHG emissions are verified by an independent third party.

(c) derived wholly or partially from renewable feedstock ([155]) and its life-cycle GHG emissions are lower than the life-cycle GHG emissions of the equivalent plastics in primary form manufactured from fossil fuel feedstock. Life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party.

Agricultural biomass used for the manufacture of plastics in its primary form complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used for the manufacture of plastics in its primary form complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the Production of Polymers ([156]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([157]). No significant cross-media effects occur.

([153]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([154]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

([155]) Renewable feedstock refers to biomass, industrial bio-waste or municipal bio-waste.

([156]) Best Available Techniques (BAT) Reference Document for the Production of Polymers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/pol_bref_0807.pdf).

([157]) Commission Implementing Decision (EU) 2016/902 of 30 May 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for common waste water and waste gas treatment/management systems in the chemical sector.(OJ L 152, 9.6.2016, p. 23).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4. ENERGY

4.1. **Electricity generation using solar photovoltaic technology**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using solar photovoltaic (PV) technology.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity generates electricity using solar PV technology.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.2. **Electricity generation using concentrated solar power (CSP) technology**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using concentrated solar power (CSP) technology.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

▼B

Technical screening criteria

Substantial contribution to climate change mitigation	
The activity generates electricity using CSP technology.	
Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.3. **Electricity generation from wind power**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from wind power.

Where an economic activity is an integral element of the ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation	
The activity generates electricity from wind power.	
Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	In case of construction of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC of the European Parliament and of the Council ([158]), requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive’s Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive, and as set out in Commission Decision (EU) 2017/848 ([159]) in relation to the relevant criteria and methodological standards for that descriptor.

([158]) Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) (OJ L 164, 25.6.2008, p. 19).

([159]) Commission Decision (EU) 2017/848 of 17 May 2017 laying down criteria and methodological standards on good environmental status of marine waters and specifications and standardised methods for monitoring and assessment, and repealing Decision 2010/477/EU (OJ L 125, 18.5.2017, p. 43).

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(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([160]). In case of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity) and 6 (seabed integrity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors.

4.4. **Electricity generation from ocean energy technologies**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from ocean energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity generates electricity from ocean energy.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for that descriptor.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012 of the European Parliament and of the Council ([161]), which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.

([160]) Practical guidance for the implementation of this criterion is contained in the European Commission notice C(2020) 7730 final "Guidance document on wind energy developments and EU nature legislation", (version of 4.6.2021: https://ec.europa.eu/environment/nature/natura2000/management/docs/wind_farms_en.pdf).

([161]) Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1).

▼B

(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. The activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 1 (biodiversity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for that descriptor.

4.5. **Electricity generation from hydropower**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from hydropower.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with either of the following criteria:

(a) the electricity generation facility is a run-of-river plant and does not have an artificial reservoir;

(b) the power density of the electricity generation facility is above 5 W/m^2;

(c) the life-cycle GHG emissions from the generation of electricity from hydropower, are lower than 100 g CO_2e/kWh. The life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([162]), ISO 14064-1:2018 ([163]) or the G-res tool ([164]). Quantified life-cycle GHG emissions are verified by an independent third party.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	1. The activity complies with the provisions of Directive 2000/60/EC, in particular with all the requirements laid down in Article 4 of the Directive. 2. For operation of existing hydropower plants, including refurbishment activities to enhance renewable energy or energy storage potential, the activity complies with the following criteria: 2.1. In accordance with Directive 2000/60/EC and in particular Articles 4 and 11 of that Directive, all technically feasible and ecologically relevant mitigation measures have been implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water.

([162]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([163]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

([164]) Publicly available online tool developed by the International Hydropower Association (IHA) in collaboration with the UNESCO Chair for Global Environmental Change (version of 4.6.2021: https://www.hydropower.org/gres).

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2.2. Measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies:

(a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of-the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning);

(b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow;

(c) measures to protect or enhance habitats.

2.3. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body.

3. For construction of new hydropower plants, the activity complies with the following criteria:

3.1. In accordance with Article 4 of Directive 2000/60/EC and in particular paragraph 7 of that Article, prior to construction, an impact assessment of the project is carried out to assess all its potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions.

The assessment is based on recent, comprehensive and accurate data, including monitoring data on biological quality elements that are specifically sensitive to hydromorphological alterations, and on the expected status of the water body as a result of the new activities, as compared to its current one.

It assesses in particular the cumulated impacts of this new project with other existing or planned infrastructure in the river basin.

3.2. On the basis of that impact assessment, it has been established that the plant is conceived, by design and location and by mitigation measures, so that it complies with one of the following requirements:

(a) the plant does not entail any deterioration nor compromises the achievement of good status or potential of the specific water body it relates to;

(b) where the plant risks to deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, such deterioration is not significant, and is justified by a detailed cost-benefit assessment demonstrating both of the following:

(i) the reasons of overriding public interest or the fact that benefits expected from the planned hydropower plant outweigh the costs from deteriorating the status of water that are accruing to the environment and to society;

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	(ii) the fact that the overriding public interest or the benefits expected from the plant cannot, for reasons of technical feasibility or disproportionate cost, be achieved by alternative means that would lead to a better environmental outcome (such as refurbishing of existing hydropower plants or use of technologies not disrupting river continuity). 3.3. All technically feasible and ecologically relevant mitigation measures are implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Mitigation measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning); (b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow; (c) measures to protect or enhance habitats. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body. 3.4. The plant does not permanently compromise the achievement of good status/potential in any of the water bodies in the same river basin district. 3.5. In addition to the mitigation measures referred to above, and where relevant, compensatory measures are implemented to ensure that the project does not increase the fragmentation of water bodies in the same river basin district. This is achieved by restoring continuity within the same river basin district to an extent that compensates the disruption of continuity, which the planned hydropower plant may cause. Compensation starts prior to the execution of the project.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([165]).

4.6. **Electricity generation from geothermal energy**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from geothermal energy.

([165]) Practical guidance is contained in Commission notice C/2018/2619 ‘Guidance document on the requirements for hydropower in relation to EU nature legislation’ (OJ C 213, 18.6.2018, p. 1).

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The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

Life-cycle GHG emissions from the generation of electricity from geothermal energy are lower than 100 g CO_2e/kWh. Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directive 2004/107/EC of the European Parliament and of the Council ([166]) and Directive 2008/50/EC of the European Parliament and of the Council ([167]).
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.7. **Electricity generation from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using gaseous and liquid fuels of renewable origin. This activity does not include electricity generation from the exclusive use of biogas and bio-liquid fuels (see Section 4.8 of this Annex).

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([166]) Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (OJ L 23, 26.1.2005, p. 3).

([167]) Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (OJ L 152, 11.6.2008, p. 1).

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Technical screening criteria

Substantial contribution to climate change mitigation

1. Life-cycle GHG emissions from the generation of electricity using renewable gaseous and liquid fuels are lower than 100 g CO_2e/kWh.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([168]) or ISO 14064-1:2018 ([169]).

Quantified life-cycle GHG emissions are verified by an independent third party.

2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels), that abatement activity complies with the criteria set out in the relevant Section of this Annex, where applicable.

Where the CO_2 that would otherwise be emitted from the electricity generation process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

3. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of methane emissions are reported and leak is eliminated.

4. Where the activity blends renewable gaseous or liquid fuels with biogas or bioliquids, the agricultural biomass used for the production of the biogas or bioliquids complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001 while forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([170]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193 of the European Parliament and of the Council ([171]).

([168]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([169]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

([170]) Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (OJ L 212, 17.8.2017, p. 1).

([171]) Directive (EU) 2015/2193 of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants (OJ L 313, 28.11.2015, p. 1).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.8. **Electricity generation from bioenergy**

Description of the activity

Construction and operation of electricity generation installations that produce electricity exclusively from biomass, biogas or bioliquids, excluding electricity generation from blending of renewable fuels with biogas or bioliquids (see Section 4.7 of this Annex).

The economic activities in this category could be associated with NACE code D35.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Agricultural biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

2. The greenhouse gas emission savings from the use of biomass are at least 80 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001.

3. Where the installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable.

4. Points 1 and 2 do not apply to electricity generation installations with a total rated thermal input below 2 MW and using gaseous biomass fuels.

5. For electricity generation installations with a total rated thermal input from 50 to 100 MW, the activity applies high-efficiency cogeneration technology, or, for electricity-only installations, the activity meets an energy efficiency level associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([172]).

6. For electricity generation installations with a total rated thermal input above 100 MW, the activity complies with one or more of the following criteria:

(a) attains electrical efficiency of at least 36 %;

(b) applies highly efficient CHP (combined heat and power) technology as referred to in Directive 2012/27/EU of the European Parliament and of the Council ([173]);

(c) uses carbon capture and storage technology. Where the CO_2 that would otherwise be emitted from the electricity generation process is captured for the purpose of underground storage, the CO_2 is transported and stored underground in accordance with the technical screening criteria set out in Sections 5.11 and 5.12, respectively, of this Annex.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([172]) Implementing Decision (EU) 2017/1442.

([173]) Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (OJ L 315, 14.11.2012, p. 1).

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(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU of the European Parliament and of the Council ([174]), emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([175]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, measures are implemented to reduce emission levels taking into account the results of the information exchange ([176]) which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193. For anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([177]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.9. **Transmission and distribution of electricity**

Description of the activity

Construction and operation of transmission systems that transport the electricity on the extra high-voltage and high-voltage interconnected system.

Construction and operation of distribution systems that transport electricity on high-voltage, medium-voltage and low-voltage distribution systems.

([174]) Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17).
([175]) Implementing Decision (EU) 2017/1442.
([176]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).
([177]) Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (OJ L 208, 17.8.2018, p. 38).

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The economic activities in this category could be associated with several NACE codes, in particular D35.12 and D35.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one of the following criteria:

1. The transmission and distribution infrastructure or equipment is in an electricity system that complies with at least one of the following criteria:

(a) the system is the interconnected European system, i.e. the interconnected control areas of Member States, Norway, Switzerland and the United Kingdom, and its subordinated systems;

(b) more than 67 % of newly enabled generation capacity in the system is below the generation threshold value of 100 g CO_2e/kWh measured on a life cycle basis in accordance with electricity generation criteria, over a rolling five-year period;

(c) the average system grid emissions factor, calculated as the total annual emissions from power generation connected to the system, divided by the total annual net electricity production in that system, is below the threshold value of 100 g CO_2e/kWh measured on a life cycle basis in accordance with electricity generation criteria, over a rolling five-year period;

Infrastructure dedicated to creating a direct connection or expanding an existing direct connection between a substation or network and a power production plant that is more greenhouse gas intensive than 100 g CO_2e/kWh measured on a life cycle basis is not compliant.

Installation of metering infrastructure that does not meet the requirements of smart metering systems of Article 20 of Directive (EU) 2019/944 is not compliant.

2. The activity is one of the following:

(a) construction and operation of direct connection, or expansion of existing direct connection, of low carbon electricity generation below the threshold of 100 g CO_2e/kWh measured on a life cycle basis to a substation or network;

(b) construction and operation of electric vehicle (EV) charging stations and supporting electric infrastructure for the electrification of transport, subject to compliance with the technical screening criteria under the transport Section of this Annex;

(c) installation of transmission and distribution transformers that comply with the Tier 2 (1 July 2021) requirements set out in Annex I to the Commission Regulation (EU) No 548/2014 ([178]) and, for medium power transformers with highest voltage for equipment not exceeding 36 kV, with AAA0 level requirements on no-load losses set out in standard EN 50588-1 ([179]).

(d) construction/installation and operation of equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation;

(e) installation of equipment to increase the controllability and observability of the electricity system and to enable the development and integration of renewable energy sources, including:

(i) sensors and measurement tools (including meteorological sensors for forecasting renewable production);

(ii) communication and control (including advanced software and control rooms, automation of substations or feeders, and voltage control capabilities to adapt to more decentralised renewable infeed).

([178]) Commission Regulation (EU) No 548/2014 of 21 May 2014 on implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to small, medium and large power transformers (OJ L 152, 22.5.2014, p. 1).

([179]) CEI EN 50588-1 Medium power transformers 50 Hz, with highest voltage for equipment not exceeding 36 kV.

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(f) installation of equipment such as, but not limited to future smart metering systems or those replacing smart metering systems in line with Article 19(6) of Directive (EU) 2019/944 of the European Parliament and of the Council ([180]), which meet the requirements of Article 20 of Directive (EU) 2019/944, able to carry information to users for remotely acting on consumption, including customer data hubs;

(g) construction/installation of equipment to allow for exchange of specifically renewable electricity between users;

(h) construction and operation of interconnectors between transmission systems, provided that one of the systems is compliant.

For the purposes of this Section, the following specifications apply:

(a) the rolling five-year period used in determining compliance with the thresholds is based on five consecutive historical years, including the year for which the most recent data are available;

(b) a 'system' means the power control area of the transmission or distribution network where the infrastructure or equipment is installed;

(c) transmission systems may include generation capacity connected to subordinated distribution systems;

(d) distribution systems subordinated to a transmission system that is deemed to be on a trajectory to full decarbonisation may also be deemed to be on a trajectory to full decarbonisation;

(e) to determine compliance, it is possible to consider a system covering multiple control areas which are interconnected and with significant energy exchanges between them, in which case the weighted average emissions factor across all included control areas is used, and individual subordinated transmission or distribution systems within that system is not required to demonstrate compliance separately;

(f) it is possible for a system to become non-compliant after having previously been compliant. In systems that become non-compliant, no new transmission and distribution activities are compliant from that moment onward, until the system complies again with the threshold (except for those activities that are always compliant, see above). Activities in subordinated systems may still be compliant, where those subordinated systems meet the criteria of this Section;

(g) a direct connection or expansion of an existing direct connection to production plants includes infrastructure that is indispensable to carry the associated electricity from the power generating facility to a substation or to the network.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.

([180]) Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019 on rules for the internal market for electricity and amending Directive 2012/27/EU (OJ L 158, 14.6.2019, p. 125),

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(5) Pollution prevention and control	Overground high voltage lines: (a) for construction site activities, activities follow the principles of the IFC General Environmental, Health, and Safety Guidelines ([181]). (b) activities respect applicable norms and regulations to limit impact of electromagnetic radiation on human health, including for activities carried out in the Union, the Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) ([182]) and for activities carried out in third countries, the 1998 Guidelines of International Commission on Non-Ionizing Radiation Protection (ICNIRP) ([183]). Activities do not use PCBs polyclorinated biphenyls.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([184]).

4.10. **Storage of electricity**

Description of the activity

Construction and operation of facilities that store electricity and return it at a later time in the form of electricity. The activity includes pumped hydropower storage.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity is the construction and operation of electricity storage including pumped hydropower storage.

Where the activity includes chemical energy storage, the medium of storage (such as hydrogen or ammonia) complies with the criteria for manufacturing of the corresponding product specified in Sections 3.7 to 3.17 of this Annex. In case of using hydrogen as electricity storage, where hydrogen meets the technical screening criteria specified in Section 3.10 of this Annex, re-electrification of hydrogen is also considered part of the activity.

([181]) Environmental, Health, and Safety (EHS) Guidelines of 30 April 2007 (version of 4.6.2021: https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p).

([182]) Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) (1999/519/EC) (OJ L 199, 30.7.1999, p. 59).

([183]) ICNIRP 1998 Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 ghz) (version of 4.6.2021: https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf).

([184]) Practical guidance for the implementation of this criterion is contained in the European Commission notice C(2018)2620 "Energy transmission infrastructure and EU nature legislation" (OJ C 213, 18.6.2018, p. 62).

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Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	In case of pumped hydropower storage not connected to a river body, the activity complies with the criteria set out in Appendix B to this Annex. In case of pumped hydropower storage connected to a river body, the activity complies with the criteria for DNSH to sustainable use and protection of water and marine resources specified in Section 4.5 (Electricity production from hydropower).
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.11. **Storage of thermal energy**

Description of the activity

Construction and operation of facilities that store thermal energy and return it at a later time in the form of thermal energy or other energy vectors.

Where an economic activity is an integral element of the ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation	
The activity stores thermal energy, including Underground Thermal Energy Storage (UTES) or Aquifer Thermal Energy Storage (ATES).	

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	For Aquifer Thermal Energy Storage, the activity complies with the criteria set out in Appendix B to this Annex.

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(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.12. **Storage of hydrogen**

Description of the activity

Construction and operation of facilities that store hydrogen and return it at a later time.

The economic activities in this category have no dedicated NACE code in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity is one of the following:

(a) construction of hydrogen storage facilities;

(b) conversion of existing underground gas storage facilities into storage facilities dedicated to hydrogen-storage;

(c) operation of hydrogen storage facilities where the hydrogen stored in the facility meets the criteria for manufacture of hydrogen set out in Section 3.10. of this Annex.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	In the case of storage above five tonnes, the activity complies with Directive 2012/18/EU of the European Parliament and of the Council ([185]).
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([185]) Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (OJ L 197, 24.7.2012, p. 1).

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4.13. **Manufacture of biogas and biofuels for use in transport and of bioliquids**

Description of the activity

Manufacture of biogas or biofuels for use in transport and of bioliquids.

The economic activities in this category could be associated with NACE code D35.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Agricultural biomass used for the manufacture of biogas or biofuels for use in transport and for the manufacture of bioliquids complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used for the manufacture of biogas or biofuels for use in transport and for the manufacture of bioliquids complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Food-and feed crops are not used for the manufacture of biofuels for use in transport and for the manufacture of bioliquids.

2. The greenhouse gas emission savings from the manufacture of biofuels and biogas for use in transport and from the manufacture of bioliquids are at least 65 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex V to Directive (EU) 2018/2001.

3. Where the manufacture of biogas relies on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable.

4. Where the CO_2 that otherwise would be emitted from the manufacturing process is captured for the purpose of underground storage, the CO_2 is transported and stored underground in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For biogas production, a gas-tight cover on the digestate storage is applied. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([186]). No significant cross-media effects occur. In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 for digestate or CMC 3 for compost, as applicable, in Annex II to Regulation EU 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.

([186]) Implementing Decision (EU) 2018/1147.

▼B

(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.14. **Transmission and distribution networks for renewable and low-carbon gases**

Description of the activity

Conversion, repurposing or retrofit of gas networks for the transmission and distribution of renewable and low-carbon gases.

Construction or operation of transmission and distribution pipelines dedicated to the transport of hydrogen or other low-carbon gases.

The economic activities in this category could be associated with several NACE codes, in particular D35.22, F42.21 and H49.50 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity consists in one of the following:

(a) construction or operation of new transmission and distribution networks dedicated to hydrogen or other low-carbon gases;

(b) conversion/repurposing of existing natural gas networks to 100 % hydrogen;

(c) retrofit of gas transmission and distribution networks that enables the integration of hydrogen and other low-carbon gases in the network, including any gas transmission or distribution network activity that enables the increase of the blend of hydrogen or other low carbon gasses in the gas system;

2. The activity includes leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC of the European Parliament and of the Council ([187]) comply, where relevant, with the top class requirements of the energy label, and with implementing regulations under that Directive and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([187]) Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285, 31.10.2009, p. 10).

▼B

4.15. **District heating/cooling distribution**

Description of the activity

Construction, refurbishment and operation of pipelines and associated infrastructure for distribution of heating and cooling, ending at the sub-station or heat exchanger.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one of the following criteria:

(a) for construction and operation of pipelines and associated infrastructure for distributing heating and cooling, the system meets the definition of efficient district heating and cooling systems laid down in Article 2, point 41, of Directive 2012/27/EU;

(b) for refurbishment of pipelines and associated infrastructure for distributing heating and cooling, the investment that makes the system meet the definition of efficient district heating or cooling laid down in Article 2, point 41, of Directive 2012/27/EU starts within a three year period as underpinned by a contractual obligation or an equivalent in case of operators in charge of both generation and the network;

(c) the activity is the following:

(i) modification to lower temperature regimes;

(ii) advanced pilot systems (control and energy management systems, Internet of Things).

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC comply, where relevant, with the top class requirements of the energy label, and otherwise comply with implementing regulations under that Directive and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.16. **Installation and operation of electric heat pumps**

Description of the activity

Installation and operation of electric heat pumps.

Where an economic activity is an integral element of ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

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The economic activities in this category could be associated with several NACE codes, in particular D35.30 and F43.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The installation and operation of electric heat pumps complies with both of the following criteria:

(a) refrigerant threshold: Global Warming Potential does not exceed 675;

(b) energy efficiency requirements laid down in the implementing regulations ([188]) under Directive 2009/125/EC are met.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish. A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	For air to air heat pumps with rated capacity of 12 kW or below, indoor and outdoor sound power levels are below the threshold set out in Commission Regulation (EU) No 206/2012 ([189]).
(6) Protection and restoration of biodiversity and ecosystems	N/A

4.17. **Cogeneration of heat/cool and power from solar energy**

Description of the activity

Construction and operation of facilities co-generating electricity and heat/cool from solar energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([188]) Commission Regulation (EU) No 206/2012 of 6 March 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners and comfort fans (OJ L 72, 10.3.2012, p. 7), Commission Regulation (EU) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters (OJ L 239, 6.9.2013, p. 136) and Commission Regulation (EU) 2016/2281 Commission Regulation (EU) 2016/2281 of 30 November 2016 implementing Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of ecodesign requirements for energy-related products, with regard to ecodesign requirements for air heating products, cooling products, high temperature process chillers and fan coil units (OJ L 346, 20.12.2016, p. 1).

([189]) Commission Regulation (EU) No 206/2012 of 6 March 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for air conditioners and comfort fans (OJ L 72, 10.3.2012, p. 7).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation
The activity consists in the cogeneration ([190]) of electricity and heat/cool from solar energy.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.18. **Cogeneration of heat/cool and power from geothermal energy**

Description of the activity

Construction and operation of facilities co-generating heat/cool and power from geothermal energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation
The life-cycle GHG emissions from the combined generation of heat/cool and power ([191]) from geothermal energy are lower than 100 g CO_2e per 1 kWh of energy output from the combined generation. Life-cycle GHG emissions are calculated based on project-specific data, where available, using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([190]) Cogeneration is defined in Article 2 point 30 of Directive 2012/27/EU.
([191]) Cogeneration is defined in Article 2 point 30 of Directive 2012/27/EU.

▼B

(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directives 2004/107/EC and 2008/50/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.19. **Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction and operation of combined heat/cool and power generation facilities using gaseous and liquid fuels of renewable origin. This activity does not include cogeneration of heat/cool and power from the exclusive use of biogas and bio-liquid fuels (see Section 4.20 of this Annex)

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The life-cycle GHG emissions from the co-generation of heat/cool and power ([192]) from renewable gaseous and liquid fuels are lower than 100 g CO_2e per 1 kWh of energy output from the co-generation.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([193]) or ISO 14064-1:2018 ([194]).

Quantified life-cycle GHG emissions are verified by an independent third party.

2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels) that abatement activity complies with the relevant Sections of this Annex, where applicable.

Where the CO_2 that would otherwise be emitted from the cogeneration process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

3. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of methane emissions are reported and leak is eliminated.

4. Where the activity blends renewable gaseous or liquid fuels with biogas or bioliquids, the agricultural biomass used for the production of the biogas or bioliquids complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001 while forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([192]) Cogeneration is defined in Article 2 point 30 of Directive 2012/27/EU.

([193]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([194]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

▼B

(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([195]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.20. **Cogeneration of heat/cool and power from bioenergy**

Description of the activity

Construction and operation of installations used for cogeneration of heat/cool and power exclusively from biomass, biogas or bioliquids, and excluding cogeneration from blending of renewable fuels with biogas or bioliquids (see Section 4.19 of this Annex).

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Agricultural biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7 of that Directive.

2. The greenhouse gas emission savings from the use of biomass in cogeneration installations are at least 80 % in relation to the GHG emission saving methodology and fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001.

3. Where the cogeneration installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable.

4. Points 1 and 2 do not apply to cogeneration installations with a total rated thermal input below 2 MW and using gaseous biomass fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([195]) Implementing Decision (EU) 2017/1442.

▼B

(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([196]), ensuring at the same time that no significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange ([197]), which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193 are taken into account. In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([198]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.21. **Production of heat/cool from solar thermal heating**

Description of the activity

Construction and operation of facilities producing heat/cool from solar thermal heating technology.

Where an economic activity is an integral element of the ‘Installation, maintenance and repair of renewable energy technologies’ as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([196]) Implementing Decision (EU) 2017/1442.

([197]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).

([198]) Implementing Decision (EU) 2018/1147.

▼B

Technical screening criteria

Substantial contribution to climate change mitigation
The activity produces heat/cool using solar thermal heating.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.22. **Production of heat/cool from geothermal energy**

Description of the activity

Construction or operation of facilities that produce heat/cool from geothermal energy.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation
The life-cycle GHG emissions from the generation of heat/cool from geothermal energy are lower than 100 g CO_2e/kWh.
Life-cycle GHG emissions are calculated based on project-specific data, where available, using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.
Quantified life-cycle GHG emissions are verified by an independent third party.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

▼B

(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directives 2004/107/EC and 2008/50/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.23. **Production of heat/cool from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction and operation of heat generation facilities that produce heat/cool using gaseous and liquid fuels of renewable origin. This activity does not include production of heat/cool from the exclusive use of biogas and bio-liquid fuels (see Section 4.24 of this Annex).

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The life-cycle GHG emissions from the generation of heat/cool using renewable gaseous and liquid fuels are lower than 100 g CO_2e/kWh.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([199]) or ISO 14064-1:2018 ([200]).

Quantified life-cycle GHG emissions are verified by an independent third party.

2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels), that abatement activity complies with the relevant Sections of this Annex, where applicable.

Where the CO_2 that would otherwise be emitted from the electricity generation process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

3. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of methane emissions are reported and leak is eliminated.

4. Where the activity blends renewable gaseous or liquid fuels with biogas or bioliquids, the agricultural biomass used for the production of the biogas or bioliquids complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001 while forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([199]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([200]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

▼B

(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([201]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.24. **Production of heat/cool from bioenergy**

Description of the activity

Construction and operation of facilities that produce heat/cool exclusively from biomass, biogas or bioliquids, and excluding production of heat/cool from blending of renewable fuels with biogas or bioliquids (see Section 4.23 of this Annex.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Agricultural biomass used in the activity for the production of heat and cool complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

2. The greenhouse gas emission savings from the use of biomass are at least 80 % in relation to the GHG emission saving methodology and relative fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001.

3. Where the installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable.

4. Points 1 and 2 do not apply to heat generation installations with a total rated thermal input below 2 MW and using gaseous biomass fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([201]) Implementing Decision (EU) 2017/1442.

▼B

(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([202]), ensuring at the same time that no significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange ([203]), which are published by the Commission in accordance with Article 6, paragraphs 9 and 10 of Directive (EU) 2015/2193 are taken into account. For anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([204]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.25. **Production of heat/cool using waste heat**

Description of the activity

Construction and operation of facilities that produce heat/cool using waste heat.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation
The activity produces heat/cool from waste heat.
Do no significant harm (‘DNSH’)

([202]) Implementing Decision (EU) 2017/1442.

([203]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).

([204]) Implementing Decision (EU) 2018/1147.

▼B

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	Pumps and the kind of equipment used, which is covered by Ecodesign and Energy labelling comply, where relevant, with the top class requirements of the energy label laid down in Regulation (EU) 2017/1369, and with implementing regulations under Directive 2009/125/EC and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

▼M1

4.26. **Pre-commercial stages of advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle**

Description of the activity

Research, development, demonstration and deployment of innovative electricity generation facilities, licenced by Member States' competent authorities in accordance with applicable national law, that produce energy from nuclear processes with minimal waste from the fuel cycle.

The activity is classified under NACE code M72 and M72.1 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

(a) the Member State has fully transposed Council Directive 2009/71/Euratom ([205]) and Council Directive 2011/70/Euratom ([206]);

([205]) Council Directive 2009/71/Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations (OJ L 172, 2.7.2009, p. 18).
([206]) Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199, 2.8.2011, p. 48).

▼M1

(b) the Member State complies with the Treaty establishing the European Atomic Energy Community ('Euratom Treaty') and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Council Directive 2013/59/Euratom ([207]), as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU of the European Parliament and of the Council ([208]) and Directive 2000/60/EC of the European Parliament and of the Council ([209]);

(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Commission Recommendation 2006/851/Euratom ([210]);

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 Euratom Treaty or Article 1(4) of Council Regulation (Euratom) No 2587/1999, and included in the national programme updated under Directive 2011/70/Euratom;

(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

([207]) Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom (OJ L 13, 17.1.2014, p. 1).

([208]) Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

([209]) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).

([210]) Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).

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2. The project is part of a Union financed research programme or the project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation (Euratom) No 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section have been satisfactorily addressed.

3. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

(a) the adequacy of the accumulated resources referred to in point 1(c);

(b) actual progress in the implementation of the plan referred to in point 1(f).

On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

4. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a) of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

5. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the International Atomic Energy Agency (‘IAEA’) and the Western European Nuclear Regulator’s Association (‘WENRA’), contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

6. Radioactive waste as referred to in point 1(e) and (f), is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

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Additional criteria pertaining to substantial contribution to climate change mitigation

The activity aims at generating or generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Commission Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b), 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.

▼M1

	A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom ([211]) and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

([211]) Council Directive 2013/51/Euratom of 22 October 2013 laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption (OJ L 296, 7.11.2013, p. 12).

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4.27. **Construction and safe operation of new nuclear power plants, for the generation of electricity or heat, including for hydrogen production, using best-available technologies**

For the purposes of this Section, best-available technologies mean technologies that fully comply with the requirements of Directive 2009/71/Euratom and fully respect the most recent technical parameters of the IAEA standards and the WENRA Safety objectives and Reference Levels.

Description of the activity

Construction and safe operation of new nuclear installations for which the construction permit has been issued by 2045 by Member States' competent authorities, in accordance with applicable national law, to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production (new nuclear installations), as well as their safety upgrades.

The activity is classified under NACE codes D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

(a) the Member State has fully transposed Council Directive 2009/71/Euratom and Council Directive 2011/70/Euratom;

(b) the Member State complies with the Euratom Treaty and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Directive 2013/59/Euratom, as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC;

(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Recommendation 2006/851/Euratom;

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 of the Euratom Treaty or under Article 1(4) of Council Regulation 2587/1999 and included in the national programme updated under Council Directive 2011/70/Euratom;

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(f) the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use the plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

2. The project fully applies the best-available technology and from 2025 accident-tolerant fuel. The technology is certified and approved by the national safety regulator.

3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.

4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

(a) the adequacy of the accumulated resources referred to in point 1(c);

(b) actual progress in the implementation of the plan referred to in point 1(f).

On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

5. The Commission shall review, as of 2025 and at least every 10 years, the technical parameters corresponding to the best-available technology on the basis of the assessment by the European Nuclear Safety Regulators' Group ('ENSREG').

6. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress-tests, of the resilience of the nuclear power plants located on the territory of the Union against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

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(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

7. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

8. Radioactive waste as referred to in point 1(e) and (f) is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

Additional criteria pertaining to substantial contribution to climate change mitigation

The activity generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b), Article 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom, implemented in accordance with the international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned.

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	In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with the Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom.

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	Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.28. **Electricity generation from nuclear energy in existing installations**

Description of the activity

Modification of existing nuclear installations for the purposes of extension, authorised by Member States' competent authorities by 2040 in accordance with applicable national law, of the service time of safe operation of nuclear installations that produce electricity or heat from nuclear energy ('nuclear power plants').

The activity is classified under NACE codes D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with all the technical screening criteria set out in this Section.

Technical screening criteria

General criteria pertaining to substantial contribution to climate change mitigation and Do no significant harm ('DNSH')

1. The project related to the economic activity ('the project') is located in a Member State which complies with all of the following:

(a) the Member State has fully transposed Council Directive 2009/71/Euratom and Council Directive 2011/70/Euratom;

(b) the Member State complies with the Euratom Treaty and with legislation adopted on its basis, in particular, Directive 2009/71/Euratom, Directive 2011/70/Euratom and Directive 2013/59/Euratom, and with applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC;

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(c) the Member State has in place, as of the approval date of the project, a radioactive waste management fund and a nuclear decommissioning fund which can be combined;

(d) the Member State has demonstrated that it will have resources available at the end of the estimated useful life of the nuclear power plant corresponding to the estimated cost of radioactive waste management and decommissioning in compliance with Recommendation 2006/851/Euratom;

(e) the Member State has operational final disposal facilities for all very low-, low- and intermediate-level radioactive waste, notified to the Commission under Article 41 of the Euratom Treaty or under Article 1(4) of Council Regulation 2587/1999 and included in the national programme updated under Council Directive 2011/70/Euratom;

(f) for projects authorised after 2025, the Member State has a documented plan with detailed steps to have in operation, by 2050, a disposal facility for high-level radioactive waste describing all of the following:

(i) concepts or plans and technical solutions for spent fuel and radioactive waste management from generation to disposal;

(ii) concepts or plans for the post-closure period of a disposal facility's lifetime, including the period during which appropriate controls are retained and the means to be employed to preserve knowledge of that facility in the longer term;

(iii) the responsibilities for the plan implementation and the key performance indicators to monitor its progress;

(iv) cost assessments and financing schemes.

For the purposes of point (f), Member States may use the plans drawn up as part of the national programme required by Articles 11 and 12 of Directive 2011/70/Euratom.

2. The upgraded project implements any reasonably practicable safety improvement and from 2025 makes use of accident-tolerant fuel. The technology is certified and approved by the national safety regulator.

3. The project has been notified to the Commission in accordance with Article 41 of the Euratom Treaty or with Article 1(4) of Council Regulation 2587/1999, where either of these provisions is applicable, the Commission has given its opinion on it in accordance with Article 43 of the Euratom Treaty, and all the issues raised in the opinion, with relevance for the application of Article 10(2) and Article 17 of Regulation (EU) 2020/852, and of the technical screening criteria laid down in this Section, have been satisfactorily addressed.

4. The Member State concerned has committed to report to the Commission every five years for each project on all of the following:

(a) the adequacy of the accumulated resources referred to in point 1(c);

(b) actual progress in the implementation of the plan referred to in point 1(f).

On the basis of the reports, the Commission shall review the adequacy of the accumulated resources of the radioactive waste management fund and the nuclear decommissioning fund referred to in point 1(c) and the progress in the implementation of the documented plan referred to in point 1(f) and it may address an opinion to the Member State concerned.

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5. The activity complies with national legislation that transposes the legislation referred to in point 1(a) and (b), including as regards the evaluation, in particular through stress-tests, of the resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

6. The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance from the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

7. Radioactive waste referred to in point 1(e) and (f) is disposed of in the Member State in which it was generated, unless there is an agreement between the Member State concerned and the Member State of destination, as established in Directive 2011/70/Euratom. In that case, the Member State of destination has radioactive waste management and disposal programmes and a suitable disposal facility in operation in compliance with the requirements of Directive 2011/70/Euratom.

Additional criteria pertaining to substantial contribution to climate change mitigation

The activity generates electricity using nuclear energy. Life-cycle greenhouse gas (GHG) emissions from the generation of electricity from nuclear energy are below the threshold of 100 g CO2e/kWh.

Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Additional criteria pertaining to Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex. The activity complies with the requirements laid down in Article 6(b), Article 8b(1), point (a), and Article 8c(a) of Directive 2009/71/Euratom. The activity fulfils the requirements of Directive 2009/71/Euratom implemented in accordance with international guidance of the IAEA and WENRA relating to extreme natural hazards, including floods and extreme weather conditions.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur.

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	For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.29. **Electricity generation from fossil gaseous fuels**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels. This activity does not include electricity generation from the exclusive use of renewable non-fossil gaseous and liquid fuels as referred to in Section 4.7 of this Annex and biogas and bio-liquid fuels as referred to in Section 4.8 of this Annex.

The economic activities in this category may be associated with several NACE codes, notably D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

▼M1

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

(a) the life-cycle GHG emissions from the generation of electricity using fossil gaseous fuels are lower than 100 g CO2e/kWh.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the criteria set out in the relevant Section of this Annex, where applicable.

Where the CO_2 that would otherwise be emitted from the electricity generation process is captured for the purpose of underground storage, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Sections 5.11 and 5.12 of this Annex.

(b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

(i) direct GHG emissions of the activity are lower than 270g CO2e/kWh of the output energy, or annual direct GHG emissions of the activity do not exceed an average of 550kgCO2e/kW of the facility's capacity over 20 years;

(ii) the power to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

(iii) the activity replaces an existing high emitting electricity generation activity that uses solid or liquid fossil fuels;

(iv) the newly installed production capacity does not exceed the capacity of the replaced facility by more than 15 %;

(v) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;

(vi) the replacement leads to a reduction in emissions of at least 55 % GHG over the lifetime of the newly installed production capacity;

(vii) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 of the European Parliament and of the Council ([212]) or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third-party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(i);

([212]) Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p. 1)

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(b) where applicable, assessing whether annual direct GHG emissions of the activity are on a credible trajectory to comply with the average threshold over 20 years referred to in point 1(b)(i);

(c) assessing whether the activity is on a credible trajectory to comply with point 1(b)(v).

When undertaking the assessment referred to in point 1(b), the independent third party verifier takes into account in particular the planned annual direct GHG emissions for each year of the trajectory, realised annual direct GHG emissions, planned and realised operating hours, and planned and realised use of renewable or low carbon gases.

On the basis of the reports transmitted to it, the Commission may address an opinion to the relevant operators. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as those from methane leakage, is installed or a leak detection and repair programme is introduced;

(b) at operation, physical measurement of emissions are reported and leak is eliminated.

3. Where the activity blends fossil gaseous fuels with gaseous or liquid biofuels, the agricultural biomass used for the production of the biofuels complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001 while forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

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4.30. **High-efficiency co-generation of heat/cool and power from fossil gaseous fuels**

Description of the activity

Construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels. This activity does not include high-efficiency co-generation of heat/cool and power from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.19 of this Annex, and biogas and bio-liquid fuels referred to in Section 4.20 of this Annex.

The economic activities in this category may be associated with NACE codes D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

(a) the life-cycle GHG emissions from the co-generation of heat/cool and power from gaseous fuels are lower than 100 g CO2e per 1 kWh of energy output of the co-generation.

Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO_2 emitted from the electricity generation is captured, the CO_2 shall meet the emissions limit set out in point 1 of this Section and, the CO_2 be transported and stored underground in a way that meets the technical screening criteria for transport of CO_2 and storage of CO_2 set out in Sections 5.11 and 5.12, respectively of this Annex.

(b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

(i) the activity achieves primary energy savings of at least 10 % compared with the references to separate production of heat and electricity; the primary energy savings are calculated on the basis of formula provided in Directive 2012/27/EU;

(ii) direct GHG emissions of the activity are lower than 270 g CO2e/kWh of the output energy;

(iii) the power and/or heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

(iv) the activity replaces an existing high emitting combined heat/cool and power generation activity, a separate heat/cool generation activity, or a separate power generation activity that uses solid or liquid fossil fuels;

(v) the newly installed production capacity does not exceed the capacity of the replaced facility;

(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;

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(vii) the replacement leads to a reduction in emissions of at least 55 % GHG per kWh of output energy;

(viii) the refurbishment of the facility does not increase production capacity of the facility;

(ix) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii);

(b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).

On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, including those from methane leakage, is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of emissions are reported and any leak is eliminated.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

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4.31. **Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system**

Description of the activity

Construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels connected to efficient district heating and cooling within the meaning of Article 2, point (41) of Directive 2012/27/EU. This activity does not include production of heat/cool in an efficient district heating from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.23 of this Annex and biogas and bio-liquid fuels referred to in Section 4.24 of this Annex.

The activity is classified under NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity meets either of the following criteria:

(a) Life-cycle GHG emissions from the generation of heat/cool from gaseous fuels are lower than 100 g CO2e/kWh. Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.

Quantified life-cycle GHG emissions are verified by an independent third party.

Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO_2 emitted from the electricity generation is captured, the CO_2 shall meet the emissions limit set out in point 1 of this Section and shall be transported and stored underground in a way that meets the technical screening criteria for transport of CO_2 and storage of CO_2 set out in Sections 5.11 and 5.12, respectively of this Annex.

(b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:

(i) the thermal energy generated by the activity is used in an efficient district heating and cooling system as defined in Directive 2012/27/EU;

(ii) the direct GHG emissions of the activity are lower than 270 g CO2e/kWh of the output energy;

(iii) the heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;

(iv) the activity replaces an existing high emitting heating/cooling activity using solid or liquid fossil fuel;

(v) the newly installed production capacity does not exceed the capacity of the replaced facility;

(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;

(vii) the replacement leads to a reduction in emissions of at least 55 % GHG per kWh of output energy;

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(viii) the refurbishment of the facility does not increase production capacity of the facility;

(ix) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.

Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third-party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not be involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:

(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii);

(b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).

On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.

2. The activity meets either of the following criteria:

(a) at construction, measurement equipment for monitoring of physical emissions, such as those from methane leakage, is installed or a leak detection and repair program is introduced;

(b) at operation, physical measurement of emissions are reported and any leak is eliminated.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

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5. WATER SUPPLY, SEWERAGE, WASTE MANAGEMENT AND REMEDIATION

5.1. **Construction, extension and operation of water collection, treatment and supply systems**

Description of the activity

Construction, extension and operation of water collection, treatment and supply systems.

The economic activities in this category could be associated with several NACE codes, in particular E36.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The water supply system complies with one of the following criteria:

(a) the net average energy consumption for abstraction and treatment equals to or is lower than 0,5 kWh per cubic meter produced water supply. Net energy consumption may take into account measures decreasing energy consumption, such as source control (pollutant load inputs), and, as appropriate, energy generation (such as hydraulic, solar and wind energy);

(b) the leakage level is either calculated using the Infrastructure Leakage Index (ILI) ([213]) rating method and the threshold value equals to or is lower than 1,5, or is calculated using another appropriate method and the threshold value is established in accordance with Article 4 of Directive (EU) 2020/2184 of the European Parliament and of the Council ([214]). That calculation is to be applied across the extent of water supply (distribution) network where the works are carried out, i.e. at water supply zone level, district metered area(s) (DMAs) or pressure managed area(s) (PMAs).

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.2. **Renewal of water collection, treatment and supply systems**

Description of the activity

Renewal of water collection, treatment and supply systems including renewals to water collection, treatment and distribution infrastructures for domestic and industrial needs. It implies no material changes to the volume of flow collected, treated or supplied.

([213]) The Infrastructure Leakage Index (ILI) is calculated as current annual real losses (CARL)/unavoidable annual real losses (UARL): The current annual real losses (CARL) represent the amount of water that is actually lost from the distribution network (i.e. not delivered to final users). The unavoidable annual real losses (UARL) take into consideration that there will always be some leakage in a water distribution network. The UARL is calculated based on factors such as the length of the network, the number of service connections and the pressure at which the network is operating.

([214]) Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption (recast) (OJ L 435, 23.12.2020, p. 1).

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The economic activities in this category could be associated with several NACE codes, in particular E36.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

The renewal of the water supply system leads to improved energy efficiency in one of the following ways:

(a) by decreasing the net average energy consumption of the system by at least 20 % compared to own baseline performance averaged for three years, including abstraction and treatment, measured in kWh per cubic meter produced water supply;

(b) by closing the gap by at least 20 % either between the current leakage level averaged over three years, calculated using the Infrastructure Leakage Index (ILI) rating method and an ILI of 1.5 ([215]), or between the current leakage level averaged over three years, calculated using another appropriate method, and the threshold value established in accordance with Article 4 of Directive (EU) 2020/2184. The current leakage level averaged over three years is calculated across the extent of water supply (distribution) network where the works are carried out, i.e. for the renewed water supply (distribution) network at district metered area(s) (DMAs) or pressure managed area(s) (PMAs).

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.3. **Construction, extension and operation of waste water collection and treatment**

Description of the activity

Construction, extension and operation of centralised waste water systems including collection (sewer network) and treatment.

The economic activities in this category could be associated with several NACE codes, in particular E37.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([215]) The Infrastructure Leakage Index (ILI) is calculated as current annual real losses (CARL)/unavoidable annual real losses (UARL): The current annual real losses (CARL) represent the amount of water that is actually lost from the distribution network (i.e. not delivered to final users). The unavoidable annual real losses (UARL) take into consideration that there will always be some leakage in a water distribution network. The UARL is calculated based on factors such as the length of the network, the number of service connections and the pressure at which the network is operating.

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Technical screening criteria

Substantial contribution to climate change mitigation

1. The net energy consumption of the waste water treatment plant equals to or is lower than:

(a) 35 kWh per population equivalent (p.e.) per annum for treatment plant capacity below 10 000 p.e.;

(b) 25 kWh per population equivalent (p.e.) per annum for treatment plant capacity between 10 000 and 100 000 p.e.;

(c) 20 kWh per population equivalent (p.e.) per annum for treatment plant capacity above 100 000 p.e.

Net energy consumption of the operation of the waste water treatment plant may take into account measures decreasing energy consumption relating to source control (reduction of storm water or pollutant load inputs), and, as appropriate, energy generation within the system (such as hydraulic, solar, thermal and wind energy).

2. For the construction and extension of a waste water treatment plant or a waste water treatment plant with a collection system, which are substituting more GHG-intensive treatment systems (such as septic tanks, anaerobic lagoons), an assessment of the direct GHG emissions is performed ([216]). The results are disclosed to investors and clients on demand.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Where the waste water is treated to a level suitable for reuse in agricultural irrigation, the required risk management actions to avoid adverse environmental impacts have been defined and implemented ([217]).
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Discharges to receiving waters meet the requirements laid down in Council Directive 91/271/EEC ([218]) or as required by national provisions stating maximum permissible pollutant levels from discharges to receiving waters. Appropriate measures have been implemented to avoid and mitigate excessive storm water overflows from the waste water collection system, which may include nature-based solutions, separate storm water collection systems, retention tanks and treatment of the first flush. Sewage sludge is used in accordance with Council Directive 86/278/EEC ([219]) or as required by national law relating to the spreading of sludge on the soil or any other application of sludge on and in the soil.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([216]) For example, following IPCC guidelines for national GHG inventories for waste water treatment (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_6_Ch06_Wastewater.pdf).

([217]) As set out in Annex II of Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, p. 32).

([218]) Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment (OJ L 135, 30.5.1991, p. 40).

([219]) Council Directive 86/278/EEC of 12 June 1986 on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture (OJ L 181, 4.7.1986, p. 6).

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5.4. **Renewal of waste water collection and treatment**

Description of the activity

Renewal of centralised waste water systems including collection (sewer network) and treatment. It implies no material change related to the load or volume of flow collected or treated in the waste water system.

The economic activities in this category could be associated with NACE codes E37.00 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The renewal of a collection system improves energy efficiency by decreasing the average energy consumption by 20 % compared to own baseline performance averaged over three years, demonstrated on an annual basis. That decrease of energy consumption can be accounted for at the level of the project (i.e. the collection system renewal) or, across the downstream waste water agglomeration (i.e. including the downstream collection system, treatment plant or discharge of waste water).

2. The renewal of a waste water treatment plant improves energy efficiency by decreasing the average energy consumption of the system by at least 20 % compared to own baseline performance averaged over three years, demonstrated on an annual basis.

3. For the purposes of points 1 and 2, the net energy consumption of the system is calculated in kWh per population equivalent per annum of the waste water collected or effluent treated, taking into account measures decreasing energy consumption relating to source control (reduction of storm water or pollutant load inputs) and, as appropriate, energy generation within the system (such as hydraulic, solar, thermal and wind energy).

4. For the purpose of point 1 and 2, the operator demonstrates that there are no material changes relating to external conditions, including modifications to discharge authorisation(s) or changes in load to the agglomeration that would lead to a reduction of energy consumption, independent of efficiency measures taken.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Where the waste water is treated to a level suitable for reuse in agricultural irrigation, the required risk management actions to avoid adverse environmental impacts have been defined and implemented ([220]).
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Discharges to receiving waters meet the requirements laid down in Directive 91/271/EEC or as required by national provisions stating maximum permissible pollutant levels from discharges to receiving waters. Appropriate measures have been implemented to avoid and mitigate excessive storm water overflows from the waste water collection system, which may include nature-based solutions, separate storm water collection systems, retention tanks and treatment of the first flush.

([220]) As set out in Annex II to Regulation (EU) 2020/741 of the European Parliament and of the Council of 25May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, p. 32).

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	Sewage sludge is used in accordance with Directive 86/278/EEC or as required by national law relating to the spreading of sludge on the soil or any other application of sludge on and in the soil.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.5. **Collection and transport of non-hazardous waste in source segregated fractions**

Description of the activity

Separate collection and transport of non-hazardous waste in single or comingled fractions ([221]) aimed at preparing for reuse or recycling.

The economic activities in this category could be associated with NACE code E38.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

All separately collected and transported non-hazardous waste that is segregated at source is intended for preparation for reuse or recycling operations.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Separately collected waste fractions are not mixed in waste storage and transfer facilities with other waste or materials with different properties.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([221]) In the Union, the activity is in line with Article 10(3) of Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008, p. 3) and the national legislation and waste management plans.

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5.6. **Anaerobic digestion of sewage sludge**

Description of the activity

Construction and operation of facilities for the treatment of sewage sludge by anaerobic digestion with the resulting production and utilisation of biogas or chemicals.

The economic activities in this category could be associated with several NACE codes, in particular E37.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. A monitoring and contingency plan is in place in order to minimise methane leakage at the facility.

2. The produced biogas is used directly for the generation of electricity or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([222]). No significant cross-media effects occur. Where the resulting digestate is intended for use as fertiliser or soil improver, its nitrogen content (with tolerance level ± 25 %) is communicated to the buyer or the entity in charge of taking off the digestate.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.7. **Anaerobic digestion of bio-waste**

Description of the activity

Construction and operation of dedicated facilities for the treatment of separately collected bio-waste ([223]) through anaerobic digestion with the resulting production and utilisation of biogas and digestate and/or chemicals.

([222]) Implementing Decision (EU) 2018/1147.
([223]) As defined in Article 3, point 4, of Directive 2008/98/EC.

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The economic activities in this category could be associated with several NACE codes, in particular E38.21 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. A monitoring and contingency plan is in place in order to minimise methane leakage at the facility.

2. The produced biogas is used directly for the generation of electricity or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.

3. The bio-waste that is used for anaerobic digestion is source segregated and collected separately.

4. The produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment.

5. In the dedicated bio-waste treatment plants, the share of food and feed crops ([224]) used as input feedstock, measured in weight, as an annual average, is less than or equal to 10 % of the input feedstock.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([225]). No significant cross-media effects occur. The produced digestate meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 for digestate or CMC 3 for compost, as applicable, in Annex II to Regulation (EU) 2019/1009, or national rules on fertilisers or soil improvers for agricultural use The Nitrogen content (with tolerance level ± 25 %) of the digestate used as fertiliser or soil improver is communicated to the buyer or the entity in charge of taking off the digestate.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([224]) As defined in Article 2, point (40), of Directive (EU) 2018/2001.
([225]) Implementing Decision (EU) 2018/1147.

▼B

5.8. **Composting of bio-waste**

Description of the activity

Construction and operation of dedicated facilities for the treatment of separately collected bio-waste ([226]) through composting (aerobic digestion) with the resulting production and utilisation of compost.

The economic activities in this category could be associated with several NACE codes, in particular E38.21 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The bio-waste that is composted is source segregated and collected separately.

2. The compost produced is used as fertiliser or soil improver and meets the requirements for fertilising materials set out in Component Material Category 3 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For composting plants treating over 75 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out for aerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([227]). No significant cross-media effects occur. The site has a system in place that prevents leachate reaching ground-water. The compost produced meets the requirements for fertilising materials set out in Component Material Category 3 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.
(6) Protection and restoration of biodi-versity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.9. **Material recovery from non-hazardous waste**

Description of the activity

Construction and operation of facilities for the sorting and processing of separately collected non-hazardous waste streams into secondary raw materials involving mechanical reprocessing, except for backfilling purposes.

The economic activities in this category could be associated with several NACE codes, in particular E38.32 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([226]) As defined in Article 3, point 4, of Directive 2008/98/EC.
([227]) Implementing Decision (EU) 2018/1147.

▼B

Technical screening criteria

Substantial contribution to climate change mitigation
The activity converts at least 50 %, in terms of weight, of the processed separately collected non-hazardous waste into secondary raw materials that are suitable for the substitution of virgin materials in production processes.
Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.10. **Landfill gas capture and utilisation**

Description of the activity

Installation and operation of infrastructure for landfill ([228]) gas capture and utilisation in permanently closed landfills or landfill cells using new or supplementary dedicated technical facilities and equipment installed during or post landfill or landfill cell closure.

The economic activities in this category could be associated with NACE code E38.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([228]) ‘Landfill’ is defined in Article 2, point (g), of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (OJ L 182, 16.7.1999, p. 1).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

1. The landfill has not been opened after 8 July 2020.

2. The landfill or landfill cell where the gas capture system is newly installed, extended, or retrofitted is permanently closed and is not taking in further biodegradable waste ([229]).

3. The produced landfill gas is used for the generation of electricity or heat as biogas ([230]), or upgraded to biomethane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.

4. Methane emissions from the landfill and leakages from the landfill gas collection and utilisation facilities are subject to control and monitoring procedures set out in Annex III to Council Directive 1999/31/EC ([231]).

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The permanent closure and remediation as well as the after-care of old landfills, where the landfill gas capture system is installed, are carried out in accordance with the following rules: (a) general requirements set out in Annex I to Directive 1999/31/EC; (b) control and monitoring procedures set out in Annex III to that Directive.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.11. **Transport of CO_2**

Description of the activity

Transport of captured CO_2 via all modes.

Construction and operation of CO_2 pipelines and retrofit of gas networks where the main purpose is the integration of captured CO_2.

The economic activities in this category could be associated with several NACE codes, in particular F42.21 and H49.50 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity in accordance with Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([229]) As set out in Article 5(3) of Directive 1999/31/EC.
([230]) 'Biogas' is defined in Article 2, point 28, of Directive (EU) 2018/2001.
([231]) Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (OJ L 182, 16.7.1999, p. 1).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

1. The CO_2 transported from the installation where it is captured to the injection point does not lead to CO_2 leakages above 0.5 % of the mass of CO_2 transported.

2. The CO_2 is delivered to a permanent CO_2 storage site that meets the criteria for underground geological storage of CO_2 set out in Section 5.12 of this Annex; or to other transport modalities, which lead to permanent CO_2 storage site that meet those criteria.

3. Appropriate leak detection systems are applied and a monitoring plan is in place, with the report verified by an independent third party.

4. The activity may include the installation of assets that increase the flexibility and improve the management of an existing network..

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.12. **Underground permanent geological storage of CO_2**

Description of the activity

Permanent storage of captured CO_2 in appropriate underground geological formations.

The economic activities in this category could be associated with NACE code E39.00 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Characterisation and assessment of the potential storage complex and surrounding area, or exploration within the meaning of Article 3, point (8), of Directive 2009/31/EC of the European Parliament and of the Council ([232]) is carried out in order to establish whether the geological formation is suitable for use as a CO_2 storage site.

2. For operation of underground geological CO_2 storage sites, including closure and post-closure obligations:

(a) appropriate leakage detection systems are implemented to prevent release during operation;

(b) a monitoring plan of the injection facilities, the storage complex, and, where appropriate, the surrounding environment is in place, with the regular reports checked by the competent national authority.

([232]) Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (OJ L 140, 5.6.2009, p. 114).

▼B

3. For the exploration and operation of storage sites within the Union, the activity complies with Directive 2009/31/EC. For the exploration and operation of storage sites in third countries, the activity complies with ISO 27914:2017 ([233]) for geological storage of CO_2.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with Directive 2009/31/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6. TRANSPORT

6.1. **Passenger interurban rail transport**

Description of the activity

Purchase, financing, rental, leasing and operation of passenger transport using railway rolling stock on mainline networks, spread over an extensive geographic area, passenger transport by interurban railways and operation of sleeping cars or dining cars as an integrated operation of railway companies.

The economic activities in this category could be associated with several NACE codes, in particular H49.10, N77.39 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, that activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one of the following criteria:

(a) the trains and passenger coaches have zero direct (tailpipe) CO_2 emissions;

(b) the trains and passenger coaches have zero direct (tailpipe) CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.

([233]) ISO Standard 27914:2017, Carbon dioxide capture, transportation and geological storage — Geological storage (version of 4.6.2021: https://www.iso.org/standard/64148.html).

▼B

(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance.
(5) Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628 of the European Parliament and of the Council ([234]).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.2. **Freight rail transport**

Description of the activity

Purchase, financing, leasing, rental and operation of freight transport on mainline rail networks as well as short line freight railroads.

The economic activities in this category could be associated with several NACE codes, in particular H49.20 and N77.39 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, that activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or both of the following criteria:

(a) the trains and wagons have zero direct tailpipe CO_2 emission;

(b) the trains and wagons have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode).

2. The trains and wagons are not dedicated to the transport of fossil fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, in particular during maintenance.

([234]) Regulation (EU) 2016/1628 of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013, and amending and repealing Directive 97/68/EC (OJ L 252, 16.9.2016, p. 53).

▼B

(5) Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.3. **Urban and suburban transport, road passenger transport**

Description of the activity

Purchase, financing, leasing, rental and operation of urban and suburban transport vehicles for passengers and road passenger transport.

For motor vehicles, operation of vehicles designated as category M2 or M3, in accordance with Article 4(1) of Regulation (EU) 2018/858, for the provision of passenger transport.

The economic activities in this category may include operation of different modes of land transport, such as by motor bus, tram, streetcar, trolley bus, underground and elevated railways. This also includes town-to-airport or town-to-station lines and operation of funicular railways and aerial cableways where part of urban or suburban transit systems.

The economic activities in this category also include scheduled long-distance bus services, charters, excursions and other occasional coach services, airport shuttles (including within airports), operation of school buses and buses for the transport.

The economic activities in this category could be associated with several NACE codes, in particular H49.31, H49.3.9, N77.39 and N77.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with the one of following criteria:

(a) the activity provides urban or suburban passenger transport and its direct (tailpipe) CO_2 emissions are zero ([235]);

([235]) This includes Motor buses with type of bodywork classified as ‘CE’ (low-floor single-deck vehicle), ‘CF’ (low-floor double-deck vehicle), ‘CG’ (Articulated low-floor single-deck vehicle), ‘CH’ (Articulated low-floor double-deck vehicle), ‘CI’ (open top single deck vehicle) or ‘CJ’ (open top double deck vehicle), as set out in point 3 of part C of Annex I to Regulation (EU) 2018/858.

▼B

(b) until 31 December 2025, the activity provides interurban passenger road transport using vehicles designated as categories M2 and M3 ([236]) that have a type of bodywork classified as 'CA' (single-deck vehicle), 'CB' (double-deck vehicle), 'CC' (single-deck articulated vehicle) or 'CD' (double-deck articulated vehicle) ([237]), and comply with the latest EURO VI standard, i.e. both with the requirements of Regulation (EC) No 595/2009 and, from the time of the entry into force of amendments to that Regulation, in those amending acts, even before they become applicable, and with the latest step of the Euro VI standard set out in Table 1 of Appendix 9 to Annex I to Regulation (EU) No 582/2011 where the provisions governing that step have entered into force but have not yet become applicable for this type of vehicle ([238]). Where such standard is not available, the direct CO_2 emissions of the vehicles are zero.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein).
(5) Pollution prevention and control	For road vehicles of categories M, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 of the European Parliament and of the Council ([239]) and as can be verified from the European Product Registry for Energy Labelling (EPREL). Where applicable, vehicles comply with the requirements of the most recent applicable stage of the Euro VI heavy duty emission type-approval set out in accordance with Regulation (EC) No 595/2009.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.4. **Operation of personal mobility devices, cycle logistics**

Description of the activity

Selling, purchasing, financing, leasing, renting and operation of personal mobility or transport devices where the propulsion comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity. This includes the provision of freight transport services by (cargo) bicycles.

The economic activities in this category could be associated with several NACE codes, in particular N77.11 and N77.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([236]) As referred to in Article 4(1), point (a), of Regulation (EU) 2018/858.
([237]) As set out in point 3 of part C of Annex I to Regulation (EU) 2018/858.
([238]) Until 31/12/2021, the EURO VI, step E as set out in Regulation (EC) No 595/2009.
([239]) Regulation (EU) 2020/740 of the European Parliament and of the Council of 25 May 2020 on the labelling of tyres with respect to fuel efficiency and other parameters, amending Regulation (EU) 2017/1369 and repealing Regulation (EC) No 1222/2009 (OJ L 177, 5.6.2020, p. 1).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

1. The propulsion of personal mobility devices comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity.

2. The personal mobility devices are allowed to be operated on the same public infrastructure as bikes or pedestrians.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein).
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.5. **Transport by motorbikes, passenger cars and light commercial vehicles**

Description of the activity

Purchase, financing, renting, leasing and operation of vehicles designated as category M1 ([240]), N1 ([241]), both falling under the scope of Regulation (EC) No 715/2007 of the European Parliament and of the Council ([242]), or L (2- and 3-wheel vehicles and quadricycles) ([243]).

The economic activities in this category could be associated with several NACE codes, in particular H49.32, H49.39 and N77.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a)(ii) and (b) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

([240]) As referred to in Article 4(1), point (a)(i), of Regulation (EU) 2018/858.
([241]) As referred to in Article 4(1), point (b)(i), of Regulation (EU) 2018/858.
([242]) Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (OJ L 171, 29.6.2007, p. 1).
([243]) As referred to in Article 4(1) of Regulation (EU) 2018/858.

▼B

Technical screening criteria

Substantial contribution to climate change mitigation	
The activity complies with the following criteria: (a) for vehicles of category M1 and N1, both falling under the scope of Regulation (EC) No 715/2007: (i) until 31 December 2025, specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631, are lower than 50 g CO_2/km (low- and zero-emission light-duty vehicles); (ii) from 1 January 2026, specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631, are zero. (b) for vehicles of category L, the tailpipe CO_2 emissions equal to 0 g CO_2e/km calculated in accordance with the emission test laid down in Regulation (EU) 168/2013.	
Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Vehicles of categories M1 and N1 are both of the following: (a) reusable or recyclable to a minimum of 85 % by weight; (b) reusable or recoverable to a minimum of 95 % by weight ([244]). Measures are in place to manage waste both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein), in accordance with the waste hierarchy.
(5) Pollution prevention and control	Vehicles comply with the requirements of the most recent applicable stage of the Euro 6 light-duty emission type-approval ([245]) set out in accordance with Regulation (EC) No. 715/2007. Vehicles comply with the emission thresholds for clean light-duty vehicles set out in Table 2 of the Annex to Directive 2009/33/EC of the European Parliament and of the Council ([246]). For road vehicles of categories M and N, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 and as can be verified from the European Product Registry for Energy Labelling (EPREL). Vehicles comply with Regulation (EU) No 540/2014 of the European Parliament and of the Council ([247]).

([244]) As set out in Annex I of Directive 2005/64/EC of the European Parliament and of the Council of 26 October 2005 on the type-approval of motor vehicles with regard to their reusability, recyclability and recoverability and amending Council Directive 70/156/EEC (OJ L 310, 25.11.2005, p. 10).

([245]) Commission Regulation (EU) 2018/1832 of 5 November 2018 amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) 2017/1151 for the purpose of improving the emission type approval tests and procedures for light passenger and commercial vehicles, including those for in-service conformity and real-driving emissions and introducing devices for monitoring the consumption of fuel and electric energy (OJ L 301, 27.11.2018, p. 1).

([246]) Directive 2009/33/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of clean and energy-efficient road transport vehicles (OJ L 120, 15.5.2009, p. 5).

([247]) Regulation (EU) No 540/2014 of the European Parliament and of the Council of 16 April 2014 on the sound level of motor vehicles and of replacement silencing systems, and amending Directive 2007/46/EC and repealing Directive 70/157/EEC (OJ L 158, 27.5.2014, p. 131).

▼B

(6) Protection and restoration of biodiversity and ecosystems	N/A

6.6. **Freight transport services by road**

Description of the activity

Purchase, financing, leasing, rental and operation of vehicles designated as category N1, N2 ([248]) or N3 ([249]) falling under the scope of EURO VI ([250]), step E or its successor, for freight transport services by road.

The economic activities in this category could be associated with several NACE codes, in particular H49.4.1, H53.10, H53.20 and N77.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (1)(a), (1)(b) or (1)(c)(i) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one of the following criteria:

(a) vehicles of category N1 have zero direct (tailpipe) CO_2 emissions;

(b) vehicles of category N2 and N3 with a technically permissible maximum laden mass not exceeding 7,5 tonnes are ‘zero-emission heavy-duty vehicles’ as defined in Article 3, point (11), of Regulation (EU) 2019/1242;

(c) vehicles of category N2 and N3 with a technically permissible maximum laden mass exceeding 7,5 tonnes are one of the following:

(i) ‘zero-emission heavy-duty vehicles’, as defined in Article 3, point (11), of Regulation (EU) 2019/1242;

(ii) where technologically and economically not feasible to comply with the criterion in point (i), ‘low-emission heavy-duty vehicles’ as defined in Article 3, point (12), of that Regulation.

2. Vehicles are not dedicated to the transport of fossil fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A

([248]) As referred to in Article 4(1), point (b)(ii), of Regulation (EU) 2018/858.
([249]) As referred to in Article 4(1), point (b)(iii), of Regulation (EU) 2018/858.
([250]) As set out in Regulation (EC) No 595/2009.

▼B

(4) Transition to a circular economy	Vehicles of category N1, N2 and N3 are both of the following: (a) reusable or recyclable to a minimum of 85 % by weight; (b) reusable or recoverable to a minimum of 95 % by weight ([251]). Measures are in place to manage waste both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein), in accordance with the waste hierarchy.
(5) Pollution prevention and control	For road vehicles of categories M and N, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 and as can be verified from the European Product Registry for Energy Labelling (EPREL). Vehicles comply with the requirements of the most recent applicable stage of the Euro VI heavy duty emission type-approval ([252]) set out in accordance with Regulation (EC) No 595/2009. Vehicles comply with Regulation (EU) No 540/2014.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.7. **Inland passenger water transport**

Description of the activity

Purchase, financing, leasing, rental and operation of passenger vessels on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated with NACE code H50.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation
The activity complies with one of the following criteria: (a) the vessels have zero direct (tailpipe) CO_2 emissions; (b) until 31 December 2025, hybrid and dual fuel vessels derive at least 50 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation.

([251]) As set out in Annex I to Directive 2005/64/EC.

([252]) Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (OJ L 167, 25.6.2011, p. 1).

▼B

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein.
(5) Pollution prevention and control	Engines in vessels comply with emission limits set out in Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.8. **Inland freight water transport**

Description of the activity

Purchase, financing, leasing, rental and operation of freight vessels on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated with several NACE code H50.4 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or both of the following criteria:

(a) the vessels have zero direct (tailpipe) CO_2 emission;

(b) where technologically and economically not feasible to comply with the criterion in point (a), until 31 December 2025, the vessels have direct (tailpipe) emissions of CO_2 per tonne kilometre (g CO_2/tkm), calculated (or estimated in case of new vessels) using the Energy Efficiency Operational Indicator ([253]), 50 % lower than the average reference value for emissions of CO_2 defined for heavy duty vehicles (vehicle subgroup 5- LH) in accordance with Article 11 of Regulation 2019/1242.

2. Vessels are not dedicated to the transport of fossil fuels.

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.

([253]) The Energy Efficiency Operational Indicator is defined as the ratio of mass of CO_2 emitted per unit of transport work. It is a representative value of the energy efficiency of the ship operation over a consistent period which represents the overall trading pattern of the vessel. Guidance on how to calculate this indicator is provided in the document MEPC.1/Circ. 684 from IMO.

▼B

(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein.
(5) Pollution prevention and control	Vessels comply with the emission limits set out in Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.9. **Retrofitting of inland water passenger and freight transport**

Description of the activity

Retrofit and upgrade of vessels for transport of freight or passengers on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated several NACE codes, in particular H50.4, H50.30 and C33.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Until 31 December 2025, the retrofitting activity reduces fuel consumption of the vessel by at least 10 % expressed in litre of fuel per tonne kilometre, as demonstrated by a comparative calculation for the representative navigation areas (including representative load profiles) in which the vessel is to operate or by means of the results of model tests or simulations.

2. Vessels retrofitted or upgraded are not dedicated to transport of fossil fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling.

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(5) Pollution prevention and control	Vessels comply with emission limits set out in Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.10. **Sea and coastal freight water transport, vessels for port operations and auxiliary activities**

Description of the activity

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for transport of freight or for the combined transport of freight and passengers on sea or coastal waters, whether scheduled or not. Purchase, financing, renting and operation of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers.

The economic activities in this category could be associated with several NACE codes, in particular H50.2, H52.22 and N77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point 1 (a) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or more of the following criteria:

(a) the vessels have zero direct (tailpipe) CO_2 emissions;

(b) until 31 December 2025, hybrid and dual fuel vessels derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(c) where technologically and economically not feasible to comply with the criterion in point (a), until 31 December 2025, and only where it can be proved that the vessels are used exclusively for operating coastal and short sea services designed to enable modal shift of freight currently transported by land to sea, the vessels have direct (tailpipe) CO_2 emissions, calculated using the International Maritime Organization (IMO) Energy Efficiency Design Index (EEDI) ([254]), 50 % lower than the average reference CO_2 emissions value defined for heavy duty vehicles (vehicle sub group 5-LH) in accordance with Article 11 of Regulation 2019/1242;

([254]) Energy Efficiency Design Index (version of 4.6.2021: http://www.imo.org/fr/MediaCentre/HotTopics/GHG/Pages/EEDI.aspx).

▼B

(d) where technologically and economically not feasible to comply with the criterion in point (a), until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 April 2022 ([255]) if the vessels are able to run on zero direct (tailpipe) CO_2 emission fuels or on fuels from renewable sources ([256]).

2. Vessels are not dedicated to the transport of fossil fuels.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirements of Regulation (EU) No 1257/2013 of the European Parliament and of the Council ([257]) relating to the inventory of hazardous materials. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Commission Decision 2016/2323 ([258]). The activity complies with Directive (EU) 2019/883 of the European Parliament and of the Council ([259]) as regards the protection of the marine environment against the negative effects from discharges of waste from ships. The ship is operated in accordance with Annex V to the International Convention for the Prevention of Pollution from Ships of 2 November 1973 (the IMO MARPOL Convention), in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.

([255]) EEDI requirements as agreed by the Marine Environment Protection Committee of the International Maritime Organization on its seventy-fifth session. Vessels that fall into the ship types set out in MARPOL Annex VI Regulation 2, but are not considered as new ship under that regulation may provide attained EEDI value calculated on a voluntary basis in line with MARPOL Annex VI Chapter 4 and have those calculations verified in line with MARPOL Annex VI, Chapter 2.

([256]) Fuels that meet the technical screening criteria specified in sections 3.10 and 4.13 of this Annex.

([257]) Regulation (EU) No 1257/2013 of the European Parliament and of the Council of 20 November 2013 on ship recycling and amending Regulation (EC) No 1013/2006 and Directive 2009/16/EC (OJ L 330, 10.12.2013, p. 1).

([258]) Commission Implementing Decision 2016/2323 establishing the European List of ship recycling facilities pursuant to Regulation (EU) No 1257/2013 of the European Parliament and of the Council on ship recycling (OJ L 345, 20.12.2016, p. 119).

([259]) Directive (EU) 2019/883 of the European Parliament and of the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships, amending Directive 2010/65/EU and repealing Directive 2000/59/EC (OJ L 151, 7.6.2019, p. 116).

▼B

(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802 of the European Parliament and of the Council ([260]), and with Regulation 14 ([261]) of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([262]). As regards nitrogen oxides (NO_x) emissions, vessels comply with Regulation 13 ([263]) of Annex VI to IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([264]). Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001 ([265]).
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([266]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([267]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

([260]) Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels (OJ L 132, 21.5.2016, p. 58).

([261]) (version of 4.6.2021: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Sulphur-oxides-(SO_x)-%E2%80%93-Regulation-14.aspx).

([262]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.

([263]) (version of 4.6.2021: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Nitrogen-oxides-(NO_x)-–-Regulation-13.aspx).

([264]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.

([265]) International Convention on the Control of Harmful Anti-fouling Systems on Ships of 5 October 2001.

([266]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species, resolution MEPC.207(62).

([267]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

▼B

6.11. **Sea and coastal passenger water transport**

Description of the activity

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for performing passenger transport, on sea or coastal waters, whether scheduled or not. The economic activities in this category include operation of ferries, water taxies and excursions, cruise or sightseeing boats.

The activity could be associated with several NACE codes, in particular H50.10, N77.21 and N77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category does not fulfil the substantial contribution criterion specified in point (a) of this Section, the activity is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852, provided it complies with the remaining technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity complies with one or more of the following criteria:

(a) the vessels have zero direct (tailpipe) CO_2 emissions;

(b) where technologically and economically not feasible to comply with the criterion in point (a), until 31 December 2025, hybrid and dual fuel vessels derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(c) where technologically and economically not feasible to comply with the criterion in point (a), until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) ([268]) value 10 % below the EEDI requirements applicable on 1 April 2022 ([269]), if the vessels are able to run on zero direct (tailpipe) emission fuels or on fuels from renewable sources ([270]).

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirements of Regulation (EU) No 1257/2013 relating to the inventory of hazardous materials. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Implementing Decision 2016/2323.

([268]) Energy Efficiency Design Index (version of 4.6.2021: http://www.imo.org/fr/MediaCentre/HotTopics/GHG/Pages/EEDI.aspx).

([269]) EEDI requirements as agreed by the Marine Environment Protection Committee of the International Maritime Organization on its seventy-fifth session. Vessels that fall into the ship types set out in MARPOL Annex VI Regulation 2 but are not considered as new ship under that regulation may provide attained EEDI value calculated on a voluntary basis in line with MARPOL Annex VI Chapter 4 and have those calculations verified in line with MARPOL Annex VI Chapter 2.

([270]) Fuels that meet the technical screening criteria specified in sections 3.10 and 4.13 of this Annex.

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	The activity complies with Directive (EU) 2019/883 as regards the protection of the marine environment against the negative effects from discharges of waste from ships. The ship is operated in accordance with Annex V to the IMO MARPOL Convention, in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.
(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802, and with Regulation 14 of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([271]). As regards nitrogen oxides (NOx) emissions, vessels comply with Regulation 13 of Annex VI to IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([272]). Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([273]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([274]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

([271]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.

([272]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.

([273]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species resolution MEPC.207(62).

([274]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

▼B

6.12. **Retrofitting of sea and coastal freight and passenger water transport**

Description of the activity

Retrofit and upgrade of vessels designed and equipped for the transport of freight or passengers on sea or coastal waters, and of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers.

The economic activities in this category could be associated with NACE codes H50.10, H50.2, H52.22, C33.15, N77.21 and N.77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. Until 31 December 2025, the retrofitting activity reduces fuel consumption of the vessel by at least 10 % expressed in grams of fuel per deadweight tons per nautical mile, as demonstrated by computational fluid dynamics (CFD), tank tests or similar engineering calculations.

2. Vessels are not dedicated to the transport of fossil fuels.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirements of Regulation (EU) No 1257/2013 relating to the inventory of hazardous materials. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Commission Decision 2016/2323. The activity complies with Directive (EU) 2019/883 as regards the protection of the marine environment against the negative effects from discharges of waste from ships. The ship is operated in accordance with Annex V to the IMO MARPOL Convention, in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.

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(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802, and with Regulation 14 of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([275]). As regards nitrogen oxides (NOx) emissions, vessels comply with Regulation 13 of Annex VI to IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([276]). Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([277]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([278]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

6.13. **Infrastructure for personal mobility, cycle logistics**

Description of the activity

Construction, modernisation, maintenance and operation of infrastructure for personal mobility, including the construction of roads, motorways bridges and tunnels and other infrastructure that are dedicated to pedestrians and bicycles, with or without electric assist.

([275]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.
([276]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.
([277]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species resolution MEPC.207(62).
([278]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

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The economic activities in this category could be associated with several NACE codes, in particular F42.11, F42.12, F43.21, F71.1 and F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The infrastructure that is constructed and operated is dedicated to personal mobility or cycle logistics: pavements, bike lanes and pedestrian zones, electrical charging and hydrogen refuelling installations for personal mobility devices.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Commission Decision 2000/532/EC ([279])) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([280]). Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol, taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([279]) Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste (OJ L 226, 6.9.2000, p. 3).

([280]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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6.14. **Infrastructure for rail transport**

Description of the activity

Construction, modernisation, operation and maintenance of railways and subways as well as bridges and tunnels, stations, terminals, rail service facilities ([281]), safety and traffic management systems including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products.

The economic activities in this category could be associated with several NACE codes, in particular F42.12, F42.13, M71.12, M71.20, F43.21, and H52.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([281]) In accordance with Article 3, point (11), of Directive 34/2012/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (OJ L 343, 14.12.2012, p. 32).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one of the following criteria:

(a) the infrastructure (as defined in Annex II.2 to Directive (EU) 2016/797 of the European Parliament and of the Council ([282])) is either:

(i) electrified trackside infrastructure and associated subsystems: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797;

(ii) new and existing trackside infrastructure and associated subsystems where there is a plan for electrification as regards line tracks, and, to the extent necessary for electric train operations, as regards sidings, or where the infrastructure will be fit for use by zero tailpipe CO_2 emission trains within 10 years from the beginning of the activity: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU)2016/797;

(iii) until 2030, existing trackside infrastructure and associated subsystems that are not part of the TEN-T network ([283]) and its indicative extensions to third countries, nor any nationally, supranationally or internationally defined network of major rail lines: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems as defined in Annex II.2 to Directive (EU) 2016/797;

(b) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods;

(c) infrastructure and installations are dedicated to the transfer of passengers from rail to rail or from other modes to rail.

2. The infrastructure is not dedicated to the transport or storage of fossil fuels.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([284]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.

([282]) Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union (OJ L 138, 26.5.2016, p. 44).

([283]) In accordance with Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU (OJ L 348, 20.12.2013, p. 1).

([284]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

▼B

(5) Pollution prevention and control	Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers, or other measures and comply with Directive 2002/49/EC of the European Parliament and of the Council ([285]). Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6.15. **Infrastructure enabling low-carbon road transport and public transport**

Description of the activity

Construction, modernisation, maintenance and operation of infrastructure that is required for zero tailpipe CO_2 operation of zero-emissions road transport, as well as infrastructure dedicated to transshipment, and infrastructure required for operating urban transport.

The economic activities in this category could be associated with several NACE codes, in particular F42.11, F42.13, F71.1 and F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or more of the following criteria:

(a) the infrastructure is dedicated to the operation of vehicles with zero tailpipe CO_2 emissions: electric charging points, electricity grid connection upgrades, hydrogen fuelling stations or electric road systems (ERS);

(b) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods;

(c) the infrastructure and installations are dedicated to urban and suburban public passenger transport, including associated signalling systems for metro, tram and rail systems.

2. The infrastructure is not dedicated to the transport or storage of fossil fuels.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([285]) Directive 2002/49/EC of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise (OJ L 189, 18.7.2002, p. 12).

▼B

(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([286]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Where relevant, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers or other measures and comply with Directive 2002/49/EC. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. Where relevant, maintenance of vegetation along road transport infrastructure ensures that invasive species do not spread. Mitigation measures have been implemented to avoid wildlife collisions.

6.16. **Infrastructure enabling low carbon water transport**

Description of the activity

Construction, modernisation, operation and maintenance of infrastructure that is required for zero tailpipe CO_2 operation of vessels or the port's own operations, as well as infrastructure dedicated to transshipment.

The economic activities in this category could be associated with several NACE codes, in particular F42.91, F71.1 or F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or more of the following criteria:

(a) the infrastructure is dedicated to the operation of vessels with zero direct (tailpipe) CO_2 emissions: electricity charging, hydrogen-based refuelling;

(b) the infrastructure is dedicated to the provision of shore-side electrical power to vessels at berth;

(c) the infrastructure is dedicated to the performance of the port's own operations with zero direct (tailpipe) CO_2 emissions;

([286]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

▼B

(d) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods.

2. The infrastructure is not dedicated to the transport or storage of fossil fuels.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([287]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, vibration, dust and pollutant emissions during construction maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6.17. **Low carbon airport infrastructure**

Description of the activity

Construction, modernisation, maintenance and operation of infrastructure that is required for zero tailpipe CO_2 operation of aircraft or the airport's own operations, as well as for provision of fixed electrical ground power and preconditioned air to stationary aircraft.

The economic activities in this category could be associated with several NACE codes, in particular F41.20 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity is an enabling activity as referred to in Article 10(1) point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([287]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

▼B

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity complies with one or more of the following criteria:

(a) the infrastructure is dedicated to the operation of aircraft with zero tailpipe CO_2 emissions: electricity charging and hydrogen refuelling;

(b) the infrastructure is dedicated to the provision of fixed electrical ground power and preconditioned air to stationary aircrafts;

(c) the infrastructure is dedicated to the zero direct emissions performance of the airport's own operations: electric charging points, electricity grid connection upgrades, hydrogen refuelling stations.

2. The infrastructure is not dedicated to the transport or storage of fossil fuels.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([288]). Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, vibration, dust and pollutant emissions during construction maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

7. CONSTRUCTION AND REAL ESTATE ACTIVITIES

7.1. **Construction of new buildings**

Description of the activity

Development of building projects for residential and non-residential buildings by bringing together financial, technical and physical means to realise the building projects for later sale as well as the construction of complete residential or non-residential buildings, on own account for sale or on a fee or contract basis.

([288]) EU Construction and Demolition Waste Protocol (https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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The economic activities in this category could be associated with several NACE codes, in particular F41.1 and F41.2, including also activities under F43, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

Constructions of new buildings for which:

1. The Primary Energy Demand (PED) ([289]), defining the energy performance of the building resulting from the construction, is at least 10 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council ([290]). The energy performance is certified using an as built Energy Performance Certificate (EPC).

2. For buildings larger than 5 000 m^2 ([291]), upon completion, the building resulting from the construction undergoes testing for air-tightness and thermal integrity ([292]), and any deviation in the levels of performance set at the design stage or defects in the building envelope are disclosed to investors and clients. As an alternative; where robust and traceable quality control processes are in place during the construction process this is acceptable as an alternative to thermal integrity testing.

3. For buildings larger than 5 000 m^2 ([293]), the life-cycle Global Warming Potential (GWP) ([294]) of the building resulting from the construction has been calculated for each stage in the life cycle and is disclosed to investors and clients on demand.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	Where installed, except for installations in residential building units, the specified water use for the following water appliances are attested by product datasheets, a building certification or an existing product label in the Union, in accordance with the technical specifications laid down in Appendix E to this Annex: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres;

([289]) The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m^2 per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).

([290]) Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings (OJ L 153, 18.6.2010, p. 13).

([291]) For residential buildings, the testing is made for a representative set of dwelling/apartment types.

([292]) The testing is carried out in accordance with EN13187 (Thermal Performance of Buildings - Qualitative Detection of Thermal Irregularities in Building Envelopes - Infrared Method) and EN 13829 (Thermal performance of buildings. Determination of air permeability of buildings. Fan pressurisation method) or equivalent standards accepted by the respective building control body where the building is located.

([293]) For residential buildings, the calculation and disclosure are made for a representative set of dwelling/apartment types.

([294]) The GWP is communicated as a numeric indicator for each life cycle stage expressed as kgCO_2e/m^2 (of useful internal floor area) averaged for one year of a reference study period of 50 years. The data selection, scenario definition and calculations are carried out in accordance with EN 15978 (BS EN 15978:2011. Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method). The scope of building elements and technical equipment is as defined in the Level(s) common EU framework for indicator 1.2. Where a national calculation tool exists, or is required for making disclosures or for obtaining building permits, the respective tool may be used to provide the required disclosure. Other calculation tools may be used if they fulfil the minimum criteria laid down by the Level(s) common EU framework (version of 4.6.2021: https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/412/documents), see indicator 1.2 user manual.

▼B

	(d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre. To avoid impact from the construction site, the activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([295]). Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887 ([296]) or other standards for assessing the disassembly or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantleable to enable reuse and recycling.
(5) Pollution prevention and control	Building components and materials used in the construction comply with the criteria set out in Appendix C to this Annex. Building components and materials used in the construction that may come into contact with occupiers ([297]) emit less than 0,06 mg of formaldehyde per m^3 of material or component upon testing in accordance with the conditions specified in Annex XVII to Regulation (EC) No 1907/2006 and less than 0,001 mg of other categories 1A and 1B carcinogenic volatile organic compounds per m^3 of material or component, upon testing in accordance with CEN/EN 16516 ([298]) or ISO 16000-3:2011 ([299]) or other equivalent standardised test conditions and determination methods ([300]).

([295]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

([296]) ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance (version of 4.6.2021: https://www.iso.org/standard/69370.html).

([297]) Applying to paints and varnishes, ceiling tiles, floor coverings, including associated adhesives and sealants, internal insulation and interior surface treatments, such as those to treat damp and mould.

([298]) CEN/TS 16516: 2013, Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air.

([299]) ISO 16000-3:2011, Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method (version of 4.6.2021: https://www.iso.org/standard/51812.html).

([300]) The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.

▼B

	Where the new construction is located on a potentially contaminated site (brownfield site), the site has been subject to an investigation for potential contaminants, for example using standard ISO 18400 ([301]). Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. The new construction is not built on one of the following: (a) arable land and crop land with a moderate to high level of soil fertility and below ground biodiversity as referred to the EU LUCAS survey ([302]); (b) greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the European Red List ([303]) or the IUCN Red List ([304]); (c) land matching the definition of forest as set out in national law used in the national greenhouse gas inventory, or where not available, is in accordance with the FAO definition of forest ([305]).

7.2. **Renovation of existing buildings**

Description of the activity

Construction and civil engineering works or preparation thereof.

The economic activities in this category could be associated with several NACE codes, in particular F41 and F43 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation
The building renovation complies with the applicable requirements for major renovations ([306]). Alternatively, it leads to a reduction of primary energy demand (PED) of at least 30 % ([307]).

([301]) ISO 18400 series on Soil quality — Sampling

([302]) JRC ESDCA, LUCAS: Land Use and Coverage Area frame Survey version of 4.6.2021: https://esdac.jrc.ec.europa.eu/projects/lucas

([303]) IUCN, *The IUCN European Red List of Threatened Species (version of 4.6.2021:* https://www.iucn.org/regions/europe/our-work/biodiversity-conservation/european-red-list-threatened-species).

([304]) IUCN, *The IUCN Red List of Threatened Species (version of 4.6.2021:* https://www.iucnredlist.org).

([305]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions.(version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([306]) As set in the applicable national and regional building regulations for 'major renovation' implementing Directive 2010/31/EU. The energy performance of the building or the renovated part that is upgraded meets cost-optimal minimum energy performance requirements in accordance with the respective directive.

([307]) The initial primary energy demand and the estimated improvement is based on a detailed building survey, an energy audit conducted by an accredited independent expert or any other transparent and proportionate method, and validated through an Energy Performance Certificate. The 30 % improvement results from an actual reduction in primary energy demand (where the reductions in net primary energy demand through renewable energy sources are not taken into account), and can be achieved through a succession of measures within a maximum of three years.

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Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	Where installed as part of the renovation works, except for renovation works in residential building units, the specified water use for the following water appliances is attested by product datasheets, a building certification or an existing product label in the Union, in accordance with the technical specifications laid down in Appendix E to this Annex: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; (d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([308]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887 ([309]) or other standards for assessing the disassembly or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantleable to enable reuse and recycling.
(5) Pollution prevention and control	Building components and materials used in the construction complies with the criteria set out in Appendix C to this Annex.

([308]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

([309]) ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance (version of 4.6.2021: https://www.iso.org/standard/69370.html).

▼B

	Building components and materials used in the building renovation that may come into contact with occupiers ([310]) emit less than 0,06 mg of formaldehyde per m^3 of material or component upon testing in accordance with the conditions specified in Annex XVII to Regulation (EC) No 1907/2006 and less than 0,001 mg of other categories 1A and 1B carcinogenic volatile organic compounds per m^3 of material or component, upon testing in accordance with CEN/EN 16516 or ISO 16000-3:2011 ([311]) or other equivalent standardised test conditions and determination methods ([312]). Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	N/A.

7.3. **Installation, maintenance and repair of energy efficiency equipment**

Description of the activity

Individual renovation measures consisting in installation, maintenance or repair of energy efficiency equipment.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27, C28, S95.21, S95.22, C33.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity consists in one of the following individual measures provided that they comply with minimum requirements set for individual components and systems in the applicable national measures implementing Directive 2010/31/EU and, where applicable, are rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation:

(a) addition of insulation to existing envelope components, such as external walls (including green walls), roofs (including green roofs), lofts, basements and ground floors (including measures to ensure air-tightness, measures to reduce the effects of thermal bridges and scaffolding) and products for the application of the insulation to the building envelope (including mechanical fixings and adhesive);

(b) replacement of existing windows with new energy efficient windows;

(c) replacement of existing external doors with new energy efficient doors;

(d) installation and replacement of energy efficient light sources;

(e) installation, replacement, maintenance and repair of heating, ventilation and air-conditioning (HVAC) and water heating systems, including equipment related to district heating services, with highly efficient technologies;

([310]) Applying to paints and varnishes, ceiling tiles, floor coverings (including associated adhesives and sealants), internal insulation and interior surface treatments (such as to treat damp and mould).

([311]) ISO 16000-3:2011, Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method (version of 4.6.2021: https://www.iso.org/standard/51812.html).

([312]) The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.

▼B

(f) installation of low water and energy using kitchen and sanitary water fittings which comply with technical specifications set out in Appendix E to this Annex and, in case of shower solutions, mixer showers, shower outlets and taps, have a max water flow of 6 L/min or less attested by an existing label in the Union market.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Building components and materials comply with the criteria set out in Appendix C to this Annex. In case of addition of thermal insulation to an existing building envelope, a building survey is carried out in accordance with national law by a competent specialist with training in asbestos surveying. Any stripping of lagging that contains or is likely to contain asbestos, breaking or mechanical drilling or screwing or removal of insulation board, tiles and other asbestos containing materials is carried out by appropriately trained personnel, with health monitoring before, during and after the works, in accordance with national law.
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.4. **Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)**

Description of the activity

Installation, maintenance and repair of charging stations for electric vehicles in buildings and parking spaces attached to buildings.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

Installation, maintenance or repair of charging stations for electric vehicles.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.

▼B

(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.5. **Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings**

Description of the activity

Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, and C16, C17, C22, C23, C25, C27, C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity consists in one of the following individual measures:

(a) installation, maintenance and repair of zoned thermostats, smart thermostat systems and sensing equipment, including. motion and day light control;

(b) installation, maintenance and repair of building automation and control systems, building energy management systems (BEMS), lighting control systems and energy management systems (EMS);

(c) installation, maintenance and repair of smart meters for gas, heat, cool and electricity;

(d) installation, maintenance and repair of façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A

▼B

(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.6. **Installation, maintenance and repair of renewable energy technologies**

Description of the activity

Installation, maintenance and repair of renewable energy technologies, on-site.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

The activity consists in one of the following individual measures, if installed on-site as technical building systems:

(a) installation, maintenance and repair of solar photovoltaic systems and the ancillary technical equipment;

(b) installation, maintenance and repair of solar hot water panels and the ancillary technical equipment;

(c) installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heat and cool in accordance with Directive (EU) 2018/2001 and the ancillary technical equipment;

(d) installation, maintenance and repair of wind turbines and the ancillary technical equipment;

(e) installation, maintenance and repair of solar transpired collectors and the ancillary technical equipment;

(f) installation, maintenance and repair of thermal or electric energy storage units and the ancillary technical equipment;

(g) installation, maintenance and repair of high efficiency micro CHP (combined heat and power) plant;

(h) installation, maintenance and repair of heat exchanger/recovery systems.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A

▼B

(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.7. **Acquisition and ownership of buildings**

Description of the activity

Buying real estate and exercising ownership of that real estate.

The economic activities in this category could be associated with NACE code L68 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change mitigation

1. For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class A. As an alternative, the building is within the top 15 % of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.

2. For buildings built after 31 December 2020, the building meets the criteria specified in Section 7.1 of this Annex that are relevant at the time of the acquisition.

3. Where the building is a large non-residential building (with an effective rated output for heating systems, systems for combined space heating and ventilation, air-conditioning systems or systems for combined air-conditioning and ventilation of over 290 kW) it is efficiently operated through energy performance monitoring and assessment ([313]).

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([313]) This can be demonstrated, for example, through the presence of an Energy Performance Contract or a building automation and control system in accordance with Article 14 (4) and Article 15 (4), of Directive 2010/31/EU.

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8. INFORMATION AND COMMUNICATION

8.1. **Data processing, hosting and related activities**

Description of the activity

Storage, manipulation, management, movement, control, display, switching, interchange, transmission or processing of data through data centres ([314]), including edge computing.

The economic activities in this category could be associated with NACE code J63.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is a transitional activity as referred to in Article 10(2) of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

([314]) Data centres include the following equipment: ICT equipment and services; cooling; data centre power equipment; data centre power distribution equipment; data centre building; monitoring systems.

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Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity has implemented all relevant practices listed as 'expected practices' in the most recent version of the European Code of Conduct on Data Centre Energy Efficiency ([315]), or in CEN-CENELEC document CLC TR50600-99-1 'Data centre facilities and infrastructures - Part 99-1: Recommended practices for energy management' ([316]).

The implementation of those practices is verified by an independent third-party and audited at least every three years.

2. Where an expected practice is not considered relevant due to physical, logistical, planning or other constraints, an explanation of why the expected practice is not applicable or practical is provided. Alternative best practices from the European Code of Conduct on Data Centre Energy Efficiency or other equivalent sources may be identified as direct replacements if they result in similar energy savings.

3. The global warming potential (GWP) of refrigerants used in the data centre cooling system does not exceed 675.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The equipment used meets the requirements laid down in Directive 2009/125/EC for servers and data storage products. The equipment used does not contain the restricted substances listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council ([317]), except where the concentration values by weight in homogeneous materials do not exceed the maximum values listed in that Annex. A waste management plan is in place and ensures maximal recycling at end of life of electrical and electronic equipment, including through contractual agreements with recycling partners, reflection in financial projections or official project documentation. At its end of life, the equipment undergoes preparation for reuse, recovery or recycling operations, or proper treatment, including the removal of all fluids and a selective treatment in accordance with Annex VII to Directive 2012/19/EU of the European Parliament and of the Council ([318]).
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([315]) The most recent version of the European Code of Conduct on Data Centre Energy Efficiency is the latest version published at the Joint Research Centre European Energy Efficiency Platform (E3P) website, https://e3p.jrc.ec.europa.eu/communities/data-centres-code-conduct, with a transition period of six months starting from the day of its publication (the 2021 version is available at https://e3p.jrc.ec.europa.eu/publications/2021-best-practice-guidelines-eu-code-conduct-data-centre-energy-efficiency).

([316]) Issued on 1 July 2019 by the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC), (version of 4.6.2021: https://www.cenelec.eu/dyn/www/f?p=104:110:508227404055501::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1258297,65095,25).

([317]) Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (OJ L 174, 1.7.2011, p. 88).

([318]) Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (OJ L 197, 24.7.2012, p. 38).

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8.2. **Data-driven solutions for GHG emissions reductions**

Description of the activity

Development or use of ICT solutions that are aimed at collecting, transmitting, storing data and at its modelling and use where those activities are predominantly aimed at the provision of data and analytics enabling GHG emission reductions. Such ICT solutions may include, *inter alia*, the use of decentralized technologies (i.e. distributed ledger technologies), Internet of Things (IoT), 5G and Artificial Intelligence. The economic activities in this category could be associated with several NACE codes, in particular J61, J62 and J63.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The ICT solutions are predominantly used for the provision of data and analytics enabling GHG emission reductions.

2. Where an alternative solution/technology is already available on the market, the ICT solution demonstrates substantial life-cycle GHG emission savings compared to the best performing alternative solution/technology.

Life-cycle GHG emissions and net emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ETSI ES 203 199 ([319]), ISO 14067:2018 ([320]) or ISO 14064-2:2019 ([321]).

Quantified life-cycle GHG emission reductions are verified by an independent third party which transparently assesses how the standard criteria, including those for critical review, have been followed when the value was derived.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The equipment used meets the requirements set in accordance with Directive 2009/125/EC for servers and data storage products. The equipment used does not contain the restricted substances listed in Annex II to Directive 2011/65/EU, except where the concentration values by weight in homogeneous materials do not exceed those listed in that Annex.

([319]) ETSI ES 203 199, Environmental Engineering (EE); Methodology for environmental Life Cycle Assessment (LCA) of Information and Communication Technology (ICT) goods, networks and services (version of 4.6.2021: https://www.etsi.org/deliver/etsi_es/203100_203199/203199/01.03.00_50/es_203199v010300m.pdf). The ETSI standard ETSI ES 203 199 correspond to the ITU standard ITU–T L.1410.

([320]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([321]) ISO standard14064-2:2019, Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements (version of 4.6.2021: https://www.iso.org/standard/66454.html).

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	A waste management plan is in place and ensures maximal recycling at end of life of electrical and electronic equipment, including through contractual agreements with recycling partners, reflection in financial projections or official project documentation. At its end of life, the equipment undergoes preparation for reuse, recovery or recycling operations, or proper treatment, including the removal of all fluids and a selective treatment in accordance with Annex VII to Directive 2012/19/EU.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

9. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES

9.1. **Close to market research, development and innovation**

Description of the activity

Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the reduction, avoidance or removal of GHG emissions (RD&I) for which the ability to reduce, remove or avoid GHG emissions in the target economic activities has at least been demonstrated in a relevant environment, corresponding to at least Technology Readiness Level (TRL) 6 ([322]).

The economic activities in this category could be associated with several NACE codes, in particular M71.1.2 and M72.1, or for research that is an integral part of those economic activities for which technical screening criteria are specified in this Annex, the NACE codes set out in other Sections of this Annex in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity researches, develops or provides innovation for technologies, products or other solutions that are dedicated to one or more economic activities for which the technical screening criteria have been set out in this Annex.

2. The results of the research, development and innovation enable one or more of those economic activities to meet the respective criteria for substantial contribution to climate change mitigation, while respecting the relevant criteria for doing no significant harm to other environmental objectives.

([322]) In line with Annex G of the General Annexes of HORIZON 2020 WORK PROGRAMME 2016 2017, p.29 (version of 4.6.2021: https://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-ga_en.pdf).

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3. The economic activity aims at bringing to market a solution that is not yet in the market and is expected to have a better performance in terms of life-cycle GHG emissions than best commercially available technologies based on public or market information. The implementation of the technologies, products or other solutions being researched results in overall net GHG emissions reductions over their life cycle.

4. Where the researched, developed or innovated technology, product or other solution already enables an activity or several activities addressed in this Annex to meet the technical screening criteria specified in the applicable Section of this Annex, or where that technology, product or other solution already enables one or more economic activities considered as enabling or transitional to meet the requirements specified in points 5 and 6 respectively, the research, development and innovation activity focuses on the development of equally low- or lower-emission technologies, products or other solutions with new significant advantages, such as lower cost.

5. Where a research activity is dedicated to one or more economic activities considered as enabling activities in accordance with Article 10(1), point (i), of Regulation EU 2020/852 for which the technical screening criteria are set out in this Annex, the results of the research deliver innovative technologies, processes or products that allow those enabling activities and the activities that they ultimately enable to substantially reduce their GHG emissions or substantially improve their technological and economic feasibility in order to facilitate their scaling up.

6. Where a research activity is dedicated to one or more economic activities considered as transitional activities in accordance with Article 10(2) of Regulation EU 2020/852 for which the technical screening criteria are set out in this Annex, the technologies, products or other solutions researched enable the target activities to be carried out with substantially lower projected emissions compared to the technical screening criteria for substantial contribution to climate change mitigation set out in this Annex.

Where a research activity is dedicated to one or more economic activities specified in Sections 3.7, 3.8, 3.9, 3.11, 3.12, 3.13, 3.14 and 3.16 of this Annex, the technologies, products or other solutions either enable the target activities to be carried out with substantially lower GHG emission, which aim at a 30 % reduction compared to the relevant EU ETS benchmark or benchmarks ([323]) or are dedicated to the widely accepted relevant low carbon technologies or processes in these sectors, notably electrification, in particular of heating and cooling, hydrogen as fuel or feedstock, CCS, CCU and biomass as fuel or feedstock, where biomass complies with the relevant requirements set out in Sections 4.8, 4.20, 4.24 in this Annex.

7. Where the researched, developed or innovated technology, product or other solution is at TRL 6 or 7, life-cycle GHG emissions are evaluated in simplified form by the entity carrying out the research. The entity demonstrates one of the following, where applicable:

(a) a patent not older than 10 years associated with the technology, product or other solution, where information on its GHG emission reduction potential has been provided;

(b) a permit obtained from a competent authority for operating the demonstration site associated with the innovative technology, product or other solution for the duration of the demonstration project, where information on its GHG emission reduction potential has been provided.

Where the researched, developed or innovated technology, product or other solution is at TRL 8 or higher, life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([324]) or ISO 14064-1:2018 ([325]) and are verified by an independent third party.

Do no significant harm (‘DNSH’)

(2) Climate change adaptation	The researched technology, product or other solution complies with the criteria set out in Appendix A to this Annex.

([323]) Reflecting the average value of the 10 % most efficient installations in 2016 and 2017 (t CO_2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

([324]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([325]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html.)

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(3) Sustainable use and protection of water and marine resources	Any potential risks to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters from the researched technology, product or other solution are evaluated and addressed.
(4) Transition to a circular economy	Any potential risks to the circular economy objectives from the researched technology, product or other solution are evaluated and addressed, by considering the types of potential significant harm as set out in Article 17(1), point. (d), of Regulation (EU) 2020/852.
(5) Pollution prevention and control	Any potential risks to generate a significant increase in the emissions of pollutants to air, water or land from the researched technology, product or other solution are evaluated and addressed.
(6) Protection and restoration of biodiversity and ecosystems	Any potential risks to the good condition or resilience of ecosystems or to the conservation status of habitats and species, including those of Union interest, from the researched technology, product or other solution are evaluated and addressed.

9.2. **Research, development and innovation for direct air capture of CO_2**

Description of the activity

Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to the direct air capture of CO_2 in the atmosphere.

The economic activities in this category could be associated with several NACE codes, in particular M71.1.2 and M72.1 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation

1. The activity researches, develops or provides innovation for technologies, products or other solutions that are dedicated to the direct air capture of CO_2 in the atmosphere.

2. The implementation of the technologies, products or other solutions being researched for the direct air capture of CO_2 in the atmosphere has the potential to result in overall net GHG emissions reductions once commercialised.

3. Where the researched, developed or innovated technology, product or other solution is at TRL 1 to 7, life-cycle GHG emissions are evaluated in simplified form by the entity carrying out the research. The entity demonstrates one of the following, where applicable:

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(a) a patent not older than 10 years associated with the technology, product or other solution, where information on its GHG emission reduction potential has been provided;

(b) a permit obtained from a competent authority for operating the demonstration site associated with the innovative technology, product or other solution for the duration of the demonstration project, where information on its GHG emission reduction potential has been provided.

Where the researched, developed or innovated technology, product or other solution is at TRL 8 or higher, life-cycle GHG emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([326]) or ISO 14064-1:2018 ([327]) and are verified by an independent third party.

Do no significant harm ('DNSH')

(2) Climate change adaptation	The researched technology, product or other solution complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	Any potential risks to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters from the researched technology, product or other solution are evaluated and addressed.
(4) Transition to a circular economy	Any potential risks to the circular economy objectives from the researched technology, product or other solution are evaluated and addressed, by considering the types of potential significant harm as set out in Article 17(1), point (d), of Regulation (EU) 2020/852.
(5) Pollution prevention and control	Any potential risks to generate a significant increase in the emissions of pollutants to air, water or land from the researched technology, product or other solution are evaluated and addressed.
(6) Protection and restoration of biodiversity and ecosystems	Any potential risks to the good condition or resilience of ecosystems or to the conservation status of habitats and species, including those of Union interest, from the researched technology, product or other solution are evaluated and addressed.

9.3. **Professional services related to energy performance of buildings**

Description of the activity

Professional services related to energy performance of buildings.

The economic activities in this category could be associated with NACE code M71 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([326]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([327]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

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An economic activity in this category is an enabling activity as referred to in Article 10(1), point (i), of Regulation (EU) 2020/852 where it complies with the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change mitigation
The activity consists in one of the following: (a) technical consultations (energy consultations, energy simulations, project management, production of energy performance contracts, dedicated trainings) linked to the improvement of energy performance of buildings; (b) accredited energy audits and building performance assessments; (c) energy management services; (d) energy performance contracts; (e) energy services provided by energy service companies (ESCOs).

Do no significant harm (‘DNSH’)	
(2) Climate change adaptation	The activity complies with the criteria set out in Appendix A to this Annex.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

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Appendix A

GENERIC CRITERIA FOR DNSH TO CLIMATE CHANGE ADAPTATION

I. **Criteria**

The physical climate risks that are material to the activity have been identified from those listed in the table in Section II of this Appendix by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Section II of this Appendix, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([1]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([2]), scientific peer-reviewed publications, and open source ([3]) or paying models.

For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions (‘adaptation solutions’), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly.

For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.

The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions ([4]) or rely on blue or green infrastructure ([5]) to the extent possible.

([1]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([2]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([3]) Such as Copernicus services managed by the European Commission.

([4]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services. (version of 4.6.2021: https://ec.europa.eu/research/environment/index.cfm?pg=nbs).

([5]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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II. **Classification of climate-related hazards** ([6])

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

([6]) The list of climate-related hazards in this table is non-exhaustive, and constitutes only an indicative list of most widespread hazards that are to be taken into account as a minimum in the climate risk and vulnerability assessment.

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Appendix B

GENERIC CRITERIA FOR DNSH TO SUSTAINABLE USE AND PROTECTION OF WATER AND MARINE RESOURCES

Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council ([1]) and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council ([2]) and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.

([1]) Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1).
For activities in third countries, in accordance with applicable national law or international standards which pursue equivalent objectives of good water status and good ecological potential, through equivalent procedural and substantive rules, i.e. a water use and protection management plan developed in consultation with relevant stakeholders which ensures that 1) the impact of the activities on the identified status or ecological potential of potentially affected water body or bodies is assessed and 2) deterioration or prevention of good status/ecological potential is avoided or, where this is not possible, 3) justified by the lack of better environmental alternatives which are not disproportionately costly/technically unfeasible, and all practicable steps are taken to mitigate the adverse impact on the status of the body of water.

([2]) Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (OJ L 26, 28.1.2012, p. 1).

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Appendix C

GENERIC CRITERIA FOR DNSH TO POLLUTION PREVENTION AND CONTROL REGARDING USE AND PRESENCE OF CHEMICALS

The activity does not lead to the manufacture, placing on the market or use of:

(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council ([1]), except in the case of substances present as an unintentional trace contaminant;

(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council ([2]);

(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council ([3]);

(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council ([4]), except where there is full compliance with Article 4(1) of that Directive;

(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council ([5]), except where there is full compliance with the conditions specified in that Annex;

(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;

(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.

([1]) Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (OJ L 169, 25.6.2019, p. 45).

([2]) Regulation (EU) 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, and repealing Regulation (EC) No 1102/2008 (OJ L 137, 24.5.2017, p. 1).

([3]) Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer (OJ L 286, 31.10.2009, p. 1).

([4]) Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. (OJ L 174, 1.7.2011, p. 88).

([5]) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. (OJ L 396, 30.12.2006, p. 1).

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Appendix D

GENERIC CRITERIA FOR DNSH TO PROTECTION AND RESTORATION OF BIODIVERSITY AND ECOSYSTEMS

An Environmental Impact Assessment (EIA) or screening [1] has been completed in accordance with Directive 2011/92/EU [2].
Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.
For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment [3], where applicable, has been conducted and based on its conclusions the necessary mitigation measures [4] are implemented.

[1] The procedure through which the competent authority determines whether projects listed in Annex II to Directive 2011/92/EU is to be made subject to an environmental impact assessment (as referred to in Article 4(2) of that Directive).

[2] For activities in third countries, in accordance with equivalent applicable national law or international standards requiring the completion of an EIA or screening, for example, IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks.

[3] In accordance with Directives 2009/147/EC and 92/43/EEC. For activities located in third countries, in accordance with equivalent applicable national law or international standards, that aim at the conservation of natural habitats, wild fauna and wild flora, and that require to carry out (1) a screening procedure to determine whether, for a given activity, an appropriate assessment of the possible impacts on protected habitats and species is needed; (2) such an appropriate assessment where the screening determines that it is needed, for example IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.

[4] Those measures have been identified to ensure that the project, plan or activity will not have any significant effects on the conservation objectives of the protected area.

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Appendix E

TECHNICAL SPECIFICATIONS [1] FOR WATER APPLIANCES

1. The flow rate is recorded at the standard reference pressure 3 – 0/+ 0,2 bar or 0,1 – 0/+ 0,02 for products limited to low pressure.

2. The flow rate at the lower pressure 1,5 – 0/+ 0,2 bar is ≥ 60 % of the maximum available flow rate.

3. For mixer showers, the reference temperature is 38 ± 1 °C.

4. Where the flow has to be lower than 6 L/min, it complies with the rule set out in point 2.

5. For taps the procedure described in clause 10.2.3 of EN 200 is followed, with the following exceptions:

   (a) for taps that are not limited to low pressure applications only: apply a 3 – 0/+ 0,2 bar pressure to both the hot and the cold inlets, alternatively;

   (b) for taps that are limited to low pressure applications only: apply a 0,4 – 0/+ 0,02 bar pressure to both the hot and the cold inlets and fully open the flow control.

[1] Reference to EU standards is available at EU level to assess technical specifications of products: EN 200 on ‘Sanitary tapware. Single taps and combination taps for water supply systems of type 1 and type 2. General technical specification’; EN 816 ‘Sanitary tapware – Automatic shut-off valves PN 10’; EN 817 ‘Mechanical mixing valves (PN 10) – General technical specifications’; EN 1111 ‘Sanitary tapware – Thermostatic mixing valves (PN 10) – General technical specification’; EN 1112 on ‘Sanitary tapware. Shower outlets for sanitary tapware for water supply systems of type 1 and type 2 – General technical specification’; EN 1113 on ‘Sanitary tapware – Shower hoses for sanitary tapware for water supply systems of type 1 and type 2 – General technical specification’, including a method to test the resistance to flexing of the hose; EN 1287 on ‘Sanitary tapware. Low pressure thermostatic mixing valves. General technical specifications’; EN 15091 ‘Sanitary tapware – Electronic opening and closing sanitary tapware’.

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ANNEX II

Technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives

1. Forestry

1.1. Afforestation

1.2. Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event

1.3. Forest management

1.4. Conservation forestry

2. Environmental protection and restoration activities

2.1. Restoration of wetlands

3. Manufacturing

3.1. Manufacture of renewable energy technologies

3.2. Manufacture of equipment for the production and use of hydrogen

3.3. Manufacture of low carbon technologies for transport

3.4. Manufacture of batteries

3.5. Manufacture of energy efficiency equipment for buildings

3.6. Manufacture of other low carbon technologies

3.7. Manufacture of cement

3.8. Manufacture of aluminium

3.9. Manufacture of iron and steel

3.10. Manufacture of hydrogen

3.11. Manufacture of carbon black

3.12. Manufacture of soda ash

3.13. Manufacture of chlorine

3.14. Manufacture of organic basic chemicals

3.15. Manufacture of anhydrous ammonia

3.16. Manufacture of nitric acid

3.17. Manufacture of plastics in primary form

4. Energy

4.1. Electricity generation using solar photovoltaic technology

4.2. Electricity generation using concentrated solar power (CSP) technology

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4.3. Electricity generation from wind power

4.4. Electricity generation from ocean energy technologies

4.5. Electricity generation from hydropower

4.6. Electricity generation from geothermal energy

4.7. Electricity generation from renewable non-fossil gaseous and liquid fuels

4.8. Electricity generation from bioenergy

4.9. Transmission and distribution of electricity

4.10. Storage of electricity

4.11. Storage of thermal energy

4.12. Storage of hydrogen

4.13. Manufacture of biogas and biofuels for use in transport and of bioliquids

4.14. Transmission and distribution networks for renewable and low-carbon gases

4.15. District heating/cooling distribution

4.16. Installation and operation of electric heat pumps

4.17. Cogeneration of heat/cool and power from solar energy

4.18. Cogeneration of heat/cool and power from geothermal energy

4.19. Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels

4.20. Cogeneration of heat/cool and power from bioenergy

4.21. Production of heat/cool from solar thermal heating

4.22. Production of heat/cool from geothermal energy

4.23. Production of heat/cool from renewable non-fossil gaseous and liquid fuels

4.24. Production of heat/cool from bioenergy

4.25. Production of heat/cool using waste heat

4.26. Pre-commercial stages of advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle

4.27. Construction and safe operation of new nuclear power plants, for the generation of electricity and/or heat, including for hydrogen production, using best-available technologies

4.28. Electricity generation from nuclear energy in existing installations

4.29. Electricity generation from fossil gaseous fuels

4.30. High-efficiency co- generation of heat/cool and power from fossil gaseous fuels

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4.31. Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system

5. Water supply, sewerage, waste management and remediation activities

5.1. Construction, extension and operation of water collection, treatment and supply systems

5.2. Renewal of water collection, treatment and supply systems

5.3. Construction, extension and operation of waste water collection and treatment

5.4. Renewal of waste water collection and treatment

5.5. Collection and transport of non-hazardous waste in source segregated fractions

5.6. Anaerobic digestion of sewage sludge

5.7. Anaerobic digestion of bio-waste

5.8. Composting of bio-waste

5.9. Material recovery from non-hazardous waste

5.10. Landfill gas capture and utilisation

5.11. Transport of CO_2

5.12. Underground permanent geological storage of CO_2

6. Transport

6.1. Passenger interurban rail transport

6.2. Freight rail transport

6.3. Urban and suburban transport, road passenger transport

6.4. Operation of personal mobility devices, cycle logistics

6.5. Transport by motorbikes, passenger cars and commercial vehicles

6.6. Freight transport services by road

6.7. Inland passenger water transport

6.8. Inland freight water transport

6.9. Retrofitting of inland water passenger and freight transport

6.10. Sea and coastal freight water transport, vessels for port operations and auxiliary activities

6.11. Sea and coastal passenger water transport

6.12. Retrofitting of sea and coastal freight and passenger water transport

6.13. Infrastructure for personal mobility, cycle logistics

6.14. Infrastructure for rail transport

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6.15. Infrastructure enabling road transport and public transport

6.16. Infrastructure for water transport

6.17. Airport infrastructure

7. Construction and real estate

7.1. Construction of new buildings

7.2. Renovation of existing buildings

7.3. Installation, maintenance and repair of energy efficiency equipment

7.4. Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)

7.5. Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings

7.6. Installation, maintenance and repair of renewable energy technologies

7.7. Acquisition and ownership of buildings

8. Information and communication

8.1. Data processing, hosting and related activities

8.2. Computer programming, consultancy and related activities

8.3. Programming and broadcasting activities

9. Professional, scientific and technical activities

9.1. Engineering activities and related technical consultancy dedicated to adaptation to climate change

9.2. Close to market research, development and innovation

10. Financial and insurance activities

10.1. Non-life insurance: underwriting of climate-related perils

10.2. Reinsurance

11. Education

12. Human health and social work activities

12.1. Residential care activities

13. Arts, entertainment and recreation

13.1. Creative, arts and entertainment activities

13.2. Libraries, archives, museums and cultural activities

13.3. Motion picture, video and television programme production, sound recording and music publishing activities

Appendix A: Classification of climate-related hazards

Appendix B: Generic criteria for DNSH to sustainable use and protection of water and marine resources

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Appendix C: Generic criteria for DNSH to pollution prevention and control regarding use and presence of chemicals

Appendix D: Generic criteria for DNSH to protection and restoration of biodiversity and ecosystems

1. FORESTRY

1.1. **Afforestation**

Description of the activity

Establishment of forest through planting, deliberate seeding or natural regeneration on land that, until then, was under a different land use or not used. Afforestation implies a transformation of land use from non-forest to forest, in accordance with the Food and Agriculture Organisation of the United Nations ('FAO') definition of afforestation ([1]), where forest means a land matching the forest definition as set out in national law, or where not available, is in accordance with the FAO definition of forest ([2]). Afforestation may cover past afforestation as long as it takes place in the period between the planting of the trees and the time when the land use is recognised as a forest.

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. Activities are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

([1]) Establishment of forest through planting or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use form non-forest to forest *(FAO Global Resources Assessment 2020. Terms and definitions* version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([2]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use, *FAO Global Resources Assessment 2020. Terms and definitions* (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state of-the-art climate projections across the existing range of future scenarios ([3]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([4]), scientific peer-reviewed publications and open source ([5]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([6]) or rely on blue or green infrastructure ([7]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

([3]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([4]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([5]) Such as Copernicus services managed by the European Commission.

([6]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([7]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	1. *Afforestation plan and subsequent forest management plan or equivalent instrument* 1.1. The area on which the activity takes place is covered by an afforestation plan of a duration of at least five years, or the minimum period prescribed in national law, developed prior to the start of the activity, and continuously updated until this area matches the definition of forest as set out in national law or where not available, is in line with the FAO definition of forest. The afforestation plan contains all elements required by the national law relating to environmental impact assessment of afforestation. 1.2. Preferably through the afforestation plan, or if information is missing, through any other document, detailed information is provided on the following points: (a) description of the area according to its gazetting in the land registry; (b) site preparation and its impacts on pre-existing carbon stocks, including soils and above-ground biomass, in order to protect land with high carbon stock ([8]); (c) management goals, including major constraints; (d) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; (e) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution; (f) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions; (g) measures deployed to establish and maintain the good condition of forest ecosystems; (h) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

([8]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

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(i) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(j) assessment of impact on food security;

(k) all DNSH criteria relevant to afforestation.

1.3. When the area becomes a forest, the afforestation plan is followed by a subsequent forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([9]). The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated.

1.4. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:

(a) management goals, including major constraints ([10]);

(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;

(c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;

(d) definition of the area according to its gazetting in the land registry;

(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks

(i) all DNSH criteria relevant to forest management.

([9]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([10]) Including an analysis of (i) long term sustainability of the wood resource and (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimizing soil impacts.

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	1.5. The activity follows the best afforestation practices laid down in national law, or, where no such best afforestation practices have been laid down in national law, the activity complies with one of the following criteria: (a) the activity complies with Delegated Regulation (EU) No 807/2014; (b) the activity follows the 'Pan-European Guidelines for Afforestation and Reforestation with a special focus on the provisions of the UNFCCC' ([11]). 1.6. The activity does not involve the degradation of land with high carbon stock ([12]). 1.7. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010. 1.8. The afforestation plan and the subsequent forest management plan or equivalent instrument provides for monitoring that ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area. 2. *Audit* Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following: (a) the relevant national competent authorities; (b) an independent third-party certifier, at the request of national authorities or the operator of the activity. In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit. The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity. 3. *Group assessment* The compliance with the DNSH criteria may be checked: (a) at the level of the forest sourcing area ([13]) level as defined by Directive (EU) 2018/2001; (b) at the level of a group of forest holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

([11]) Forest Europe Pan-European Guidelines for Afforestation and Reforestation with a special focus on the provisions of the UNFCCC adopted by the MCPFE Expert Level Meeting on 12-13 November, 2008 and by the PEBLDS Bureau on behalf of the PEBLDS Council on 4 November, 2008 (version of 4.6.2021: https://www.foresteurope.org/docs/other_meetings/2008/Geneva/Guidelines_Aff_Ref_ADOPTED.pdf).

([12]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4), points (a), (b) and (c) of Directive (EU) 2018/2001.

([13]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([14]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard ([15]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in points 1.2(k) (Afforestation plan) and 1.4(i) (Forest management plan or equivalent system) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive species; (c) excluding the use of non-native species unless it can be demonstrated that:

([14]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([15]) The WHO Recommended Classification of Pesticides by Hazard (version 2019) (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	(i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

1.2. **Rehabilitation and restoration of forests, including reforestation and natural forest regeneration after an extreme event**

Description of the activity

Rehabilitation and restoration of forests as defined by national law. Where national law does not contain such a definition, rehabilitation and restoration refers to a definition with broad agreement in the peer-reviewed scientific literature for specific countries or a definition in line with the FAO concept of forest restoration ([16]) or a definition in line with one of the definitions of ecological restoration ([17]) applied to

([16]) Forest restoration includes:
— rehabilitation, meaning the restoration of desired species, structures or processes to an existing ecosystem;
— reconstruction, meaning restoration of native plants on land which is in another use;
— reclamation, meaning restoration of severely degraded land devoid of vegetation;
— most radically replacement, in which species maladapted for a given location and unable to migrate are replaced with introduced species as climates change rapidly,
Forest restoration module. In Sustainable Forest Management (SFM) Toolbox (version of 4.6.2021: http://www.fao.org/sustainable-forest-management/toolbox/modules/forest-restoration/basic-knowledge/en/).

([17]) Ecological Restoration (Also Ecosystem Restoration):
— the process of returning an ecosystem to a natural pre-disturbance structure and function;
— the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed;
— the process of intentionally altering a site to establish a defined, indigenous ecosystem. The goal of this process is to emulate the structure, function, diversity and dynamics of the specified ecosystem;
— human intervention … designed to accelerate the recovery of damaged habitats, or to bring ecosystems back to as close an approximation as possible of their pre-disturbance states,
Most used definitions/descriptions of key terms related to ecosystem restoration. 11th conference of the Parties to the Convention on Biological Diversity. 2012. UNEP/CBD/COP/11/INF/19 (version of 4.6.2021: https://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-19-en.pdf).

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forest, or forest rehabilitation ([18]) under the Convention on Biological Diversity. The economic activities also include forest activities in line with the FAO definition of 'reforestation' ([19]) and 'naturally regenerating forest' ([20]) after an extreme event, where extreme event is defined by national law, and where national law does not contain such a definition, is in line with the IPCC definition of extreme weather event ([21]); or after a wildfire, where wildfire is defined by national law, and where national law does not contain such a definition, as defined in the European Glossary for wildfires and forest fires ([22]).

The economic activities in this category imply no change of land use and occurs on degraded land matching the forest definition as set out in national law, or where not available, is in accordance with the FAO definition of forest ([23]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

([18]) Forest rehabilitation is the process of restoring the capacity of a forest to provide goods and services again, where the state of the rehabilitated forest is not identical to its state before degradation,
Most used definitions/descriptions of key terms related to ecosystem restoration. 11th Conference of the Parties to the Convention on Biological Diversity. 2012. UNEP/CBD/COP/11/INF/19 (version of 4.6.2021: https://www.cbd.int/doc/meetings/cop/cop-11/information/cop-11-inf-19-en.pdf).

([19]) Re-establishment of forest through planting and/or deliberate seeding on land classified as forest,
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([20]) Forest predominantly composed of trees established through natural regeneration,
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([21]) An extreme weather event is an event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season). See IPCC, 2018: *Annex I: Glossary* (version of 4.6.2021: https://www.ipcc.ch/sr15/chapter/glossary/).

([22]) Any uncontrolled vegetation fire which requires a decision or action regarding suppression, 2012 European Glossary for wildfires and forest fires, developed under the European Forest Fire Network- 'EUFOFINET' project, as part of the INTERREG IVC programme (version of 4.6.2021: https://www.ctif.org/index.php/library/european-glossary-wildfires-and-forest-fires).

([23]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([24]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([25]), scientific peer-reviewed publications and open source ([26]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([27]) or rely on blue or green infrastructure ([28]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

([24]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([25]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([26]) Such as Copernicus services managed by the European Commission.

([27]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([28]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	1. *Forest management plan or equivalent instrument* 1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan or equivalent instrument, as referred to in the FAO definition of ‘forest area with long-term forest management plan’ ([29]). The forest management plan or the equivalent instrument covers a period of 10 years or more, and is continuously updated. 1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system: (a) management goals, including major constraints ([30]); (b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; (c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution; (d) definition of the area according to its gazetting in the land registry; (e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions; (f) measures deployed to maintain the good condition of forest ecosystems;

([29]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised.
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([30]) Including an analysis of (i) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimizing soil impacts.

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(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH criteria relevant to forest management.

1.3. The sustainability of the forest management systems, as documented in the plan referred to in point 1.1, is ensured by choosing the most ambitious of the following approaches:

(a) the forest management matches the applicable national definition of sustainable forest management;

(b) the forest management matches the Forest Europe definition ([31]) of sustainable forest management and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([32]);

(c) the management system in place complies with the forest sustainability criteria laid down in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.

1.4. The activity does not involve the degradation of land with high carbon stock ([33]).

1.5. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.

1.6. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

([31]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf.

([32]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

([33]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

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	(a) the relevant national competent authorities; (b) an independent third-party certifier, at the request of national authorities or the operator of the activity. In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit. The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity. 3. *Group assessment* The compliance with the DNSH criteria may be checked: (a) at the level of the forest sourcing area ([34]) as defined by Directive (EU) 2018/2001; (b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.

([34]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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	Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([35]), the Rotterdam Convention on the Prior prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard. The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in point 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

([35]) Which implements in the Union the Stockholm Convention on persistent organic pollutants ((OJ L 209, 31.7.2006, p. 3.).

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1.3. **Forest management**

Description of the activity

Forest management as defined by national law. Where national law does not contain such a definition, forest management refers to any economic activity resulting from a system applicable to a forest that influences the ecological, economic or social functions of the forest. Forest management assumes no change in land use and occurs on land matching the definition of forest as set out in national law, or where not available, in accordance with the FAO definition of forest ([36]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

([36]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([37]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([38]), scientific peer-reviewed publications and open source ([39]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([40]) or rely on blue or green infrastructure ([41]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	1. *Forest management plan or equivalent instrument* 1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national law does not define a forest management plan, as referred to in the FAO definition of ‘forest area with long-term forest management plan’ ([42]).

([37]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([38]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([39]) Such as Copernicus services managed by the European Commission.

([40]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([41]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([42]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised.
FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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	The forest management plan or equivalent instrument covers a period of 10 years or more and is continuously updated.
	1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system:
	(a) management goals, including major constraints ([43]);
	(b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;
	(c) definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;
	(d) definition of the area according to its gazetting in the land registry;
	(e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;
	(f) measures deployed to establish and maintain the good condition of forest ecosystems;
	(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);
	(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;
	(i) all DNSH criteria relevant for forest management.
	1.3. The sustainability of the forest management system, as documented in the plan referred to in point 1.1, is ensured by choosing the most ambitious of the following approaches:
	(a) the forest management matches the applicable national definition of sustainable forest management;
	(b) the forest management matches the Forest Europe definition ([44]) of sustainable forest management and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([45]);

([43]) Including an analysis of (i) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimising soil impacts.

([44]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf).

([45]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

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	(c) the management system in place show compliance with the forest sustainability criteria set out in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.
	1.4. The activity does not involve the degradation of land with high carbon stock ([46]).
	1.5. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.
	1.6. The forest management plan or equivalent document provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.
	2. *Audit*
	Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:
	(a) the relevant national competent authorities;
	(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.
	In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.
	The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.
	3. *Group assessment*
	The compliance with the DNSH criteria may be checked:
	(a) at the level of the forest sourcing area ([47]) as defined by Directive (EU) 2018/2001;
	(b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.

([46]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([47]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The use of pesticides is reduced and alternative approaches or techniques, which may include non-chemical alternatives to pesticides, are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pests and of diseases. The activity minimised the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([48]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard ([49]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in in points 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species;

([48]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([49]) The WHO Recommended Classification of Pesticides by Hazard (version 2019) (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	(b) excluding the use or release of invasive alien species; (c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem condition (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

1.4. **Conservation forestry**

Description of the activity

Forest management activities with the objective of preserving one or more habitats or species. Conservation forestry assumes no change in land category and occurs on land matching the forest definition as set out in national law, or where not available, in accordance with the FAO definition of forest ([50]).

The economic activities in this category could be associated with NACE code A2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006. The economic activities in this category are limited to NACE II 02.10, i.e. silviculture and other forestry activities, 02.20, i.e. logging, 02.30, i.e. gathering of wild growing non-wood products and 02.40, i.e. support services to forestry.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

([50]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds in situ. It does not include land that is predominantly under agricultural or urban land use, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([51]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([52]), scientific peer-reviewed publications and open source ([53]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([54]) or rely on blue or green infrastructure ([55]) to the extent possible;

([51]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([52]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([53]) Such as Copernicus services managed by the European Commission.

([54]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([55]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; or

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	1. *Forest management plan or equivalent instrument* 1.1. The activity takes place on area that is subject to a forest management plan or an equivalent instrument, as set out in national law or, where national regulation dos not define a forest management plan, as referred to in the FAO definition of 'forest area with long-term forest management plan' ([56]). The forest management plan or the equivalent instrument covers a period of 10 years or more and is continuously updated. 1.2. Information is provided on the following points that are not already documented in the forest management plan or equivalent system: (a) management goals, including major constraints; (b) general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle; (c) definition of the forest habitat context, main forest tree species and those intended and their extent and distribution, in accordance to the local forest ecosystem context; (d) definition of the area according to its gazetting in the land registry; (e) compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;

([56]) Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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(f) measures deployed to maintain the good condition of forest ecosystems;

(g) consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

(h) assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

(i) all DNSH relevant to forest management.

1.3. The forest management plan or the equivalent instrument:

(a) shows a primary designated management objective ([57]) that consists in protection of soil and water ([58]), conservation of biodiversity ([59]) or social services ([60]) based on the FAO definitions;

(b) promotes biodiversity-friendly practices that enhance forests' natural processes;

(c) includes an analysis of:

(i) impacts and pressures on habitat conservation and diversity of associated habitats;

(ii) condition of harvesting minimizing soil impacts;

(iii) other activities that have an impact on conservation objectives, such as hunting and fishing, agricultural, pastoral and forestry activities, industrial, mining, and commercial activities.

1.4. The sustainability of the forest management system as documented in the plan referred to in point 1.1 is ensured by choosing the most ambitious of the following approaches:

(a) the forest management matches the national definition of sustainable forest management, if any;

([57]) The primary designated management objective assigned to a management unit (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([58]) Forest where the management objective is protection of soil and water. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([59]) Forest where the management objective is conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

([60]) Forest where the management objective is social services. (FAO Global Resources Assessment 2020. Terms and definitions version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

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(b) the forest management matches the Forest Europe definition ([61]) of sustainable forest management and complies with the Pan-European Operational Level Guidelines for Sustainable Forest Management ([62])

(c) the management system in place shows compliance with the forest sustainability criteria as defined in Article 29(6) of Directive (EU) 2018/2001, and as of the date of its application with the implementing act on operational guidance for energy from forest biomass adopted under Article 29(8) of that Directive.

1.5. The activity does not involve the degradation of land with high carbon stock ([63]).

1.6. The management system associated with the activity in place complies with the due diligence obligation and legality requirements laid down in Regulation (EU) No 995/2010.

1.7. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

2. *Audit*

Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and the DNSH criteria are verified by either of the following:

(a) the relevant national competent authorities;

(b) an independent third-party certifier, at the request of national authorities or the operator of the activity.

In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit.

The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity.

3. *Group assessment*

The compliance with the DNSH criteria may be checked:

(a) at the level of the forest sourcing area ([64]) as defined by Directive (EU) 2018/2001;

([61]) The stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.
Resolution H1 General Guidelines for the Sustainable Management of Forests in Europe Second Ministerial Conference on the Protection of Forests in Europe (Forest Europe), 16-17 June 1993, Helsinki/Finland (version of 4.6.2021: https://www.foresteurope.org/docs/MC/MC_helsinki_resolutionH1.pdf).

([62]) Annex 2 of the Resolution L2. Pan-European Operational Level Guidelines for Sustainable Forest Management. Third Ministerial Conference on the Protection of Forests in Europe 2-4 June 1998, Lisbon/Portugal (version of 4.6.2021: https://foresteurope.org/wp-content/uploads/2016/10/MC_lisbon_resolutionL2_with_annexes.pdf#page=18).

([63]) Land with high-carbon stock means wetlands, including peatland, and continuously forested areas within the meaning of Article 29(4)(a), (b) and (c) of Directive (EU) 2018/2001.

([64]) 'Sourcing area' means the geographically defined area from which the forest biomass feedstock is sourced, from which reliable and independent information is available and where conditions are sufficiently homogeneous to evaluate the risk of the sustainability and legality characteristics of the forest biomass.

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	(b) at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Detailed information referred to in point 1.2. (i) includes provisions to comply with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).
(5) Pollution prevention and control	The activity does not use pesticides or fertilisers. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([65]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia ('extremely hazardous') or Ib ('highly hazardous') in the WHO Recommended Classification of Pesticides by Hazard ([66]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas. There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. Detailed information referred to in in point 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive alien species;

([65]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([66]) The WHO Recommended Classification of Pesticides by Hazard (version 2019) (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	(c) excluding the use of non-native species unless it can be demonstrated that: (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria, and vegetation zone, forest fire resilience); (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions; (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil; (e) promoting biodiversity-friendly practices that enhance forests' natural processes; (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones; (g) ensuring the diversity of associated habitats and species linked to the forest; (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.

2. ENVIRONMENTAL PROTECTION AND RESTORATION ACTIVITIES

2.1. **Restoration of wetlands**

Description of the activity

Restoration of wetlands refers to economic activities that promote a return to original conditions of wetlands and economic activities that improve wetland functions without necessarily promoting a return to pre-disturbance conditions, with wetlands meaning land matching international definition of wetland ([67]) or of peatland ([68]) as set out in the Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) ([69]). The concerned area matches the Union definition of wetlands, as provided in the Commission Communication on the wise use and conservation of wetlands ([70]).

([67]) *Wetlands include a wide variety of inland habitats such as marshes, wet grasslands and peatlands, floodplains, rivers and lakes, and coastal areas such as saltmarshes, mangroves, intertidal mudflats and seagrass beds, and coral reefs and other marine areas no deeper than six meters at low tide, as well as human-made wetlands such as dams, reservoirs, rice paddies and wastewater treatment ponds and lagoons*. An Introduction to the Ramsar Convention on Wetlands, 7th ed. (previously The Ramsar Convention Manual). Ramsar Convention Secretariat, Gland, Switzerland.

([68]) Peatlands are ecosystems with a peat soil. Peat consists of at least 30 % dead, partially decomposed plant remains that have accumulated in situ under waterlogged and often acidic conditions. Resolution XIII.12 *Guidance on identifying peatlands as Wetlands of International Importance (Ramsar Sites) for global climate change regulation as an additional argument to existing Ramsar criteria*, Ramsar convention adopted on 21-29 October 2018.

([69]) The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (version of 4.6.2021: https://www.ramsar.org/sites/default/files/documents/library/current_convention_text_e.pdf).

([70]) Communication from the Commission to the Council and the European Parliament of 29 May 1995 on wise use and conservation of wetlands, COM(95) 189 final.

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The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006, but relate to class 6 of the statistical classification of environmental protection activities (CEPA) established by Regulation (EU) No 691/2011.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([71]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([72]), scientific peer-reviewed publications and open source ([73]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

([71]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([72]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([73]) Such as Copernicus services managed by the European Commission.

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(b) favour nature-based solutions ([74]) or rely on blue or green infrastructure ([75]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	1. *Restoration plan* 1.1. The area is covered by a restoration plan, which is consistent with the Ramsar Convention's principles and guidelines on wetland restoration, until the area is classified as a wetland and is covered by a wetland management plan, consistent with the Ramsar Convention's guidelines for management planning for Ramsar sites and other wetlands. For peatlands, the restoration plan follows the recommendations contained in relevant resolutions of the Ramsar Convention, including the resolution XIII/13. 1.2. The restoration plan contains careful consideration of local hydrological and pedological conditions, including the dynamics of soil saturation and the change of aerobic and anaerobic conditions. 1.3. All wetland management relevant DNSH criteria are addressed in the restoration plan. 1.4. The restoration plan provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area. 2. *Audit* Within two years after the beginning of the activity and every 10 years thereafter, the compliance of the activity with the substantial contribution to climate change mitigation criteria and with the DNSH criteria are verified by either of the following:

([74]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([75]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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	(a) the relevant national competent authorities; (b) an independent third-party certifier, at the request of national authorities or the operator of the activity. In order to reduce costs, audits may be performed together with any forest certification, climate certification or other audit. The independent third-party certifier may not have any conflict of interest with the owner or the funder, and may not be involved in the development or operation of the activity. *Group assessment* The compliance with the DNSH criteria may be checked at the level of a group of holdings sufficiently homogeneous to evaluate the risk of the sustainability of the forest activity, provided that all those holdings have a durable relationship between them and participate in the activity and the group of those holdings remains the same for all subsequent audits.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Peat extraction is minimised.
(5) Pollution prevention and control	The use of pesticides is minimised and alternative approaches or techniques, which may include non-chemical alternatives to pesticides are favoured, in accordance with Directive 2009/128/EC, with exception of occasions where the use of pesticides is needed to control outbreaks of pest and diseases. The activity minimises the use of fertilisers and does not use manure. The activity complies with Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. Well documented and verifiable measures are taken to avoid the use of active ingredients that are listed in Annex I, part A, of Regulation (EU) 2019/1021 ([76]), the Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade, the Minamata Convention on Mercury, the Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients that are listed as classification Ia (‘extremely hazardous’) or Ib (‘highly hazardous’) in the WHO recommended Classification of Pesticides by Hazard ([77]). The activity complies with the relevant national law on active ingredients. Pollution of water and soil is prevented and cleaning up measures are undertaken when pollution occurs.
(6) Protection and restoration of biodiversity and ecosystems	In areas designated by the national competent authority for conservation or in habitats that are protected, the activity is in accordance with the conservation objectives for those areas.

([76]) Which implements in the Union the Stockholm Convention on persistent organic pollutants (OJ L 209, 31.7.2006, p. 3.).

([77]) The WHO Recommended Classification of Pesticides by Hazard (version 2019), (version of 4.6.2021: https://apps.who.int/iris/bitstream/handle/10665/332193/9789240005662-eng.pdf?ua=1).

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	There is no conversion of habitats specifically sensitive to biodiversity loss or with high conservation value, or of areas set aside for the restoration of such habitats in accordance with national law. The plan referred to in point 1 (Restoration Plan) of this Section includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following: (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species; (b) excluding the use or release of invasive species.

3. MANUFACTURING

3.1. **Manufacture of renewable energy technologies**

Description of the activity

Manufacture of renewable energy technologies where renewable energy is as defined in Article 2(1) of Directive (EU) 2018/2001.

The economic activities in this category could be associated with several NACE codes, in particular C25, C27, C28 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([78]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([78]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([79]), scientific peer-reviewed publications and open source ([80]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([81]) or rely on blue or green infrastructure ([82]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([79]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([80]) Such as Copernicus services managed by the European Commission.

([81]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([82]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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3.2. **Manufacture of equipment for the production and use of hydrogen**

Description of the activity

Manufacture of equipment for the production and use of hydrogen, where the hydrogen for the production of which equipment is manufactured complies with the life cycle GHG emissions savings requirement of 73,4 % [resulting in life-cycle GHG emissions lower than 3 $tCO_2e/tH2$] and of 70 % for hydrogen-based synthetic fuels relative to a fossil fuel comparator of 94 g CO_2e/MJ in analogy to the approach set out in Article 25(2) of and Annex V to Directive (EU) 2018/2001 of the European Parliament and of the Council.

The economic activities in this category could be associated with several NACE codes, in particular C25, C27, C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([83]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([84]), scientific peer-reviewed publications and open source ([85]) or paying models.

([83]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([84]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([85]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([86]) or rely on blue or green infrastructure ([87]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([86]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([87]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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3.3. **Manufacture of low carbon technologies for transport**

Description of the activity

Manufacture, repair, maintenance, retrofitting ([88]), repurposing and upgrade of low carbon transport vehicles, rolling stock and vessels, where the technology is one of the following:

(a) trains, passenger coaches and wagons that have zero direct (tailpipe) CO_2 emissions;

(b) trains, passenger coaches and wagons that have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode);

(c) urban, suburban and road passenger transport devices, where the direct (tailpipe) CO_2 emissions of the vehicles are zero;

(d) until 31 December 2025, vehicles designated as categories M2 and M3 ([89]) that have a type of bodywork classified as 'CA' (single-deck vehicle), 'CB' (double-deck vehicle), 'CC' (single-deck articulated vehicle) or 'CD' (double-deck articulated vehicle) ([90]), and comply with the latest EURO VI standard, i.e. both with the requirements of Regulation (EC) No 595/2009 and, from the time of the entry into force of amendments to that Regulation, in those amending acts, even before they become applicable, and with the latest step of the Euro VI standard set out in Table 1 of Appendix 9 to Annex I to Regulation (EU) No 582/2011 where the provisions governing that step have entered into force but have not yet become applicable for this type of vehicle ([91]). Where such standard is not available, the direct CO_2 emissions of the vehicles are zero;

(e) personal mobility devices with a propulsion that comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity;

(f) vehicles of category M_1 and N_1 classified as light-duty vehicles ([92]) with:

(i) until 31 December 2025: specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631, lower than 50 g CO_2/km (low- and zero-emission light-duty vehicles);

(ii) from 1 January 2026: specific emissions of CO_2, as defined in Article 3(1), point (h), of Regulation (EU) 2019/631, are zero;

(g) vehicles of category L ([93]) with tailpipe CO_2 emissions equal to 0g CO_2e/km calculated in accordance with the emission test laid down in Regulation (EU) 168/2013;

([88]) For points (j) to (m), the criteria related to retrofitting are covered in Sections 6.9 and 6.12 of this Annex.
([89]) As referred to in Article 4(1), point (a), of Regulation (EU) 2018/858.
([90]) As set out in point 3 of part C of Annex I to Regulation (EU) 2018/858.
([91]) Until 31/12/2022, the EURO VI, step E as set out in Regulation (EC) No 595/2009.
([92]) As defined in Article 4(1), points (a) and (b) of Regulation (EU) 2018/858.
([93]) As defined in Article 4 of Regulation (EU) No 168/2013.

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(h) vehicles of category N2 and N3, and N1classified as heavy-duty vehicles, not dedicated to transporting fossil fuels with a technically permissible maximum laden mass not exceeding 7,5 tonnes that are ‘zero-emission heavy-duty vehicles’ as defined in Regulation (EU) 2019/1242;

(i) vehicles of category N2 and N3 not dedicated to transporting fossil fuels with a technically permissible maximum laden mass exceeding 7,5 tonnes that are zero-emission heavy-duty vehicles’, as defined in Article 3, point (11), of Regulation (EU) 2019/1242 or ‘low-emission heavy-duty vehicles’ as defined in Article 3, point (12) of that Regulation;

(j) inland passenger water transport vessels that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, are hybrid or dual fuel vessels using at least 50 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation;

(k) inland freight water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emission;

(ii) until 31 December 2025, have direct (tailpipe) emissions of CO_2 per tonne kilometre (g CO_2/tkm), calculated (or estimated in case of new vessels) using the Energy Efficiency Operational Indicator ([94]), 50 % lower than the average reference value for emissions of CO_2 defined for heavy duty vehicles (vehicle subgroup 5- LH) in accordance with Article 11 of Regulation (EU) 2019/1242;

(l) sea and coastal freight water transport vessels, vessels for port operations and auxiliary activities, that are not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, are hybrid and dual fuel vessels that derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(iii) until 31 December 2025, and only where it can be proven that the vessels are used exclusively for operating coastal and short sea services designed to enable modal shift of freight currently transported by land to sea, the vessels that have direct (tailpipe) CO_2 emissions, calculated using the International Maritime Organization

([94]) The Energy Efficiency Operational Indicator is defined as the ratio of mas of CO_2 emitted per unit of transport work. It is a representative value of the energy efficiency of the ship operation over a consistent period which represents the overall trading pattern of the vessel. Guidance on how to calculate this indicator is provided in the document MEPC.1/Circ. 684 from IMO.

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(IMO) Energy Efficiency Design Index (EEDI) ([95]), 50 % lower than the average reference CO_2 emissions value defined for heavy duty vehicles (vehicle subgroup 5-LH) in accordance with Article 11 of Regulation (EU) 2019/1242;

(iv) until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 April 2022 ([96]) if the vessels are able to run on zero direct (tailpipe) CO_2 emission fuels or on fuels from renewable sources ([97]);

(m) sea and coastal passenger water transport vessels, not dedicated to transporting fossil fuels, that:

(i) have zero direct (tailpipe) CO_2 emissions;

(ii) until 31 December 2025, hybrid and dual fuel vessels derive at least 25 % of their energy from zero direct (tailpipe) CO_2 emission fuels or plug-in power for their normal operation at sea and in ports;

(iii) until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 April 2022 if the vessels are able to run on zero direct (tailpipe) CO_2 emission fuels or on fuels from renewable sources ([98]).

The economic activities in this category could be associated with several NACE codes, in particular C29.1, C30.1, C30.2, C30.9, C33.15, C33.17 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([95]) Energy Efficiency Design Index (version of 4.6.2021: http://www.imo.org/fr/MediaCentre/HotTopics/GHG/Pages/EEDI.aspx).

([96]) As agreed by the Marine Environment Protection Committee of the International Maritime Organization on its seventy-fourth session.

([97]) Fuels that meet the technical screening criteria specified in Sections 3.10 and 4.13 of this Annex.

([98]) Fuels that meet the technical screening criteria specified in Sections 3.10 and 4.13 of this Annex.

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([99]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([100]), scientific peer-reviewed publications and open source ([101]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([102]) or rely on blue or green infrastructure ([103]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support:

([99]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([100]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([101]) Such as Copernicus services managed by the European Commission.

([102]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([103]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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	(a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Where applicable, vehicles do not contain lead, mercury, hexavalent chromium and cadmium, in accordance with Directive 2000/53/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.4. **Manufacture of batteries**

Description of the activity

Manufacture of rechargeable batteries, battery packs and accumulators for transport, stationary and off-grid energy storage and other industrial applications and manufacture of respective components (battery active materials, battery cells, casings and electronic components) that result in substantial GHG emission reductions in transport, stationary and off-grid energy storage and other industrial applications.

Recycling of end-of-life batteries.

The economic activities in this category could be associated with NACE C27.2 and E38.3.2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([104]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([105]), scientific peer-reviewed publications and open source ([106]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([107]) or rely on blue or green infrastructure ([108]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([104]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([105]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([106]) Such as Copernicus services managed by the European Commission.

([107]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([108]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(4) Transition to a circular economy	For manufacturing of new batteries, components and materials, the activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) information on and traceability of substances of concern throughout the life cycle of the manufactured products. Recycling processes meet the conditions set out in Article 12 and in Annex III, Part B, of Directive 2006/66/EC, including the use of the latest relevant Best Available Techniques, the achievement of the efficiencies specified for lead-acid batteries, nickel-cadmium batteries and for other chemistries. These processes ensure the recycling of the metal content to the highest degree that is technically feasible while avoiding excessive costs. Where applicable, facilities carrying out recycling processes meet the requirements laid down in Directive 2010/75/EU.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Batteries comply with the applicable sustainability rules on the placing on the market of batteries in the Union, including restrictions on the use of hazardous substances in batteries, including Regulation (EC) No 1907/2006 and Directive 2006/66/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.5. **Manufacture of energy efficiency equipment for buildings**

Description of the activity

Manufacture of one or more of the following energy efficiency equipment products and their key components ([109]) for buildings:

(a) windows with U-value lower or equal to 1,0 W/m2K;

(b) doors with U-value lower or equal to 1,2 W/m2K;

(c) external wall systems with U-value lower or equal to 0,5 W/m2K;

(d) roofing systems with U-value lower or equal to 0,3 W/m2K;

([109]) Where relevant, the U-value is calculated according to the applicable standards, e.g. EN ISO 10077-1:2017 (windows and doors), EN ISO 12631:2017 (curtain walls) and EN ISO 6946:2017 (other building components and elements).

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(e) insulating products with a lambda value lower or equal to 0,06 W/mK;

(f) household appliances falling into the highest two populated classes of energy efficiency classes in accordance with Regulation (EU) 2017/1369 and the delegated acts adopted under that Regulation;

(g) light sources rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(h) space heating and domestic hot water systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(i) cooling and ventilation systems rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation;

(j) presence and daylight controls for lighting systems;

(k) heat pumps compliant with the technical screening criteria set out in Section 4.16 of this Annex;

(l) façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation;

(m) energy-efficient building automation and control systems for residential and non-residential buildings;

(n) zoned thermostats and devices for the smart monitoring of the main electricity loads or heat loads for buildings, and sensoring equipment;

(o) products for heat metering and thermostatic controls for individual homes connected to district heating systems, for individual flats connected to central heating systems serving a whole building, and for central heating systems;

(p) district heating exchangers and substations compliant with the district heating/cooling distribution activity set out in Section 4.15 of this Annex;

(q) products for smart monitoring and regulating of heating system, and sensoring equipment.

The economic activities in this category could be associated with several NACE codes, in particular C16.23, C23.11, C23.20, C23.31, C23.32, C23.43, C.23.61, C25.11, C25.12, C25.21, C25.29, C25.93, C27.31, C27.32, C27.33, C27.40, C27.51, C28.11, C28.12, C28.13, C28.14, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([110]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([111]), scientific peer-reviewed publications and open source ([112]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([113]) or rely on blue or green infrastructure ([114]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

([110]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([111]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([112]) Such as Copernicus services managed by the European Commission.

([113]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([114]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.6. **Manufacture of other low carbon technologies**

Description of the activity

Manufacture of technologies aimed at substantial GHG emission reductions in other sectors of the economy, where those technologies are not covered in Sections 3.1 to 3.5 of this Annex and where those technologies demonstrate substantial life-cycle GHG emission savings compared to the best performing alternative technology, product or solution available on the market, calculated using Commission Recommendation 2013/179/EU or ISO 14067:2018 ([115]) or ISO 14064-1:2018 ([116]) and where the quantified life-cycle GHG emission savings are verified by an independent third party.

The economic activities in this category could be associated with several NACE codes, in particular C22, C25, C26, C27 and C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([115]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (https://www.iso.org/standard/71206.html).

([116]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([117]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([118]), scientific peer-reviewed publications and open source ([119]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([120]) or rely on blue or green infrastructure ([121]) to the extent possible;

([117]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([118]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([119]) Such as Copernicus services managed by the European Commission.

([120]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([121]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses the availability of and, where feasible, adopts techniques that support: (a) reuse and use of secondary raw materials and reused components in products manufactured; (b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; (c) waste management that prioritises recycling over disposal, in the manufacturing process; (d) information on and traceability of substances of concern throughout the life cycle of the manufactured products.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.7. **Manufacture of cement**

Description of the activity

Manufacture of cement clinker, cement or alternative binder.

The economic activities in this category could be associated with NACE code C23.51 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([122]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([123]), scientific peer-reviewed publications and open source ([124]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([125]) or rely on blue or green infrastructure ([126]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([122]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([123]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([124]) Such as Copernicus services managed by the European Commission.

([125]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([126]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	Greenhouse gas emissions ([127]) from the cement production processes are: (a) for grey cement clinker, lower than 0,816 ([128]) tCO_2e per tonne of grey cement clinker; (b) for cement from grey clinker or alternative hydraulic binder, lower than 0,530 ([129]) tCO_2e per tonne of cement or alternative binder manufactured.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for the production of cement, lime and magnesium oxide ([130]). No significant cross-media effects occur ([131]). For manufacture of cement employing hazardous wastes as alternative fuels, measures are in place to ensure the safe handling of waste.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.8. **Manufacture of aluminium**

Description of the activity

Manufacture of aluminium through primary alumina (bauxite) process or secondary aluminium recycling.

The economic activities in this category could be associated with NACE code C24.42, C24.53 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([127]) Calculated in accordance with Regulation (EU) 2019/331.

([128]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([129]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected for grey cement clinker in the context of establishing the Commission Implementing Regulation (EU) 2021/447, multiplied by the clinker to cement ratio (0.65), determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([130]) Commission Implementing Decision 2013/163/EU of 26 March 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the production of cement, lime and magnesium oxide (OJ L 100, 9.4.2013, p. 1).

([131]) See Best Available Techniques Reference Document (BREF) on Economics and Cross-Media Effects (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/ecm_bref_0706.pdf).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([132]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([133]), scientific peer-reviewed publications and open source ([134]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([135]) or rely on blue or green infrastructure ([136]) to the extent possible;

([132]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([133]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([134]) Such as Copernicus services managed by the European Commission.

([135]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/-.

([136]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity manufactures one of the following: (a) primary aluminium where the economic activity complies with two of the following criteria until 2025 and with all of the following criteria ([137]) after 2025: (i) the GHG emissions do not exceed 1,604 ([138]) tCO_2e per ton of aluminium manufactured ([139]); (ii) the indirect GHG emissions do not exceed 270 g CO_2e/kWh; (iii) the electricity consumption for the manufacturing process does not exceed 15,5 MWh/t Al; (b) secondary aluminium.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for the non-ferrous metals industries ([140]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.9. **Manufacture of iron and steel**

Description of the activity

Manufacture of iron and steel.

The economic activities in this category could be associated with several NACE codes, in particular C24.10, C24.20, C24.31, C24.32, C24.33, C24.34, C24.51 and C24.52 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([137]) Combined to a single threshold resulting in the sum of direct and indirect emissions, calculated as the median value of the data collected in the context of establishing the EU ETS industrial benchmarks for the period of 2021-2026 and calculated in accordance with the methodology for setting the benchmarks set out in Directive 2003/87/EC plus the do no significant harm to climate change mitigation criterion for electricity generation (270 g CO_2e/kWh) multiplied by the average energy efficiency of aluminium manufacturing (15,5 MWh/t Al).

([138]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([139]) The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis.

([140]) Commission Implementing Decision (EU) 2016/1032 of 13 June 2016 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the non-ferrous metals industries (OJ L 174, 30.6.2016, p. 32).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([141]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([142]), scientific peer-reviewed publications and open source ([143]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([144]) or rely on blue or green infrastructure ([145]) to the extent possible;

([141]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([142]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([143]) Such as Copernicus services managed by the European Commission.

([144]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([145]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity manufactures one of the following: (a) iron and steel where GHG emissions ([146]), reduced by the amount of emissions assigned to the production of waste gases in accordance with point 10.1.5(a) of Annex VII to Regulation (EU) 2019/331 do not exceed the following values applied to the different manufacturing process steps: (i) hot metal =1,443 ([147]) tCO_2e/t product; (ii) sintered ore = 0,242 ([148]) tCO_2e/t product; (iii) coke (excluding lignite coke) = 0,237 ([149]) tCO_2e/t product; (iv) iron casting = 0,390 ([150]) tCO_2e/t product; (v) electric arc furnace (EAF) high alloy steel = 0,360 ([151]) tCO_2e/t product; (vi) electric arc furnace (EAF) carbon steel = 0,276 ([152])] tCO_2e/t product. (b) steel in electric arc furnaces (EAFs) producing EAF carbon steel or EAF high alloy steel as defined in Commission Delegated Regulation (EU) 2019/331 and where the steel scrap input relative to product output is: (i) at least 70 % for the production of high alloy steel (ii) at least 90 % for production of carbon steel.

([146]) Calculated in accordance with Regulation (EU) 2019/331.

([147]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([148]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([149]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([150]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([151]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([152]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for iron and steel production ([153]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.10. **Manufacture of hydrogen**

Description of the activity

Manufacture of hydrogen and hydrogen-based synthetic fuels.

The economic activities in this category could be associated with NACE code C20.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

([153]) Commission Implementing Decision 2012/135/EU of 28 February 2012 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for iron and steel production (OJ L 70, 8.3.2012, p. 63).

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(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([154]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([155]), scientific peer-reviewed publications and open source ([156]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([157]) or rely on blue or green infrastructure ([158]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The activity complies with the life cycle GHG emissions savings requirement of 70 % relative to a fossil fuel comparator of 94 g CO_2e/MJ as set out in Article 25(2) of Directive (EU) 2018/2001 of the European Parliament and of the Council ([159]) and Annex V to that Directive. Life cycle GHG emissions savings are calculated using the methodology referred to in Article 28(5) of Directive (EU) 2018/2001 or, alternatively, using ISO 14067:2018 ([160]) or ISO 14064-1:2018 ([161]). Quantified life-cycle GHG emission savings are verified in line with Article 30 of Directive (EU) 2018/2001 where applicable, or by an independent third party.

([154]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([155]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([156]) Such as Copernicus services managed by the European Commission.

([157]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([158]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([159]) Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82).

([160]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (version of 4.6.2021: https://www.iso.org/standard/71206.html).

([161]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (version of 4.6.2021: https://www.iso.org/standard/66453.html).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of chlor-alkali ([162]) and the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([163]); (b) the best available techniques (BAT) conclusions for the refining of mineral oil and gas ([164]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.11. **Manufacture of carbon black**

Description of the activity

Manufacture of carbon black.

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

([162]) Implementing Decision 2013/732/EU.
([163]) Implementing Decision (EU) 2016/902.
([164]) Implementing Decision 2014/738/EU.

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The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([165]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([166]), scientific peer-reviewed publications and open source ([167]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([168]) or rely on blue or green infrastructure ([169]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DHSH')	
(1) Climate change mitigation	Greenhouse gas emissions ([170]) from the carbon black production processes are lower than 1,615 ([171]) tCO_2e per tonne of product.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([165]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([166]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([167]) Such as Copernicus services managed by the European Commission.

([168]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([169]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([170]) Calculated in accordance with Regulation (EU) 2019/331.

([171]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

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(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the Large Volume Inorganic Chemicals- Solids and Others industry ([172]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([173]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.12. **Manufacture of soda ash**

Description of the activity

Manufacture of disodium carbonate (soda ash, sodium carbonate, carbonic acid disodium salt).

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

([172]) Best Available Techniques (BAT) Reference Document for the Large Volumes Inorganic Chemicals- Solids and Others industry (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic-s_bref_0907.pdf).

([173]) Implementing Decision (EU) 2016/902.

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(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([174]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([175]), scientific peer-reviewed publications and open source ([176]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([177]) or rely on blue or green infrastructure ([178]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	Greenhouse gas emissions ([179]) from the soda ash production processes are lower than 0,866 ([180]) tCO_2e per tonne of product.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including:

([174]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([175]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([176]) Such as Copernicus services managed by the European Commission.

([177]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([178]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([179]) Calculated in accordance with Regulation (EU) 2019/331.

([180]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

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	(a) the Best Available Techniques Reference Document (BREF) for the Large Volume Inorganic Chemicals- Solids and Others industry ([181]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([182]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.13. **Manufacture of chlorine**

Description of the activity

Manufacture of chlorine.

The economic activities in this category could be associated with NACE code C20.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([183]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([181]) Best Available Techniques (BAT) Reference Document for the Large Volumes Inorganic Chemicals- Solids and Others industry (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic-s_bref_0907.pdf).

([182]) Implementing Decision (EU) 2016/902.

([183]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([184]), scientific peer-reviewed publications and open source ([185]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([186]) or rely on blue or green infrastructure ([187]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	Electricity consumption for electrolysis and chlorine treatment is equal or lower than 2,45 MWh per tonne of chlorine. Average direct greenhouse gas emissions of the electricity used for chlorine production is at or lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of chlor-alkali ([188]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([189]). No significant cross-media effects occur.

([184]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([185]) Such as Copernicus services managed by the European Commission.

([186]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([187]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([188]) Implementing Decision 2013/732/EU.

([189]) Implementing Decision (EU) 2016/902.

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix C to this Annex.

3.14. **Manufacture of organic basic chemicals**

Description of the activity

Manufacture of:

(a) high value chemicals (HVC):

(i) acetylene;

(ii) ethylene;

(iii) propylene;

(iv) butadiene.

(b) Aromatics:

(i) mixed alkylbenzenes, mixed alkylnaphthalenes other than HS 2707 or 2902;

(ii) cyclohexane;

(iii) benzene;

(iv) toluene;

(v) o-Xylene;

(vi) p-Xylene;

(vii) m-Xylene and mixed xylene isomers;

(viii) ethylbenzene;

(ix) cumene;

(x) biphenyl, terphenyls, vinyltoluenes, other cyclic hydrocarbons excluding cyclanes, cyclenes, cycloterpenes, benzene, toluene, xylenes, styrene, ethylbenzene, cumene, naphthalene, anthracene;

(xi) benzol (benzene), toluol (toluene) and xylol (xylenes);

(xii) naphthalene and other aromatic hydrocarbon mixtures (excluding benzole, toluole, xylole).

(c) vinyl chloride;

(d) styrene;

(e) ethylene oxide;

(f) monoethylene glycol;

(g) adipic acid.

The economic activities in this category could be associated with NACE code C20.14 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([190]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([191]), scientific peer-reviewed publications and open source ([192]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([193]) or rely on blue or green infrastructure ([194]) to the extent possible;

([190]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([191]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([192]) Such as Copernicus services managed by the European Commission.

([193]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([194]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	GHG emissions ([195]) from the organic chemicals production processes are lower than: (a) for HVC: [0,851 ([196])] tCO_2e/t of HVC; (b) for aromatics: 0,0300 ([197]) tCO_2e/t of complex weighted throughput; (c) for vinyl chloride: [0,268 ([198]) tCO_2e/t of vinyl chloride; (d) for styrene: 0,564 ([199]) tCO_2e/t of styrene; (e) for ethylene oxide/ethylene glycols: 0,489 ([200]) tCO_2e/t of ethylene oxide/glycol; (f) for adipic acid: 0,76 ([201]) tCO_2e/t of adipic acid. Where the organic chemicals in scope are produced wholly or partially from renewable feedstock, the life-cycle GHG emissions of the manufactured chemical, manufactured wholly or partially from renewable feedstock, are lower than the life-cycle GHG emissions of the equivalent chemical manufactured from fossil fuel feedstock Agricultural biomass used for the manufacture of organic basic chemicals in its primary form complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used for the manufacture of organic basic chemicals complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([195]) Calculated in accordance with Regulation (EU) 2019/331.

([196]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([197]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([198]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([199]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([200]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([201]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

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(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in relevant best available techniques (BAT) conclusions, including: (a) the best available techniques (BAT) conclusions for the production of large volumes organic chemicals ([202]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([203]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.15. **Manufacture of anhydrous ammonia**

Description of the activity

Manufacture of anhydrous ammonia.

The economic activities in this category could be associated with NACE code C20.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

([202]) Commission Implementing Decision (EU) 2017/2117 of 21 November 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the production of large volume organic chemicals (OJ L 323, 7.12.2017, p. 1).

([203]) Implementing Decision (EU) 2016/902.

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(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([204]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([205]), scientific peer-reviewed publications and open source ([206]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([207]) or rely on blue or green infrastructure ([208]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity complies with one of the following criteria: (a) the manufacturing of anhydrous ammonia has greenhouse gas emissions ([209]) lower than 1,948 ([210]) tCO_2e per tonne of anhydrous ammonia; (b) ammonia is recovered from waste water.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including:

([204]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([205]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([206]) Such as Copernicus services managed by the European Commission.

([207]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([208]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([209]) Calculated in accordance with Regulation (EU) 2019/331.

([210]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

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	(a) the Best Available Techniques Reference Document (BREF) for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers ([211]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([212]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.16. **Manufacture of nitric acid**

Description of the activity

Manufacture of nitric acid.

The economic activities in this category could be associated with NACE code C20.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([213]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([211]) Best Available Techniques (BAT) Reference Document for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic_aaf.pdf).

([212]) Implementing Decision (EU) 2016/902.

([213]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([214]), scientific peer-reviewed publications and open source ([215]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([216]) or rely on blue or green infrastructure ([217]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	GHG emissions ([218]) from the manufacture of nitric acid are lower than 0,184 ([219]) tCO_2e per tonne of nitric acid.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers ([220]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([221]). No significant cross-media effects occur.

([214]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([215]) Such as Copernicus services managed by the European Commission.

([216]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([217]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([218]) Calculated in accordance with Regulation (EU) 2019/331.

([219]) Reflecting the median value of the installations in 2016 and 2017 (t CO_2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

([220]) Best Available Techniques (BAT) Reference Document for the manufacture of Large Volume Inorganic Chemicals - Ammonia, Acids and Fertilisers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/lvic_aaf.pdf).

([221]) Implementing Decision (EU) 2016/902.

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

3.17. **Manufacture of plastics in primary form**

Description of the activity

Manufacture resins, plastics materials and non-vulcanisable thermoplastic elastomers, the mixing and blending of resins on a custom basis, as well as the manufacture of non-customised synthetic resins.

The economic activities in this category could be associated with NACE code C20.16 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([222]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([223]), scientific peer-reviewed publications and open source ([224]) or paying models.

4. The adaptation solutions implemented:

([222]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([223]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([224]) Such as Copernicus services managed by the European Commission.

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(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([225]) or rely on blue or green infrastructure ([226]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The plastic in primary form is one of the following: (a) fully manufactured by mechanical recycling of plastic waste; (b) where mechanical recycling is not possible, fully manufactured by chemical recycling of plastic waste where the life-cycle greenhouse gas emissions of the manufactured plastic, excluding any calculated credits from the production of fuels, are lower than the life-cycle greenhouse gas emissions of the equivalent primary plastic manufactured from fossil fuel feedstock. Life-cycle greenhouse gas emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 ([227]) or ISO 14064-1:2018 ([228]). Quantified life-cycle GHG emissions are verified by an independent third party. (c) derived wholly or partially from renewable feedstock ([229]) where the life-cycle greenhouse gas emissions of the manufactured plastic in primary form, manufactured wholly or partially from renewable feedstock, is lower than the life-cycle greenhouse gas emissions of the equivalent plastics in primary form manufactured from fossil fuel feedstock. Life-cycle greenhouse gas emissions are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. Agricultural biomass used for the manufacture of plastics in its primary form complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used for the manufacture of plastics in its primary form complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.

([225]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([226]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([227]) ISO standard 14067:2018, Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification (https://www.iso.org/standard/71206.html).

([228]) ISO standard 14064-1:2018, Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (https://www.iso.org/standard/66453.html).

([229]) Renewable feedstock refers to biomass, industrial bio-waste or municipal bio-waste.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the relevant best available techniques (BAT) conclusions, including: (a) the Best Available Techniques Reference Document (BREF) for the Production of Polymers ([230]); (b) the best available techniques (BAT) conclusions for common waste water and waste gas treatment/management systems in the chemical sector ([231]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4. ENERGY

4.1. **Electricity generation using solar photovoltaic technology**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using solar photovoltaic (PV) technology.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([230]) Best Available Techniques (BAT) Reference Document for the Production of Polymers (version of 4.6.2021: https://eippcb.jrc.ec.europa.eu/sites/default/files/2019-11/pol_bref_0807.pdf).

([231]) Implementing Decision (EU) 2016/902.

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([232]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([233]), scientific peer-reviewed publications and open source ([234]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([235]) or rely on blue or green infrastructure ([236]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([232]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([233]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([234]) Such as Copernicus services managed by the European Commission.

([235]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([236]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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4.2. **Electricity generation using concentrated solar power (CSP) technology**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using concentrated solar power (CSP) technology.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([237]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([238]), scientific peer-reviewed publications and open source ([239]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

([237]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([238]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([239]) Such as Copernicus services managed by the European Commission.

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(b) favour nature-based solutions ([240]) or rely on blue or green infrastructure ([241]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.3. **Electricity generation from wind power**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from wind power.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

([240]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([241]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([242]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([243]), scientific peer-reviewed publications and open source ([244]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([245]) or rely on blue or green infrastructure ([246]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A

([242]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([243]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([244]) Such as Copernicus services managed by the European Commission.

([245]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([246]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	In case of construction of offshore wind, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive and as set out in Decision (EU)2017/848 in relation to the relevant criteria and methodological standards for that descriptor.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([247]). In case of offshore wind, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity) and 6 (seabed integrity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors.

4.4. **Electricity generation from ocean energy technologies**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from ocean energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

([247]) Practical guidance for the implementation of this criterion is contained in the European Commission notice C(2020) 7730 final 'Guidance document on wind energy developments and EU nature legislation' (version of 4.6.2021: https://ec.europa.eu/environment/nature/natura2000/management/docs/wind_farms_en.pdf).

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The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([248]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([249]), scientific peer-reviewed publications and open source ([250]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([251]) or rely on blue or green infrastructure ([252]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive’s Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for that descriptor.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.

([248]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([249]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([250]) Such as Copernicus services managed by the European Commission.

([251]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([252]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. The activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 1 (biodiversity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for that descriptor.

4.5. **Electricity generation from hydropower**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from hydropower.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([253]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([253]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([254]), scientific peer-reviewed publications and open source ([255]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([256]) or rely on blue or green infrastructure ([257]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	1. The activity complies with the provisions of Directive 2000/60/EC, in particular with all the requirements laid down in Article 4 of the Directive. 2. For operation of existing hydropower plants, including refurbishment activities to enhance renewable energy or energy storage potential, the activity complies with the following criteria: 2.1. In accordance with Directive 2000/60/EC and in particular Articles 4 and 11 of that Directive, all technically feasible and ecologically relevant mitigation measures have been implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. 2.2. Measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of-the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning);

([254]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([255]) Such as Copernicus services managed by the European Commission.

([256]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([257]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow;

(c) measures to protect or enhance habitats.

2.3. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body.

3. For construction of new hydropower plants, the activity complies with the following criteria:

3.1. In accordance with Article 4 of Directive 2000/60/EC and in particular paragraph 7 of that Article, prior to construction, an impact assessment of the project is carried out to assess all its potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions.

The assessment is based on recent, comprehensive and accurate data, including monitoring data on biological quality elements that are specifically sensitive to hydromorphological alterations, and on the expected status of the water body as a result of the new activities, as compared to its current one.

It assesses in particular the cumulated impacts of this new project with other existing or planned infrastructure in the river basin.

3.2. On the basis of that impact assessment, it has been established that the plant is conceived, by design and location and by mitigation measures, so that it complies with one of the following requirements:

(a) the plant does not entail any deterioration nor compromises the achievement of good status or potential of the specific water body it relates to;

(b) where the plant risks to deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, such deterioration is not significant, and is justified by a detailed cost-benefit assessment demonstrating both of the following:

(i) the reasons of overriding public interest or the fact that benefits expected from the planned hydropower plant outweigh the costs from deteriorating the status of water that are accruing to the environment and to society;

(ii) the fact that the overriding public interest or the benefits expected from the plant cannot, for reasons of technical feasibility or disproportionate cost, be achieved by alternative means that would lead to a better environmental outcome (such as refurbishing of existing hydropower plants or use of technologies not disrupting river continuity).

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	3.3. All technically feasible and ecologically relevant mitigation measures are implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Mitigation measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure downstream and upstream fish migration (such as fish friendly turbines, fish guidance structures, state-of the-art fully functional fish passes, measures to stop or minimise operation and discharges during migration or spawning); (b) measures to ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydro-peaking operations) and sediment flow; (c) measures to protect or enhance habitats. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body. 3.4. The plant does not permanently compromise the achievement of good status/potential in any of the water bodies in the same river basin district. 3.5. In addition to the mitigation measures referred to above, and where relevant, compensatory measures are implemented to ensure that the project does not increase the fragmentation of water bodies in the same river basin district. This is achieved by restoring continuity within the same river basin district to an extent that compensates the disruption of continuity, which the planned hydropower plant may cause. Compensation starts prior to the execution of the project.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([258]).

4.6. **Electricity generation from geothermal energy**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity from geothermal energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([258]) Practical guidance is contained in Commission notice C/2018/2619 ‘Guidance document on the requirements for hydropower in relation to EU nature legislation’ (OJ C 213, 18.6.2018, p. 1).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([259]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([260]), scientific peer-reviewed publications and open source ([261]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([262]) or rely on blue or green infrastructure ([263]) to the extent possible;

([259]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([260]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([261]) Such as Copernicus services managed by the European Commission.

([262]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([263]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directive 2004/107/EC and Directive 2008/50/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.7. **Electricity generation from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using gaseous and liquid fuels of renewable origin. This activity does not include electricity generation from the exclusive use of biogas and bio-liquid fuels (see Section 4.8 of this Annex).

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([264]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([265]), scientific peer-reviewed publications and open source ([266]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([267]) or rely on blue or green infrastructure ([268]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([264]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([265]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([266]) Such as Copernicus services managed by the European Commission.

([267]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([268]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	Emissions are within or lower than the emissions levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([269]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.8. **Electricity generation from bioenergy**

Description of the activity

Construction and operation of electricity generation installations that produce electricity exclusively from biomass, biogas or bioliquids, excluding electricity generation from blending of renewable fuels with biogas or bioliquids (see Section 4.7 of this Annex).

The economic activities in this category could be associated with NACE code D35.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

([269]) Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (OJ L 212, 17.8.2017, p. 1).

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(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([270]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([271]), scientific peer-reviewed publications and open source ([272]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([273]) or rely on blue or green infrastructure ([274]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(2) Climate change mitigation	The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU of the European Parliament and of the Council ([275]), emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([276]). No significant cross-media effects occur.

([270]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([271]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([272]) Such as Copernicus services managed by the European Commission.

([273]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([274]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([275]) Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17).

([276]) Implementing Decision (EU) 2017/1442.

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	For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, measures are implemented to reduce emission levels taking into account the results of the information exchange ([277]) which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193. For anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([278]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.9. **Transmission and distribution of electricity**

Description of the activity

Construction and operation of transmission systems that transport electricity on the extra high-voltage and high-voltage interconnected system.

Construction and operation of distribution systems that transport electricity on high-voltage, medium-voltage and low-voltage distribution systems.

The economic activities in this category could be associated with several NACE codes, in particular D35.12 and D35.13 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

([277]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).

([278]) Commission Implementing Decision (EU) 2018/1147 of 10 August 2018 establishing best available techniques (BAT) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council (OJ L 208, 17.8.2018, p. 38).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([279]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([280]), scientific peer-reviewed publications and open source ([281]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([282]) or rely on blue or green infrastructure ([283]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The infrastructure is not dedicated to creating a direct connection, or expanding an existing direct connection to a power production plant where the direct greenhouse gas emissions exceed 270 g CO_2e/kWh.

([279]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([280]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([281]) Such as Copernicus services managed by the European Commission.

([282]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([283]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	Overground high voltage lines: (a) for construction site activities, activities follow the principles of the International Finance Corporation (IFC) General Environmental, Health, and Safety Guidelines ([284]). (b) activities respect applicable norms and regulations to limit impact of electromagnetic radiation on human health, including for activities carried out in the Union, the Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) ([285]) and for activities carried out in third countries the 1998 Guidelines of International Commission on Non-Ionizing Radiation Protection (ICNIRP) ([286]). Activities do not use PCBs polyclorinated biphenyls.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex ([287]).

4.10. **Storage of electricity**

Description of the activity

Construction and operation of facilities that store electricity and return it at a later time in the form of electricity. The activity includes pumped hydropower storage.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

([284]) Environmental, Health, and Safety (EHS) Guidelines of 30 April 2007 (version of 4.6.2021: https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p).

([285]) Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) (1999/519/EC) (OJ L 199, 30.7.1999, p. 59).

([286]) ICNIRP 1998 Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 ghz) (version of 4.6.2021: https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf).

([287]) Practical guidance for the implementation of this criterion is contained in the European Commission notice C(2018)2620 'Energy transmission infrastructure and EU nature legislation' (OJ C 213, 18.6.2018, p. 62).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([288]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([289]), scientific peer-reviewed publications and open source ([290]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([291]) or rely on blue or green infrastructure ([292]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A

([288]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([289]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([290]) Such as Copernicus services managed by the European Commission.

([291]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([292]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	For pumped hydropower storage not connected to a river body, the activity complies with the criteria set out in Appendix B to this Annex. For hydropower storage connected to a river body, the activity complies with the criteria for DNSH to sustainable use and protection of water and marine resources specified in Section 4.5 (Electricity production from hydropower).
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.11. **Storage of thermal energy**

Description of the activity

Construction and operation of facilities that store thermal energy and return it at a later time, in the form of thermal energy or other energy vectors.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

The economic activities in this category have no dedicated NACE code as referred to in the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

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The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([293]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([294]), scientific peer-reviewed publications and open source ([295]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([296]) or rely on blue or green infrastructure ([297]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	For Aquifer Thermal Energy Storage, the activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.

([293]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([294]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([295]) Such as Copernicus services managed by the European Commission.

([296]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([297]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.12. **Storage of hydrogen**

Description of the activity

Construction and operation of facilities that store hydrogen and return it at a later time.

The economic activities in this category have no dedicated NACE code in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([298]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([299]), scientific peer-reviewed publications and open source ([300]) or paying models.

([298]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([299]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([300]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([301]) or rely on blue or green infrastructure ([302]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	In the case of storage above five tonnes, the activity complies with Directive 2012/18/EU.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.13. **Manufacture of biogas and biofuels for use in transport and of bioliquids**

Description of the activity

Manufacture of biogas or biofuels for use in transport and of bioliquids.

The economic activities in this category could be associated with NACE code D35.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

([301]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([302]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([303]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([304]), scientific peer-reviewed publications and open source ([305]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([306]) or rely on blue or green infrastructure ([307]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.

([303]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([304]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([305]) Such as Copernicus services managed by the European Commission.

([306]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([307]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For biogas production, a gas-tight cover on the digestate storage is applied. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([308]). No significant cross-media effects occur. In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 for digestate or CMC 3 for compost, as applicable, in Annex II to Regulation EU 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.14. **Transmission and distribution networks for renewable and low-carbon gases**

Description of the activity

Conversion, repurposing or retrofit of gas networks for the transmission and distribution of renewable and low-carbon gases.

Construction or operation of transmission and distribution pipelines dedicated to the transport of hydrogen and other low-carbon gases.

The economic activities in this category could be associated with several NACE codes, in particular D35.21, F42.21 and H49.50 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

([308]) Implementing Decision (EU) 2018/1147.

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([309]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([310]), scientific peer-reviewed publications and open source ([311]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([312]) or rely on blue or green infrastructure ([313]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The repurposing does not increase gas transmission and distribution capacity. The repurposing does not extend the lifespan of the networks beyond their pre-retrofit projected lifespan, unless the network is dedicated to hydrogen or other low-carbon gases.

([309]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([310]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([311]) Such as Copernicus services managed by the European Commission.

([312]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([313]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC comply, where relevant, with the top class requirements of the energy label, and with implementing regulations under that Directive and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.15. **District heating/cooling distribution**

Description of the activity

Construction, refurbishment and operation of pipelines and associated infrastructure for distribution of heating and cooling, ending at the sub-station or heat exchanger.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([314]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([314]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([315]), scientific peer-reviewed publications and open source ([316]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([317]) or rely on blue or green infrastructure ([318]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC comply, where relevant, with the top class requirements of the energy label, and otherwise comply with implementing regulations under that Directive and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.16. **Installation and operation of electric heat pumps**

Description of the activity

Installation and operation of electric heat pumps.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

([315]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([316]) Such as Copernicus services managed by the European Commission.

([317]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([318]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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The economic activities in this category could be associated with several NACE codes, in particular D35.30, F43.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([319]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([320]), scientific peer-reviewed publications and open source ([321]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([322]) or rely on blue or green infrastructure ([323]) to the extent possible;

([319]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([320]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([321]) Such as Copernicus services managed by the European Commission.

([322]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([323]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish. A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
(5) Pollution prevention and control	For air to air heat pumps with rated capacity of 12kW or below, indoor and outdoor sound power levels are below the threshold set out in Regulation (EU) No 206/2012.
(6) Protection and restoration of biodiversity and ecosystems	N/A

4.17. **Cogeneration of heat/cool and power from solar energy**

Description of the activity

Construction and operation of a facility co-generating electricity and heat/cool from solar energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([324]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([325]), scientific peer-reviewed publications and open source ([326]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([327]) or rely on blue or green infrastructure ([328]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A

([324]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([325]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([326]) Such as Copernicus services managed by the European Commission.

([327]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([328]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.18. **Cogeneration of heat/cool and power from geothermal energy**

Description of the activity

Construction and operation of facilities co-generating heat/cool and power from geothermal energy.

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([329]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([329]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([330]), scientific peer-reviewed publications and open source ([331]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([332]) or rely on blue or green infrastructure ([333]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directives 2004/107/EC and 2008/50/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.19. **Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction and operation of combined heat/cool and power generation facilities using gaseous and liquid fuels of renewable origin. This activity does not include cogeneration of heat/cool and power from the exclusive use of biogas and bio-liquid fuels (see Section 4.20 of this Annex).

([330]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([331]) Such as Copernicus services managed by the European Commission.

([332]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([333]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([334]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([335]), scientific peer-reviewed publications and open source ([336]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([337]) or rely on blue or green infrastructure ([338]) to the extent possible;

([334]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([335]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([336]) Such as Copernicus services managed by the European Commission.

([337]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([338]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([339]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.20. **Cogeneration of heat/cool and power from bioenergy**

Description of the activity

Construction and operation of installations used for cogeneration of heat/cool and power exclusively from biomass, biogas, or bioliquids, excluding cogeneration from blending of renewable fuels with biogas or bioliquids (see Section 4.19 of this Annex).

The economic activities in this category could be associated with several NACE codes, in particular D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

([339]) Implementing Decision (EU) 2017/1442.

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([340]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([341]), scientific peer-reviewed publications and open source ([342]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([343]) or rely on blue or green infrastructure ([344]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A

([340]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([341]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([342]) Such as Copernicus services managed by the European Commission.

([343]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([344]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([345]), ensuring at the same time that no significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange ([346]), which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193 are taken into account. In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([347]). No significant cross-media effects occur.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.21. **Production of heat/cool from solar thermal heating**

Description of the activity

Construction and operation of facilities producing heat/cool from solar thermal heating technology.

Where an economic activity is an integral element of the 'Installation, maintenance and repair of renewable energy technologies' as referred to in Section 7.6 of this Annex, the technical screening criteria specified in Section 7.6 apply.

([345]) Implementing Decision (EU) 2017/1442.

([346]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).

([347]) Implementing Decision (EU) 2018/1147.

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The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([348]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([349]), scientific peer-reviewed publications and open source ([350]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([351]) or rely on blue or green infrastructure ([352]) to the extent possible;

([348]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([349]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([350]) Such as Copernicus services managed by the European Commission.

([351]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([352]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.22. **Production of heat/cool from geothermal energy**

Description of the activity

Construction and operation of facilities that produce heat/cool from geothermal energy.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

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(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([353]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([354]), scientific peer-reviewed publications and open source ([355]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([356]) or rely on blue or green infrastructure ([357]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For the operation of high-enthalpy geothermal energy systems, adequate abatement systems are in place to reduce emission levels in order not to hamper the achievement of air quality limit values set out in Directives 2004/107/EC and 2008/50/EC.

([353]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([354]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([355]) Such as Copernicus services managed by the European Commission.

([356]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([357]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.23. **Production of heat/cool from renewable non-fossil gaseous and liquid fuels**

Description of the activity

Construction and operation of heat generation facilities that produce heating/cool using gaseous and liquid fuels of renewable origin. This activity does not include production of heat/cool from the exclusive use of biogas and bio-liquid fuels (see Section 4.24 of this Annex).

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([358]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([359]), scientific peer-reviewed publications and open source ([360]) or paying models.

([358]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([359]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([360]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([361]) or rely on blue or green infrastructure ([362]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO_2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([363]). No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the Emission Limit Values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.24. **Production of heat/cool from bioenergy**

Description of the activity

Construction and operation of facilities that produce heat/cool exclusively from biomass, biogas or bioliquids, excluding production of heat/cool from blending of renewable fuels with biogas or bioliquids (see Section 4.23 of this Annex).

([361]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([362]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([363]) Implementing Decision (EU) 2017/1442.

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The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([364]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([365]), scientific peer-reviewed publications and open source ([366]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([367]) or rely on blue or green infrastructure ([368]) to the extent possible;

([364]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([365]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([366]) Such as Copernicus services managed by the European Commission.

([367]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([368]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants ([369]), ensuring at the same time that no significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange ([370]), which are published by the Commission in accordance with Article 6, paragraphs 9 and 10 of Directive (EU) 2015/2193 are taken into account. For anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use. For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([371]). No significant cross-media effects occur.

([369]) Implementing Decision (EU) 2017/1442.

([370]) The final technology report resulting from the exchange of information with Member States, the industries concerned and non-governmental organisations contains technical information on best available technologies used in medium combustion plants to reduce their environmental impacts, and on the emission levels achievable with best available and emerging technologies and the related costs (version of 4.6.2021: https://circabc.europa.eu/ui/group/06f33a94-9829-4eee-b187-21bb783a0fbf/library/9a99a632-9ba8-4cc0-9679-08d929afda59/details).

([371]) Implementing Decision (EU) 2018/1147.

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.25. **Production of heat/cool using waste heat**

Description of the activity

Construction and operation of facilities that produce heat/cool using waste heat.

The economic activities in this category could be associated with NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([372]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([373]), scientific peer-reviewed publications and open source ([374]) or paying models.

([372]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([373]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([374]) Such as Copernicus services managed by the European Commission.

▼B

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([375]) or rely on blue or green infrastructure ([376]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
(5) Pollution prevention and control	Pumps and the kind of equipment used, which is covered by Ecodesign and Energy labelling comply, where relevant, with the top class requirements of the energy label laid down in Regulation (EU) 2017/1369, and with implementing regulations under Directive 2009/125/EC and represent the best available technology.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

▼M1

4.26. **Pre-commercial stages of advanced technologies to produce energy from nuclear processes with minimal waste from the fuel cycle**

Description of the activity

Research, development, demonstration and deployment of innovative electricity generation facilities, licenced by Member States' competent authorities in accordance with applicable national law, that produce energy from nuclear processes with minimal waste from the fuel cycle.

([375]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([376]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

▼M1

The activity is classified under NACE code M72 and M72.1 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([377]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([378]), scientific peer-reviewed publications and open source ([379]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([380]) or rely on blue or green infrastructure ([381]) to the extent possible;

([377]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([378]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([379]) Such as Copernicus services managed by the European Commission.

([380]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([381]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe's Natural Capital, COM/2013/249 final.

▼M1

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. The activity complies with the provisions laid down in the Euratom Treaty and the legislation adopted on its basis, in particular, Directive 2013/59/Euratom, Directive 2009/71/Euratom, and Directive 2011/70/Euratom as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC.

6. The activity complies with national legislation that transposes Directive 2009/71/Euratom, including as regards the evaluation, through stress-tests, of the resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance through the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake shall control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with the EU regulatory framework.

▼M1

	The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, and/or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.

▼M1

(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.27. **Construction and safe operation of new nuclear power plants, for the generation of electricity and/or heat, including for hydrogen production, using best-available technologies**

Description of the activity

Construction and safe operation of new nuclear installations, for which the construction permit has been issued by 2045 by Member States' competent authorities in accordance with applicable national law, to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production (new nuclear installations), as well as their safety upgrades.

The activity is classified under NACE codes D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

▼M1

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([382]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([383]), scientific peer-reviewed publications and open source ([384]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([385]) or rely on blue or green infrastructure ([386]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. The activity complies with the provisions laid down in the Euratom Treaty and the legislation adopted on its basis, in particular, Directive 2013/59/Euratom, Directive 2009/71/Euratom, and Directive 2011/70/Euratom as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC.

6. The activity complies with national legislation that transposes Directive 2009/71/Euratom, including as regards the evaluation, through stress-tests, of the resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

([382]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([383]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([384]) Such as Copernicus services managed by the European Commission.

([385]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([386]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe's Natural Capital, COM/2013/249 final.

▼M1

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance through the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned. In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake shall control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, and/or threshold values in line with the EU regulatory framework. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom.

▼M1

	A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193. Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, and/or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom. Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimise the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

▼M1

4.28. **Electricity generation from nuclear energy in existing installations**

Description of the activity

Modification of existing nuclear installations for the purposes of extension, authorised by Member States' competent authorities by 2040 in accordance with applicable national law, of the service time of safe operation of nuclear installations that produce electricity or heat from nuclear energy ('nuclear power plants').

The activity is classified under NACE codes D35.11 and F42.2 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([387]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([388]), scientific peer-reviewed publications and open source ([389]) or paying models.

([387]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([388]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([389]) Such as Copernicus services managed by the European Commission.

▼M1

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([390]) or rely on blue or green infrastructure ([391]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. The activity complies with the provisions laid down in the Euratom Treaty and the legislation adopted on its basis, in particular, Directive 2013/59/Euratom, Directive 2009/71/Euratom, and Directive 2011/70/Euratom as well as applicable Union environmental law adopted under Article 192 TFEU, in particular Directive 2011/92/EU and Directive 2000/60/EC.

6. The activity complies with national legislation that transposes Directive 2009/71/Euratom, including as regards the evaluation, through stress-tests, of the resilience of the Union nuclear power plants against extreme natural hazards, including earthquakes. Accordingly, the activity takes place on the territory of a Member State where the operator of a nuclear installation:

(a) has submitted a demonstration of nuclear safety, whose scope and level of detail is commensurate with the potential magnitude and nature of the hazard relevant for the nuclear installation and its site (Article 6, point (b), of Directive 2009/71/Euratom);

(b) has taken defence-in-depth measures to ensure, inter alia, that the impact of extreme external natural and unintended man-made hazards is minimised (Article 8b(1), point (a), of Directive 2009/71/Euratom);

(c) has performed an appropriate site and installation-specific assessment when the operator concerned applies for a licence to construct or operate a nuclear power plant (Article 8c(a) of Directive 2009/71/Euratom).

The activity fulfils the requirements of Directive 2009/71/Euratom, supported by the latest international guidance through the IAEA and WENRA, contributing to increasing the resilience and the ability of new and existing nuclear power plants to cope with extreme natural hazards, including floods and extreme weather conditions.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with stakeholders concerned.

([390]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([391]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe's Natural Capital, COM/2013/249 final.

▼M1

	In order to limit thermal anomalies associated with the discharge of waste heat, operators of inland nuclear power plants utilising once-through wet cooling by taking water from a river or a lake shall control: (a) the maximum temperature of the recipient freshwater body after mixing, and (b) the maximum temperature difference between the discharged cooling water and the recipient freshwater body. The temperature control is implemented in accordance with the individual licence conditions for the specific operations, where applicable, or threshold values in line with the Union law. The activity complies with the Industry Foundation Classes (IFC) standards. Nuclear activities are operated in compliance with requirements on water intended for human consumption of Directive 2000/60/EC and of Directive 2013/51/Euratom laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.
(4) Transition to a circular economy	A plan for the management of both non-radioactive and radioactive waste is in place and ensures maximal reuse or recycling of such waste at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, the reflection in financial projections or the official project documentation. During operation and decommissioning, the amount of radioactive waste is minimised and the amount of free-release materials is maximised in accordance with Directive 2011/70/Euratom, and in compliance with the radiation protection requirements laid down in Directive 2013/59/Euratom. A financing scheme is in place to ensure adequate funding for all decommissioning activities and for the management of spent fuel and radioactive waste, in compliance with Directive 2011/70/Euratom and Recommendation 2006/851/Euratom. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. The relevant elements in this Section are covered by Member States' reports to the Commission in accordance with Article 14(1) of Directive 2011/70/Euratom.
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Non-radioactive emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For nuclear power plants greater than 1 MW thermal input but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.

▼M1

	Radioactive discharges to air, water bodies and ground (soil) comply with individual licence conditions for the specific operations, where applicable, and/or national threshold values in line with Directive 2013/51/Euratom and Directive 2013/59/Euratom). Spent fuel and radioactive waste is safely and responsibly managed in accordance with Directive 2011/70/Euratom and Directive 2013/59/Euratom. An adequate capacity of interim storage is available for the project, while national plans for disposal are in place to minimize the duration of interim storage, in compliance with the provision of Directive 2011/70/Euratom that considers radioactive waste storage, including long-term storage, as an interim solution, but not an alternative to disposal.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. An Environmental Impact Assessment is completed prior to the construction of a nuclear power plant, in accordance with Directive 2011/92/EU. The required mitigation and compensatory measures are implemented. For sites/operations located in or near biodiversity sensitive areas likely to have a significant effect on biodiversity sensitive areas (including the Natura 2000 network of protected areas, Unesco World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented. The sites/operations shall not be detrimental to the conservation status of any of the habitats or species present in protected areas.

4.29. **Electricity generation from fossil gaseous fuels**

Description of the activity

Construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels that meet the criteria in point 1(a) of Section 4.29 of Annex I. This activity does not include electricity generation from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.7 of Annex I and biogas and bioliquid fuels referred to in Section 4.8 of Annex I.

The economic activities in this category may be associated with several NACE codes, notably D35.11 and F42.22 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([392]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([393]), scientific peer-reviewed publications and open source ([394]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([395]) or rely on blue or green infrastructure ([396]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([392]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([393]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([394]) Such as Copernicus services managed by the European Commission.

([395]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([396]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe’s Natural Capital, COM/2013/249 final.

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.30. **High-efficiency co- generation of heat/cool and power from fossil gaseous fuels**

Description of the activity

Construction, refurbishment and operation of combined heat/cool and power generation facilities using fossil gaseous fuels that meet the criteria in point 1(a) of Section 4.30 of Annex I. This activity does not include high-efficiency co-generation of heat/cool and power from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.19 of Annex I and biogas and bio-liquid fuels referred to in Section 4.20 of Annex I.

The economic activities in this category may be associated with NACE codes D35.11 and D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([397]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([398]), scientific peer-reviewed publications and open source ([399]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([400]) or rely on blue or green infrastructure ([401]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.

([397]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([398]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([399]) Such as Copernicus services managed by the European Commission.

([400]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([401]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe’s Natural Capital, COM/2013/249 final.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

4.31. **Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system**

Description of the activity

Construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels connected to efficient district heating and cooling within the meaning of Article 2(41) of Directive 2012/27/EUthat meet the criteria in point 1(a) of Section 4.31 of Annex I. This activity does not include production of heat/cool from in an efficient district heating from the exclusive use of renewable non-fossil gaseous and liquid fuels referred to in Section 4.23 of Annex I and biogas and bio-liquid fuels referred to in Section 4.24 of Annex I.

The activity is classified under NACE code D35.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([402]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([403]), scientific peer-reviewed publications and open source ([404]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([405]) or rely on blue or green infrastructure ([406]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The direct GHG emissions of the activity are lower than 270 g CO2e/kWh.

([402]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([403]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([404]) Such as Copernicus services managed by the European Commission.

([405]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([406]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) – Enhancing Europe’s Natural Capital, COM/2013/249 final.

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with the criteria set out in Appendix C to this Annex. Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur. For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

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5. WATER SUPPLY, SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES

5.1. **Construction, extension and operation of water collection, treatment and supply systems**

Description of the activity

Construction, extension and operation of water collection, treatment and supply systems.

The economic activities in this category could be associated with several NACE codes, in particular E36.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([407]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([408]), scientific peer-reviewed publications and open source ([409]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([410]) or rely on blue or green infrastructure ([411]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A

([407]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([408]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([409]) Such as Copernicus services managed by the European Commission.

([410]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([411]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.2. **Renewal of water collection, treatment and supply systems**

Description of the activity

Renewal of water collection, treatment and supply systems including renewals to water collection, treatment and distribution infrastructures for domestic and industrial needs. It implies no material changes to the volume of flow collected, treated or supplied.

The economic activities in this category could be associated with several NACE codes, in particular E36.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([412]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([413]), scientific peer-reviewed publications and open source ([414]) or paying models.

([412]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([413]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([414]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([415]) or rely on blue or green infrastructure ([416]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.3. **Construction, extension and operation of waste water collection and treatment**

Description of the activity

Construction, extension and operation of centralised waste water systems including collection (sewer network) and treatment.

The economic activities in this category could be associated with several NACE codes, in particular E37.00 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

([415]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([416]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([417]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([418]), scientific peer-reviewed publications and open source ([419]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([420]) or rely on blue or green infrastructure ([421]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	An assessment of the direct GHG emissions from the centralised waste water system, including collection (sewer network) and treatment, has been performed ([422]). The results are disclosed to investors and clients on demand.

([417]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([418]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([419]) Such as Copernicus services managed by the European Commission.

([420]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([421]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([422]) For example, following IPCC guidelines for national GHG inventories for waste water treatment (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_6_Ch06_Wastewater.pdf).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Where the waste water is treated to a level suitable for reuse in agricultural irrigation, the required risk management actions to avoid adverse environmental impacts have been defined and implemented ([423]).
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Discharges to receiving waters meet the requirements laid down in Directive 91/271/EEC or as required by national provisions stating maximum permissible pollutant levels from discharges to receiving waters. Appropriate measures have been implemented to avoid and mitigate excessive storm water overflows from the waste water collection system, which may include nature-based solutions, separate storm water collection systems, retention tanks and treatment of the first flush. Sewage sludge is used in accordance with Directive 86/278/EEC or as required by national law relating to the spreading of sludge on the soil or any other application of sludge on and in the soil.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.4. **Renewal of waste water collection and treatment**

Description of the activity

Renewal of centralised waste water systems including collection (sewer network) and treatment. It implies no material change related to the load or volume of flow collected or treated in the waste water system.

The economic activities in this category could be associated with NACE code E37.00 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([423]) As specified in Annex II of Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, p. 32).

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([424]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([425]), scientific peer-reviewed publications and open source ([426]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([427]) or rely on blue or green infrastructure ([428]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	An assessment of the direct GHG emissions from the centralised waste water system, including collection (sewer network) and treatment, has been performed ([429]). The results are disclosed to investors and clients on demand.

([424]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([425]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([426]) Such as Copernicus services managed by the European Commission.

([427]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([428]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([429]) For example, following IPCC guidelines for national GHG inventories for waste water treatment (version of 4.6.2021: https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/5_Volume5/19R_V5_6_Ch06_Wastewater.pdf).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex. Where the waste water is treated to a level suitable for reuse in agricultural irrigation, the required risk management actions to avoid adverse environmental impacts have been defined and implemented ([430]).
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Discharges to receiving waters meet the requirements laid down in Directive 91/271/EEC or as required by national provisions stating maximum permissible pollutant levels from discharges to receiving waters. Appropriate measures have been implemented to avoid and mitigate excessive storm water overflows from the waste water collection system, which may include nature-based solutions, separate storm water collection systems, retention tanks and treatment of the first flush. Sewage sludge is used in accordance with Directive 86/278/EEC or as required by national law relating to the spreading of sludge on the soil or any other application of sludge on and in the soil.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.5. **Collection and transport of non-hazardous waste in source segregated fractions**

Description of the activity

Separate collection and transport of non-hazardous waste in single or comingled fractions ([431]) aimed at preparing for reuse or recycling.

The economic activities in this category could be associated with NACE code E38.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

([430]) As specified in Annex II to Regulation (EU) 2020/741 of the European Parliament and of the Council of 25 May 2020 on minimum requirements for water reuse (OJ L 177, 5.6.2020, p. 32).

([431]) In the Union, the activity is in line with Article 10(3) of Directive 2008/98/EC and the national legislation and waste management plans.

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([432]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([433]), scientific peer-reviewed publications and open source ([434]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([435]) or rely on blue or green infrastructure ([436]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([432]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([433]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([434]) Such as Copernicus services managed by the European Commission.

([435]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([436]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Separately collected waste fractions are not mixed in waste storage and transfer facilities with other waste or materials with different properties.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

5.6. **Anaerobic digestion of sewage sludge**

Description of the activity

Construction and operation of facilities for the treatment of sewage sludge by anaerobic digestion with the resulting production and utilisation of biogas or chemicals.

The economic activities in this category could be associated with several NACE codes, in particular E37.00 and F42.00 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

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(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([437]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([438]), scientific peer-reviewed publications and open source ([439]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([440]) or rely on blue or green infrastructure ([441]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	A monitoring plan is in place for methane leakage at the facility.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Emissions are within or lower than the emission levels associated with the best available technique (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([442]). No significant cross-media effects occur. Where the resulting digestate is intended for use as fertiliser or soil improver, its nitrogen content (with tolerance level ± 25 %) is communicated to the buyer or the entity in charge of taking off the digestate.

([437]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([438]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([439]) Such as Copernicus services managed by the European Commission.

([440]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([441]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([442]) Implementing Decision (EU) 2018/1147.

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.7. **Anaerobic digestion of bio-waste**

Description of the activity

Construction or operation of dedicated facilities for the treatment of separately collected bio-waste ([788]) through anaerobic digestion with the resulting production and utilisation of biogas and digestate or chemicals.

The economic activities in this category could be associated with several NACE codes, in particular E38.21 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([444]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([445]), scientific peer-reviewed publications and open source ([446]) or paying models.

([788]) As defined in Article 3, point 4, of Directive 2008/98/EC.

([444]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([445]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([446]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([447]) or rely on blue or green infrastructure ([448]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	A monitoring and contingency plan is in place in order to minimise methane leakage at the facility.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available technique (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([449]). No significant cross-media effects occur. The produced digestate meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4 and 5 for digestate or CMC 3 for compost, as applicable, in Annex II to Regulation (EU) 2019/1009, or national rules on fertilisers or soil improvers for agricultural use. The Nitrogen content (with tolerance level ± 25 %) of the digestate used as fertiliser or soil improver is communicated to the buyer or the entity in charge of taking off the digestate.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

([447]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([448]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([449]) Implementing Decision (EU) 2018/1147.

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5.8. **Composting of bio-waste**

Description of the activity

Construction or operation of dedicated facilities for the treatment of separately collected bio-waste through composting (aerobic digestion) with the resulting production and utilisation of compost ([795]).

The economic activities in this category could be associated with several NACE codes, in particular E38.21 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([451]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([452]), scientific peer-reviewed publications and open source ([453]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

([795]) Bio-waste is defined in Article 3, point 4, of Directive 2008/98/EC.

([451]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([452]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([453]) Such as Copernicus services managed by the European Commission.

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(b) favour nature-based solutions ([454]) or rely on blue or green infrastructure ([455]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	For composting plants treating over 75 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out for aerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment ([456]). No significant cross-media effects occur. The site has a system in place that prevents leachate reaching groundwater. The compost produced meets the requirements for fertilising materials set out in Component Material Category 3 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.9. **Material recovery from non-hazardous waste**

Description of the activity

Construction and operation of facilities for the sorting and processing of separately collected non-hazardous waste streams into secondary raw materials involving mechanical reprocessing, except for backfilling purposes.

The economic activities in this category could be associated with several NACE codes, in particular E38.32 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([454]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([455]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([456]) Implementing Decision (EU) 2018/1147.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([457]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([458]), scientific peer-reviewed publications and open source ([459]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([460]) or rely on blue or green infrastructure ([461]) to the extent possible;

([457]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([458]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([459]) Such as Copernicus services managed by the European Commission.

([460]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([461]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.10. **Landfill gas capture and utilisation**

Description of the activity

Installation and operation of infrastructure for landfill ([462]) gas capture and utilisation in permanently closed landfills or landfill cells using new or supplementary dedicated technical facilities and equipment installed during or post landfill or landfill cell closure.

The economic activities in this category could be associated with NACE code E38.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([462]) 'Landfill' is defined in Article 2, point g, of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (OJ L 182, 16.7.1999, p. 1).

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([463]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([464]), scientific peer-reviewed publications and open source ([465]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([466]) or rely on blue or green infrastructure ([467]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	A monitoring plan is in place for methane leakage at the facility.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A

([463]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([464]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([465]) Such as Copernicus services managed by the European Commission.

([466]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([467]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	The permanent closure and remediation as well as the after-care of old landfills, where the landfill gas capture system is installed, are carried out in accordance with the following rules: (a) general requirements set out in Annex I to Directive 1999/31/EC; (b) control and monitoring procedures set out in Annex III to that Directive.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.11. **Transport of CO_2**

Description of the activity

Transport of captured CO_2 via all modes, construction and operation of CO_2 pipelines and retrofit of gas networks where the main purpose is the integration of captured CO_2 and where:

(a) the CO_2 transported from the installation where it is captured to the injection point does not lead to CO_2 leakages above 0.5 % of the mass of CO_2 transported;

(b) the CO_2 is delivered to a permanent CO_2 storage site that meets the criteria for underground geological storage of CO_2 set out in section 5.12 of this Annex; or to other transport modalities, which lead to permanent CO_2 storage site that meet those criteria;

(c) appropriate leak detection systems are applied and a monitoring plan is in place, with the report verified by an independent third party;

(d) the activity may include the installation of assets that increase the flexibility and improve the management of an existing network.

The activity could be associated with several NACE codes, in particular F42.21 and H49.50 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([468]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([469]), scientific peer-reviewed publications and open source ([470]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([471]) or rely on blue or green infrastructure ([472]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	A monitoring plan is in place for CO_2 leakages.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A

([468]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([469]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([470]) Such as Copernicus services managed by the European Commission.

([471]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([472]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

5.12. **Underground permanent geological storage of CO_2**

Description of the activity

Permanent storage of captured CO_2 in appropriate underground geological formations.

The economic activities in this category could be associated with NACE code E39.00 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([473]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([474]), scientific peer-reviewed publications and open source ([475]) or paying models.

([473]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([474]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([475]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([476]) or rely on blue or green infrastructure ([477]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	A monitoring plan is in place for CO_2 leakages.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	The activity complies with Directive 2009/31/EC.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6. TRANSPORT

6.1. **Passenger interurban rail transport**

Description of the activity

Purchase, financing, rental, leasing and operation of passenger transport using railway rolling stock on mainline networks, spread over an extensive geographic area, passenger transport by interurban railways and operation of sleeping cars or dining cars as an integrated operation of railway companies.

The economic activities in this category could be associated with several NACE codes, in particular H49.10, N77.39 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

([476]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([477]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([478]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([479]), scientific peer-reviewed publications and open source ([480]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([481]) or rely on blue or green infrastructure ([482]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A

([478]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([479]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([480]) Such as Copernicus services managed by the European Commission.

([481]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([482]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, in particular during maintenance.
(5) Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.2. **Freight rail transport**

Description of the activity

Purchase, financing, leasing, rental and operation of freight transport on mainline rail networks as well as short line freight railroads.

The economic activities in this category could be associated with several NACE codes, in particular H49.20 and N77.39 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([483]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([483]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([484]), scientific peer-reviewed publications and open source ([485]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([486]) or rely on blue or green infrastructure ([487]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The trains and wagons are not dedicated to the transport of fossil fuels.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance.
(5) Pollution prevention and control	Engines for the propulsion of railway locomotives (RLL) and engines for the propulsion of railcars (RLR) comply with emission limits set out in Annex II to Regulation (EU) 2016/1628.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.3. **Urban and suburban transport, road passenger transport**

Description of the activity

Purchase, financing, leasing, rental and operation of urban and suburban transport vehicles for passengers and road passenger transport.

For motor vehicles, it includes operation of vehicles designated as category M2 or M3, in accordance with Article 4(1) of Regulation (EU) 2018/858, for the provision of passenger transport.

([484]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([485]) Such as Copernicus services managed by the European Commission.

([486]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([487]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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The economic activities in this category may include operation of different modes of land transport, such as by motor bus, tram, streetcar, trolley bus, underground and elevated railways. This also includes town-to-airport or town-to-station lines and operation of funicular railways and aerial cableways where part of urban or suburban transit systems.

The economic activities in this category also includes scheduled long-distance bus services, charters, excursions and other occasional coach services, airport shuttles (including within airports), operation of school buses and buses for the transport.

The economic activities in this category could be associated with several NACE codes, in particular H49.31, H49.3.9, N77.39 and N77.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([488]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([489]), scientific peer-reviewed publications and open source ([490]) or paying models.

([488]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([489]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([490]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([491]) or rely on blue or green infrastructure ([492]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A ([493])
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein).
(5) Pollution prevention and control	For road vehicles of categories M, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 and as can be verified from the European Product Registry for Energy Labelling (EPREL). Where applicable, vehicles comply with the requirements of the most recent applicable stage of the Euro VI heavy duty emission type-approval set out in accordance with Regulation (EC) No 595/2009.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.4. **Operation of personal mobility devices, cycle logistics**

Description of the activity

Selling, purchasing, leasing, renting and operation of personal mobility or transport devices where the propulsion comes from the physical activity of the user, from a zero-emissions motor, or a mix of zero-emissions motor and physical activity. This includes the provision of freight transport services by (cargo) bicycles.

([491]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([492]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([493]) Vehicles are required to comply with the criteria for DNSH to pollution prevention and control specified in this section, including as regards CO_2 emission levels.

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The economic activities in this category could be associated with several NACE codes, in particular N77.11 and N77.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([494]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([495]), scientific peer-reviewed publications and open source ([496]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([497]) or rely on blue or green infrastructure ([498]) to the extent possible;

([494]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([495]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([496]) Such as Copernicus services managed by the European Commission.

([497]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([498]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life including through reuse and recycling of batteries and electronics (in particular critical raw materials therein).
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.5. **Transport by motorbikes, passenger cars and commercial vehicles**

Description of the activity

Purchase, financing, leasing and operation of vehicles designated as category M1 ([499]), N1 ([500]) both falling under the scope of Regulation (EC) No 715/2007, or L (2- and 3-wheel vehicles and quadricycles) ([501]).

The economic activities in this category could be associated with several NACE codes, in particular H49.32, H49.39 and N77.11 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

([499]) As referred to in Article 4(1), point (a)(i), of Regulation (EU) 2018/858.
([500]) As referred to in Article 4(1), point (b)(i), of Regulation (EU) 2018/858.
([501]) As referred to in Article 4(1) of Regulation (EU) 2018/858.

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([502]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([503]), scientific peer-reviewed publications and open source ([504]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([505]) or rely on blue or green infrastructure ([506]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	For vehicles of categories M1 and N1, specific emissions of CO_2 defined in Article 3(1), point (h), of Regulation (EU) 2019/631 are not higher than the fleet-wide CO_2 emissions targets ([507]).

([502]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([503]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([504]) Such as Copernicus services managed by the European Commission.

([505]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([506]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([507]) Vehicles are required to comply with the criteria for DNSH to pollution prevention and control specified in this section, including as regards CO_2 emission levels.

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	The fleet-wide CO_2 emissions target values to be considered are: (a) until 31 December 2024: (i) for NEDC values, the target values as specified in Article 1, paragraphs 2-3 of Regulation (EU) 2019/631: 95 g CO_2/km for vehicles of category M1 and 147 g CO_2/km for vehicles of category N1; (ii) for WLTP values, the EU fleet-wide target 2021, as specified in Annex I to Regulation (EU) 2019/631, in Part A, point 6.0 for vehicles of category M1 and in Part B, point 6.0 for vehicles of category N1. Until the respective EU fleet-wide target 2021 is published, those vehicles of category M1 and N1 whose CO_2 emissions are only expressed according to WLTP test procedure will be applied a conversion factor of 1.21 and 1.24 respectively in order to account for the transition from NEDC to WLTP, resulting in the corresponding WLTP values of 115 g CO_2/km for vehicles of category M1 and 182 g CO_2/km for vehicles of category N1; (b) from 1 January 2025, the target values as specified in Article 1, paragraph 4 of Regulation (EU) 2019/631.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	Vehicles of categories M1 and N1 are both of the following: (a) reusable or recyclable to a minimum of 85 % by weight; (b) reusable or recoverable to a minimum of 95 % by weight ([508]). Measures are in place to manage waste both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein), in accordance with the waste hierarchy.
(5) Pollution prevention and control	Vehicles comply with requirements of the most recent applicable stage of the Euro 6 light-duty emission type-approval ([509]) set out in in accordance with Regulation (EC) No. 715/2007. Vehicles comply with the emission thresholds for clean light-duty vehicles set out in Table 2 of the Annex to Directive 2009/33/EC. For road vehicles of categories M and N, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 and as can be verified from the European Product Registry for Energy Labelling (EPREL). Vehicles comply with Regulation (EU) No 540/2014.

([508]) As set out in Annex I of Directive 2005/64/EC.
([509]) Commission Regulation (EU) 2018/1832.

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(6) Protection and restoration of biodiversity and ecosystems	N/A

6.6. **Freight transport services by road**

Description of the activity

Purchase, financing, leasing, rental and operation of vehicles designated as category N1, N2 ([510]) or N3 ([511]) falling under the scope of EURO VI ([512]), step E or its successor for freight transport services by road.

The economic activities in this category could be associated with several NACE codes, in particular H49.4.1, H53.10, H53.20 and N77.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

([510]) As referred to in Article 4(1), point (b)(ii), of Regulation (EU) 2018/858.
([511]) As referred to in Article 4(1), point (b)(iii), of Regulation (EU) 2018/858.
([512]) As set out in Regulation (EC) No 595/2009.

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(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([513]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([514]), scientific peer-reviewed publications and open source ([515]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([516]) or rely on blue or green infrastructure ([517]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	1. The vehicles are not dedicated to the transport of fossil fuels. 2. For vehicles of category N2 and N3 falling under the scope of Regulation (EU) 2019/1242, specific direct CO_2 emissions are equal to or lower than the reference CO_2 emissions of all vehicles in the same sub-group, as defined in Article 3 of that Regulation ([518]).
(3) Sustainable use and protection of water and marine resources	N/A

([513]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([514]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([515]) Such as Copernicus services managed by the European Commission.

([516]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([517]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([518]) All vehicles are required to comply with the criteria for DNSH to pollution prevention and control specified in this section, including as regards CO_2 emission levels.

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(4) Transition to a circular economy	Vehicles of category N1, N2 and N3 are both of the following: (a) reusable or recyclable to a minimum of 85 % by weight; (b) reusable or recoverable to a minimum of 95 % by weight ([519]). Measures are in place to manage waste both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein), in accordance with the waste hierarchy.
(5) Pollution prevention and control	For road vehicles of categories M and N, tyres comply with external rolling noise requirements in the highest populated class and with Rolling Resistance Coefficient (influencing the vehicle energy efficiency) in the two highest populated classes as set out in Regulation (EU) 2020/740 and as can be verified from the European Product Registry for Energy Labelling (EPREL). Vehicles comply with the requirements of the most recent applicable stage of the Euro VI heavy duty emission type-approval ([520]) set out in accordance with Regulation (EC) No 595/2009. Vehicles comply with Regulation (EU) No 540/2014.
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.7. **Inland passenger water transport**

Description of the activity

Purchase, financing, leasing, rental and operation of passenger vessels on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated with several NACE codes, in particular H50.30 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

([519]) As specified in Annex I to Directive 2005/64/EC.

([520]) Commission Regulation (EU) No 582/2011 of 25 May 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI) and amending Annexes I and III to Directive 2007/46/EC of the European Parliament and of the Council (OJ L 167, 25.6.2011, p. 1).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([521]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([522]), scientific peer-reviewed publications and open source ([523]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([524]) or rely on blue or green infrastructure ([525]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([521]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([522]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([523]) Such as Copernicus services managed by the European Commission.

([524]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([525]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein.
(5) Pollution prevention and control	Engines in vessels comply with the emission limits set out in Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.8. **Inland freight water transport**

Description of the activity

Purchase, financing, leasing, rental and operation of freight vessels on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated with several NACE codes, in particular H50.4 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([526]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([527]), scientific peer-reviewed publications and open source ([528]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([529]) or rely on blue or green infrastructure ([530]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The vessels are not dedicated to the transport of fossil fuels.

([526]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([527]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([528]) Such as Copernicus services managed by the European Commission.

([529]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([530]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein.
(5) Pollution prevention and control	Vessels comply with the emission limits of Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).
(6) Protection and restoration of biodiversity and ecosystems	N/A

6.9. **Retrofitting of inland water passenger and freight transport**

Description of the activity

Retrofit and upgrade of vessels for transport of freight or passengers on inland waters, involving vessels that are not suitable for sea transport.

The economic activities in this category could be associated with several NACE codes, in particular H50.4, H50.30 and C33.15 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

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(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([531]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([532]), scientific peer-reviewed publications and open source ([533]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([534]) or rely on blue or green infrastructure ([535]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The vessels are not dedicated to the transport of fossil fuels.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and the end-of-life of the vessel, in accordance with the waste hierarchy, including the control and management of hazardous materials on board of ships and ensuring their safe recycling.
(5) Pollution prevention and control	Vessels comply with the emission limits of Annex II to Regulation (EU) 2016/1628 (including vessels meeting those limits without type-approved solutions such as through after-treatment).

([531]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([532]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([533]) Such as Copernicus services managed by the European Commission.

([534]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([535]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(6) Protection and restoration of biodiversity and ecosystems	N/A

6.10. **Sea and coastal freight water transport, vessels for port operations and auxiliary activities**

Description of the activity

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for transport of freight or for the combined transport of freight and passengers on sea or coastal waters, whether scheduled or not. Purchase, financing, renting and operation of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers.

The economic activities in this category could be associated with several NACE codes, in particular H50.2, H52.22 and N77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([536]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([537]), scientific peer-reviewed publications and open source ([538]) or paying models.

([536]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([537]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([538]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([539]) or rely on blue or green infrastructure ([540]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The vessels are not dedicated to the transport of fossil fuels.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirements of Regulation (EU) No 1257/2013 relating to the inventory of hazardous materials on board. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Commission Decision 2016/2323. The activity complies with Directive (EU) 2019/883 as regards the protection of the marine environment against the negative effects from discharges of waste from ships. The ship is operated in accordance with Annex V to the IMO MARPOL Convention, in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.

([539]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([540]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802 and with Regulation 14 ([541]) of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([542]). As regards nitrogen oxides (NO_x) emissions, vessels comply with Regulation 13 ([543]) of Annex VI to the IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([544]). Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([545]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([546]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

([541]) (Version of 4.6.2021: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Sulphur-oxides-(SO_x)-%E2%80%93-Regulation-14.aspx).

([542]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.

([543]) (version of 4.6.2021: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Nitrogen-oxides-(NO_x)-–-Regulation-13.aspx°.

([544]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.

([545]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species, resolution MEPC.207(62).

([546]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

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6.11. **Sea and coastal passenger water transport**

Description of the activity

Purchase, financing, chartering (with or without crew) and operation of vessels designed and equipped for performing passenger transport, on sea or coastal waters, whether scheduled or not. The economic activities in this category include operation of ferries, water taxies and excursions, cruise or sightseeing boats.

The economic activities in this category could be associated with several NACE codes, in particular H50.10, N77.21 and N77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([547]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([548]), scientific peer-reviewed publications and open source ([549]) or paying models.

4. The adaptation solutions implemented:

([547]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([548]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([549]) Such as Copernicus services managed by the European Commission.

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(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([550]) or rely on blue or green infrastructure ([551]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirement of Regulation (EU) No 1257/2013 relating to the inventory of hazardous materials. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Commission Decision 2016/2323. The activity complies with Directive (EU) 2019/883 as regards the protection of the marine environment against the negative effects from discharges of waste from ships The ship is operated in accordance with Annex V to the IMO MARPOL Convention, in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.
(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802 and with Regulation 14 of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([552]).

([550]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services 5version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([551]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

([552]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.

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	As regards nitrogen oxides (NO_x) emissions, vessels comply with Regulation 13 of Annex VI to the IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([553]). Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([554]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([555]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

6.12. **Retrofitting of sea and coastal freight and passenger water transport**

Description of the activity

Retrofit and upgrade of vessels designed and equipped for the transport of freight or passengers on sea or coastal waters, and of vessels required for port operations and auxiliary activities, such as tugboats, mooring vessels, pilot vessels, salvage vessels and ice-breakers.

The economic activities in this category could be associated with NACE codes H50.10, H50.2, H52.22, C33.15, N77.21 and N.77.34 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([553]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.

([554]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species resolution MEPC.207(62).

([555]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

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Technical screening criteria

Substantial contribution to climate change mitigation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([556]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([557]), scientific peer-reviewed publications and open source ([558]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([559]) or rely on blue or green infrastructure ([560]) to the extent possible;

([556]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([557]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([558]) Such as Copernicus services managed by the European Commission.

([559]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([560]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(2) Climate change adaptation	The vessels are not dedicated to the transport of fossil fuels.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	Measures are in place to manage waste, both in the use phase and in the end-of-life of the vessel, in accordance with the waste hierarchy. For battery-operated vessels, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein. For existing ships above 500 gross tonnage and the new-built ones replacing them, the activity complies with the requirements of Regulation (EU) No 1257/2013 relating to the inventory of hazardous materials. The scrap ships are recycled in facilities included on the European List of ship recycling facilities as laid down in Commission Decision 2016/2323. The activity complies with Directive (EU) 2019/883 as regards the protection of the marine environment against the negative effects from discharges of waste from ships. The ship is operated in accordance with Annex V to the IMO MARPOL Convention, in particular with a view to producing reduced quantities of waste and to reducing legal discharges, by managing its waste in a sustainable and environmentally sound manner.
(5) Pollution prevention and control	As regards the reduction of sulphur oxides emissions and particulate matters, vessels comply with Directive (EU) 2016/802 and with Regulation 14 of Annex VI to the IMO MARPOL Convention. Sulphur in fuel content does not exceed 0,5 % in mass (the global sulphur limit) and 0,1 % in mass in emission control area (ECA) designated in the North and Baltic Seas by the IMO ([561]). As regards nitrogen oxides (NO_x) emissions, vessels comply with Regulation 13 of Annex VI to the IMO MARPOL Convention. Tier II NO_x requirement applies to ships constructed after 2011. Only while operating in NO_x emission control areas established under IMO rules, ships constructed after 1 January 2016 comply with stricter engine requirements (Tier III) reducing NO_x emissions ([562]).

([561]) As regards the extension of the requirements applying in Emission Control Area to other Union seas, countries bordering the Mediterranean Sea are discussing the creation of relevant ECA under the legal framework of the Barcelona Convention.

([562]) In Union seas, the requirement is applicable as of 2021 in the Baltic and North Seas.

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	Discharges of black and grey water comply with Annex IV to the IMO MARPOL Convention. Measures are in place to minimise toxicity of anti-fouling paint and biocides as laid down in Regulation (EU) No 528/2012, which implements in Union law the International Convention on the Control of Harmful Anti-fouling Systems on Ships adopted on 5 October 2001.
(6) Protection and restoration of biodiversity and ecosystems	Releases of ballast water containing non-indigenous species are prevented in line with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM). Measures are in place to prevent the introduction of non-indigenous species by biofouling of hull and niche areas of ships taking into account the IMO Biofouling Guidelines ([563]). Noise and vibrations are limited by using noise reducing propellers, hull design or on-board machinery in line with the guidance given in the IMO Guidelines for the Reduction of Underwater Noise ([564]). In the Union, the activity does not hamper the achievement of good environmental status, as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity), 2 (non-indigenous species), 6 (seabed integrity), 8 (contaminants), 10 (marine litter), 11 (Noise/Energy) and as set out in Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors, as applicable.

6.13. **Infrastructure for personal mobility, cycle logistics**

Description of the activity

Construction, modernisation, maintenance and operation of infrastructure for personal mobility, including the construction of roads, motorways bridges and tunnels and other infrastructure that are dedicated to pedestrians and bicycles, with or without electric assist.

The economic activities in this category could be associated with several NACE codes, in particular F42.11, F42.12, F42.13, F43.21, F711 and F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

([563]) IMO Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species resolution MEPC.207(62).

([564]) IMO Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life, (MEPC.1/Circ.833).

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([565]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([566]), scientific peer-reviewed publications and open source ([567]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([568]) or rely on blue or green infrastructure ([569]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([565]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([566]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([567]) Such as Copernicus services managed by the European Commission.

([568]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([569]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([570]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6.14. **Infrastructure for rail transport**

Description of the activity

Construction, modernisation, operation and maintenance of railways and subways as well as bridges and tunnels, stations, terminals, rail service facilities ([571]), safety and traffic management systems including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products.

The economic activities in this category could be associated with several NACE codes, in particular F42.12, F42.13, M71.12, M71.20, F43.21, and H52.21 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

([570]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

([571]) In accordance with Article 3, point (11) of Directive 34/2012/EU.

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(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([572]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([573]), scientific peer-reviewed publications and open source ([574]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([575]) or rely on blue or green infrastructure ([576]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The infrastructure is not dedicated to transportation or storage of fossil fuels. In case of new infrastructure or major renovation, the infrastructure has been climate proofed in accordance with the appropriate climate proofing practice that includes carbon footprinting and clearly defined shadow cost of carbon. Such carbon footprinting covers scope 1-3 emissions, and demonstrates that the infrastructure does not lead to additional relative greenhouse gas emissions, calculated on the basis of conservative assumptions, values and procedures.

([572]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([573]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([574]) Such as Copernicus services managed by the European Commission.

([575]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([576]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([577]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Where appropriate, given the sensitivity of the area affected, in particular in terms of the size of population affected, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers or other measures and comply with Directive 2002/49/EC. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6.15. **Infrastructure enabling road transport and public transport**

Description of the activity

Construction, modernisation, maintenance and operation of motorways, streets, roads, other vehicular and pedestrian ways, surface work on streets, roads, highways, bridges or tunnels and construction of airfield runways, including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products, and excludes the installation of street lighting and electrical signals.

The economic activities in this category could be classified under several NACE codes, in particular F42.11, F42.13, F71.1 and F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

([577]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([578]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([579]), scientific peer-reviewed publications and open source ([580]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([581]) or rely on blue or green infrastructure ([582]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([578]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([579]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([580]) Such as Copernicus services managed by the European Commission.

([581]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([582]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The infrastructure is not dedicated to transportation or storage of fossil fuels. In case of new infrastructure or major renovation, the infrastructure has been climate proofed in accordance with the appropriate climate proofing practice that includes carbon footprinting and clearly defined shadow cost of carbon. Such carbon footprinting covers scope 1-3 emissions, and demonstrates that the infrastructure does not lead to additional relative greenhouse gas emissions, calculated on the basis of conservative assumptions, values and procedures.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([583]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Where relevant, noise and vibrations from use of infrastructure are mitigated by introducing open trenches, wall barriers or other measures and comply with the Directive 2002/49/EC. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. Where relevant, maintenance of vegetation along road transport infrastructure ensures invasive species do not spread. Mitigation measures have been implemented to avoid wildlife collisions.

6.16. **Infrastructure for water transport**

Description of the activity

Construction, modernisation and operation of waterways, harbour and rivers works, pleasure ports, locks, dams and dykes and other, including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products and excludes project management activities related to civil engineering works.

([583]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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The economic activities in this category exclude dredging of waterways.

The economic activities in this category could be associated with several NACE codes, in particular F42.91, F71.1 or F71.20 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([584]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([585]), scientific peer-reviewed publications and open source ([586]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

([584]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([585]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([586]) Such as Copernicus services managed by the European Commission.

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(b) favour nature-based solutions ([587]) or rely on blue or green infrastructure ([588]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The infrastructure is not dedicated to transportation or storage of fossil fuels. In case of new infrastructure or major renovation, the infrastructure has been climate proofed in accordance with the appropriate climate proofing practice that includes carbon footprinting and clearly defined shadow cost of carbon. Such carbon footprinting covers scope 1-3 emissions, and demonstrates that the infrastructure does not lead to additional relative greenhouse gas emissions, calculated on the basis of conservative assumptions, values and procedures.
(3) Sustainable use and protection of water and marine resources	The activity complies with the provisions of Directive 2000/60/EC, in particular with all the requirements laid down in Article 4 of the Directive. In accordance with Article 4 of Directive 2000/60/EC and in particular paragraph 7 of that Article, prior to refurbishment/ construction, an impact assessment of the project is carried out to assess all its potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions. The assessment is based on recent, comprehensive and accurate data, including monitoring data on biological quality elements that are specifically sensitive to hydromorphological alterations, and on the expected status of the water body as a result of the new activities, as compared to its current one. It assesses, in particular, the cumulated impacts of this new project with other existing or planned infrastructure in the river basin. On the basis of that impact assessment, it has been established that the project is conceived, by design and location and by mitigation measures, so that it complies with one of the following requirements: (a) the project does not entail any deterioration nor compromises the achievement of good status or potential of the specific water body it relates to,

([587]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([588]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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	(b) where the project risks to deteriorate or compromise the achievement of good status/potential of the specific water body it relates to, such deterioration is not significant, and is justified by a detailed cost-benefit assessment demonstrating both of the following: (i) the overriding reasons in the public interest or the fact that the benefits expected from the planned navigation infrastructure project in terms of benefits to climate change mitigation/adaptation outweigh the costs from deteriorating the status of water that are accruing to the environment and to society (ii) the fact that the overriding public interest or the benefits expected from the activity cannot, for reasons of technical feasibility or disproportionate cost, be achieved by alternative means that would lead to a better environmental outcome (such as nature based solution, alternative location, rehabilitation/refurbishment of existing infrastructures, or use of technologies not disrupting river continuity). All technically feasible and ecologically relevant mitigation measures are implemented to reduce adverse impacts on water as well as on protected habitats and species directly dependent on water. Mitigation measures include, where relevant and depending on the ecosystems naturally present in the affected water bodies: (a) measures to ensure conditions as close as possible to undisturbed continuity (including measures to ensure longitudinal and lateral continuity, minimum ecological flow and sediment flow); (b) measures to protect or enhance morphological conditions and habitats for aquatic species; (c) measures to reduce adverse impacts of eutrophication. The effectiveness of those measures is monitored in the context of the authorisation or permit setting out the conditions aimed at achieving good status or potential of the affected water body. The project does not permanently compromise the achievement of good status/potential in any of the water bodies in the same river basin district. In addition to the mitigation measures referred to above, and where relevant, compensatory measures are implemented to ensure that the project does not result in overall deterioration of status of water bodies in the same river basin district. This is achieved by restoring (longitudinal or lateral) continuity within the same river basin district to an extent that compensates the disruption of continuity, which the planned navigation infrastructure project may cause. Compensation starts prior to the execution of the project.

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(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([589]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, vibration, dust and pollutant emissions during construction maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

6.17. **Airport infrastructure**

Description of the activity

Construction, modernisation and operation of infrastructure that is required for zero tailpipe CO_2 operation of aircraft or the airport's own operations, as well as for provision of fixed electrical ground power and preconditioned air to stationary aircraft.

The economic activities in this category could be classified under several NACE codes, in particular F41.20 and F42.99 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([589]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([590]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([591]), scientific peer-reviewed publications and open source ([592]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([593]) or rely on blue or green infrastructure ([594]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The infrastructure is not dedicated to transportation or storage of fossil fuels. In case of new infrastructure or major renovation, the infrastructure has been climate proofed in accordance with the appropriate climate proofing practice that includes carbon footprinting and clearly defined shadow cost of carbon. Such carbon footprinting covers scope 1-3 emissions, and demonstrates that the infrastructure does not lead to additional relative greenhouse gas emissions, calculated on the basis of conservative assumptions, values and procedures.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.

([590]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([591]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([592]) Such as Copernicus services managed by the European Commission.

([593]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([594]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material defined in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([595]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
(5) Pollution prevention and control	Measures are taken to reduce noise, vibration, dust and pollutant emissions during construction maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex.

7. CONSTRUCTION AND REAL ESTATE

7.1. **Construction of new buildings**

Description of the activity

Development of building projects for residential and non-residential buildings by bringing together financial, technical and physical means to realise the building projects for later sale as well as the construction of complete residential or non-residential buildings, on own account for sale or on a fee or contract basis.

The economic activities in this category could be associated with several NACE codes, in particular F41.1 and F41.2, including also activities under F43, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

([595]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

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(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([596]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([597]), scientific peer-reviewed publications and open source ([598]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([599]) or rely on blue or green infrastructure ([600]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels. The Primary Energy Demand (PED) ([601]) setting out the energy performance of the building resulting from the construction does not exceed the threshold set for the nearly zero-energy building (NZEB) requirements in national regulation implementing Directive 2010/31/EU. The energy performance is certified using an as built Energy Performance Certificate (EPC).

([596]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([597]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([598]) Such as Copernicus services managed by the European Commission.

([599]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([600]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

([601]) The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m_2 per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).

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(3) Sustainable use and protection of water and marine resources	Where installed, except for installations in residential building units, the specified water use for the following water appliances are attested by product datasheets, a building certification or an existing product label in the Union, in accordance with the technical specifications laid down in Appendix E to Annex I to this Regulation: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; (d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre. To avoid impact from the construction site, the activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([602]). Operators limit waste generation in processes related to construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887 ([603]) or other standards for assessing the disassembly or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantleable to enable reuse and recycling.
(5) Pollution prevention and control	Building components and materials used in the construction comply with the criteria set out in Appendix C to this Annex.

([602]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

([603]) ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance (version of 4.6.2021: https://www.iso.org/standard/69370.html).

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	Building components and materials used in the construction that may come into contact with occupiers ([604]) emit less than 0,06 mg of formaldehyde per m^3 of material or component upon testing in accordance with the conditions specified in Annex XVII to Regulation (EC) No 1907/2006 and less than 0,001 mg of other categories 1A and 1B carcinogenic volatile organic compounds per m^3 of material or component, upon testing in accordance with CEN/EN 16516 ([605]) or ISO 16000-3 ([606]) or other equivalent standardised test conditions and determination methods ([607]). Where the new construction is located on a potentially contaminated site (brownfield site), the site has been subject to an investigation for potential contaminants, for example using standard ISO 18400 ([608]). Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	The activity complies with the criteria set out in Appendix D to this Annex. The new construction is not built on one of the following: (a) arable land and crop land with a moderate to high level of soil fertility and below ground biodiversity as referred to in the EU LUCAS survey ([609]); (b) greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the European Red List ([610]) or the IUCN Red List ([611]); (c) land matching the definition of forest as set out in national law used in the national greenhouse gas inventory, or where not available, is in accordance with the FAO definition of forest ([612]).

7.2. **Renovation of existing buildings**

Description of the activity

Construction and civil engineering works or preparation thereof.

The economic activities in this category could be associated with several NACE codes, in particular F41 and F43 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([604]) Applying to paints and varnishes, ceiling tiles, floor coverings, including associated adhesives and sealants, internal insulation and interior surface treatments, such as those to treat damp and mold.

([605]) CEN/TS 16516: 2013, Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air.

([606]) ISO 16000-3:2011, Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method.

([607]) The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.

([608]) ISO 18400 series on Soil quality — Sampling

([609]) JRC ESDCA, LUCAS: Land Use and Coverage Area frame Survey (version of 4.6.2021: https://esdac.jrc.ec.europa.eu/projects/lucas).

([610]) IUCN, *The IUCN European Red List of Threatened Species (version of 4.6.2021:* https://www.iucn.org/regions/europe/our-work/biodiversity-conservation/european-red-list-threatened-species).

([611]) IUCN, *The IUCN Red List of Threatened Species (version of 4.6.2021:* https://www.iucnredlist.org).

([612]) Land spanning more than 0,5 hectares with trees higher than five meters and a canopy cover of more than 10 %, or trees able to reach those thresholds *in situ*. It does not include land that is predominantly under agricultural or urban land use.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([613]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([614]), scientific peer-reviewed publications and open source ([615]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([616]) or rely on blue or green infrastructure ([617]) to the extent possible;

([613]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([614]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([615]) Such as Copernicus services managed by the European Commission.

([616]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([617]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.
(3) Sustainable use and protection of water and marine resources	Where installed as part of the renovation works, except for renovation works in residential building units, the specified water use for the following water appliances is attested by product datasheets, a building certification or an existing product label in the Union, in accordance with the technical specifications laid down in Appendix E to Annex I to this Regulation: (a) wash hand basin taps and kitchen taps have a maximum water flow of 6 litres/min; (b) showers have a maximum water flow of 8 litres/min; (c) WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; (d) urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre.
(4) Transition to a circular economy	At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material referred to in category 17 05 04 in the European List of Waste established by Decision 2000/532/EC) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy and the EU Construction and Demolition Waste Management Protocol ([618]). Operators limit waste generation in processes related construction and demolition, in accordance with the EU Construction and Demolition Waste Management Protocol and taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887 ([619]) or other standards for assessing the disassembly or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantleable to enable reuse and recycling.

([618]) EU Construction and Demolition Waste Protocol (version of 4.6.2021: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en).

([619]) ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance (version of 4.6.2021: https://www.iso.org/standard/69370.html).

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(5) Pollution prevention and control	Building components and materials used in the construction complies with the criteria set out in Appendix C to this Annex. Building components and materials used in the building renovation that may come into contact with occupiers ([620]) emit less than 0,06 mg of formaldehyde per m^3 of material or component upon testing in accordance with the conditions specified in Annex XVII to Regulation (EC) No 1907/2006 and less than 0,001 mg of other categories 1A and 1B carcinogenic volatile organic compounds per m^3 of material or component, upon testing in accordance with CEN/EN 16516 or ISO 16000-3:2011 ([621]) or other equivalent standardised test conditions and determination methods. Measures are taken to reduce noise, dust and pollutant emissions during construction or maintenance works.
(6) Protection and restoration of biodiversity and ecosystems	N/A.

7.3. **Installation, maintenance and repair of energy efficiency equipment**

Description of the activity

Individual renovation measures consisting in installation, maintenance or repair of energy efficiency equipment. The economic activities in this category consist in one of the following individual measures, provided that they comply with minimum requirements set for individual components and systems in the applicable national measures implementing Directive 2010/31/EU and, where applicable, are rated in the highest two populated classes of energy efficiency in accordance with Regulation (EU) 2017/1369 and delegated acts adopted under that Regulation:

(a) addition of insulation to existing envelope components, such as external walls (including green walls), roofs (including green roofs), lofts, basements and ground floors (including measures to ensure air-tightness, measures to reduce the effects of thermal bridges and scaffolding) and products for the application of the insulation to the building envelope (including mechanical fixings and adhesive);

(b) replacement of existing windows with new energy efficient windows;

(c) replacement of existing external doors with new energy efficient doors;

(d) installation and replacement of energy efficient light sources;

(e) installation, replacement, maintenance and repair of heating, ventilation and air-conditioning (HVAC) and water heating systems, including equipment related to district heating services, with highly efficient technologies;

([620]) Applying to paints and varnishes, ceiling tiles, floor coverings (including associated adhesives and sealants), internal insulation and interior surface treatments (such as to treat damp and mould).

([621]) ISO 16000-3:2011, Indoor air — Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air — Active sampling method (version of 4.6.2021: https://www.iso.org/standard/51812.html).

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(f) installation of low water and energy using kitchen and sanitary water fittings which comply with technical specifications set out in Appendix A to Annex I to this Regulation and in case of shower solutions, mixer showers, shower outlets and taps have a max water flow of 6 L/min or less attested by an existing label in the Union market.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27, C28, S95.21, S95.22, C33.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([622]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([623]), scientific peer-reviewed publications and open source ([624]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

([622]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([623]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([624]) Such as Copernicus services managed by the European Commission.

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(b) favour nature-based solutions ([625]) or rely on blue or green infrastructure ([626]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(2) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	Building components and materials comply with the criteria set out in Appendix C to this Annex. In case of addition of thermal insulation to an existing building envelope, a building survey is carried out in accordance with national law by a competent specialist with training in asbestos surveying. Any stripping of lagging that contains or is likely to contain asbestos, breaking or mechanical drilling or screwing or removal of insulation board, tiles and other asbestos containing materials is carried out by appropriately trained personnel, with health monitoring before, during and after the works, in accordance with national law.
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.4. **Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)**

Description of the activity

Installation, maintenance and repair of charging stations for electric vehicles in buildings and parking spaces attached to buildings.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([625]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([626]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([627]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([628]), scientific peer-reviewed publications and open source ([629]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([630]) or rely on blue or green infrastructure ([631]) to the extent possible;

([627]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([628]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([629]) Such as Copernicus services managed by the European Commission.

([630]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([631]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(2) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.5. **Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings**

Description of the activity

Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings, consisting in one of the following measures:

(a) installation, maintenance and repair of zoned thermostats, smart thermostat systems and sensing equipment, including motion and day light control;

(b) installation, maintenance and repair of building automation and control systems, building energy management systems (BEMS), lighting control systems and energy management systems (EMS);

(c) installation, maintenance and repair of smart meters for gas, heat, cool and electricity;

(d) installation, maintenance and repair of façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, and C16, C17, C22, C23, C25, C27, C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

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2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([632]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([633]), scientific peer-reviewed publications and open source ([634]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([635]) or rely on blue or green infrastructure ([636]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

([632]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([633]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([634]) Such as Copernicus services managed by the European Commission.

([635]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([636]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(2) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.6. **Installation, maintenance and repair of renewable energy technologies**

Description of the activity

Installation, maintenance and repair of renewable energy technologies, on-site, consisting in one of the following individual measures, if installed on-site as technical building systems:

(a) installation, maintenance and repair of solar photovoltaic systems and the ancillary technical equipment;

(b) installation, maintenance and repair of solar hot water panels and the ancillary technical equipment;

(c) installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heat and cool in accordance with Directive (EU) 2018/2001 and the ancillary technical equipment;

(d) installation, maintenance and repair of wind turbines and the ancillary technical equipment;

(e) installation, maintenance and repair of solar transpired collectors and the ancillary technical equipment;

(f) installation, maintenance and repair of thermal or electric energy storage units and the ancillary technical equipment;

(g) installation, maintenance and repair of high efficiency micro CHP (combined heat and power) plant;

(h) installation, maintenance and repair of heat exchanger/recovery systems.

The economic activities in this category could be associated with several NACE codes, in particular F42, F43, M71, C16, C17, C22, C23, C25, C27 or C28, in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([637]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([638]), scientific peer-reviewed publications and open source ([639]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([640]) or rely on blue or green infrastructure ([641]) to the extent possible;

([637]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([638]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([639]) Such as Copernicus services managed by the European Commission.

([640]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([641]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(2) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

7.7. **Acquisition and ownership of buildings**

Description of the activity

Buying real estate and exercising ownership of that real estate.

The economic activities in this category could be associated with NACE code L68 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

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(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([642]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([643]), scientific peer-reviewed publications and open source ([644]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([645]) or rely on blue or green infrastructure ([646]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The building is not dedicated to extraction, storage, transport or manufacture of fossil fuels. For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class C. As an alternative, the building is within the top 30 % of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.

([642]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([643]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([644]) Such as Copernicus services managed by the European Commission.

([645]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([646]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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	For buildings built after 31 December 2020, the Primary Energy Demand (PED) ([647]) defining the energy performance of the building resulting from the construction does not exceed the threshold set for the nearly zero-energy building (NZEB) requirements in national regulation implementing Directive 2010/31/EU. The energy performance is certified using an as built Energy Performance Certificate (EPC).
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

8. INFORMATION AND COMMUNICATION

8.1. **Data processing, hosting and related activities**

Description of the activity

Storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of diversity of data through data centres ([648]), including edge computing.

The economic activities in this category could be associated with NACE code J63.1.1 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

([647]) The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m2 per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).

([648]) Data centres include the following equipment: ICT equipment and services; cooling; data centre power equipment; data centre power distribution equipment; data centre building; monitoring systems.

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(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([649]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([650]), scientific peer-reviewed publications and open source ([651]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([652]) or rely on blue or green infrastructure ([653]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

([649]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([650]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([651]) Such as Copernicus services managed by the European Commission.

([652]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([653]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The activity has demonstrated best efforts to implement the relevant practices listed as ‘expected practices’ in the most recent version of the European Code of Conduct on Data Centre Energy Efficiency ([654]), or in CEN-CENELEC document CLC TR50600-99-1 ‘Data centre facilities and infrastructures - Part 99-1: Recommended practices for energy management’ ([655]) and has implemented all expected practices that have been assigned the maximum value of 5 according to the most recent version of the European Code of Conduct on Data Centre Energy Efficiency.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	The equipment used meets the requirements laid down in Directive 2009/125/EC for servers and data storage products. The equipment used does not contain the restricted substances listed in Annex II to Directive 2011/65/EU, except where the concentration values by weight in homogeneous materials do not exceed the maximum values listed in that Annex. A waste management plan is in place and ensures maximal recycling at end of life of electrical and electronic equipment, including through contractual agreements with recycling partners, reflection in financial projections or official project documentation. At its end of life, the equipment undergoes preparation for re-use, recovery or recycling operations, or proper treatment, including the removal of all fluids and a selective treatment in accordance with Annex VII to Directive 2012/19/EU.
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([654]) The most recent version of the European Code of Conduct on Data Centre Energy Efficiency is the latest version published at the Joint Research Centre European Energy Efficiency Platform (E3P) website, https://e3p.jrc.ec.europa.eu/communities/data-centres-code-conduct, with a transition period of six months starting from the day of its publication (the 2021 version is available at https://e3p.jrc.ec.europa.eu/publications/2021-best-practice-guidelines-eu-code-conduct-data-centre-energy-efficiency).

([655]) Issued on 1 July 2019 by the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC), (version of 4.6.2021: https://www.cenelec.eu/dyn/www/f?p=104:110:508227404055501::::FSP_ORG_ID,FSP_PROJECT,FSP_LANG_ID:1258297,65095,25).

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8.2. **Computer programming, consultancy and related activities**

Description of the activity

Providing expertise in the field of information technologies: writing, modifying, testing and supporting software; planning and designing computer systems that integrate computer hardware, software and communication technologies; on-site management and operation of clients' computer systems or data processing facilities; and other professional and technical computer-related activities.

The economic activities in this category could be associated with NACE code J62 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([656]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([657]), scientific peer-reviewed publications and open source ([658]) or paying models.

([656]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([657]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([658]) Such as Copernicus services managed by the European Commission.

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4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([659]) or rely on blue or green infrastructure ([660]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

8.3. **Programming and broadcasting activities**

Description of the activity

Programming and broadcasting activities include creating content or acquiring the right to distribute content and subsequently broadcasting that content, such as radio, television and data programs of entertainment, news, talk, and the like, including data broadcasting, typically integrated with radio or TV broadcasting. The broadcasting can be performed using different technologies, over-the-air, via satellite, via a cable network or via Internet. This also includes the production of programs that are typically narrowcast in nature (limited format, such as news, sports, education, and youth-oriented programming) on a subscription or fee basis, to a third party, for subsequent broadcasting to the public.

The economic activities in this category could be associated with NACE code J60 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([659]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([660]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([661]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([662]), scientific peer-reviewed publications and open source ([663]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([664]) or rely on blue or green infrastructure ([665]) to the extent possible;

([661]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([662]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([663]) Such as Copernicus services managed by the European Commission.

([664]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([665]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

9. PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES

9.1. **Engineering activities and related technical consultancy dedicated to adaptation to climate change**

Description of the activity

Engineering activities and related technical consultancy dedicated to adaptation to climate change.

The economic activities in this category could be associated with NACE code M71.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/20061.

An economic activity in this category is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852 where it meets the technical screening criteria specified this section

Technical screening criteria

Substantial contribution to climate change adaptation
The economic activity is predominantly aimed at the provision of consultancy that helps one or more economic activities for which the technical screening criteria have been set out in this Annex to meet those respective criteria for substantial contribution to climate change adaptation, while respecting the relevant criteria for doing no significant harm to other environmental objectives.

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The economic activity complies with one the following criteria:

(a) it uses state-of-the-art modelling techniques that:

(i) properly reflect climate change risks;

(ii) do not rely only on historical trends;

(iii) integrate forward-looking scenarios;

(b) it develops climate models and projections, services and assessment of impacts, the best available science for vulnerability and risk analysis and related methodologies line with the most recent Intergovernmental Panel on Climate Change reports and scientific peer-reviewed publications.

The economic activity removes information, financial, technological and capacity barriers to adaptation.

The potential to reduce material impacts due to climate risks is mapped through a robust climate risk assessment in the target economic activity.

Activities in architectural design take into account climate proofing guidelines, climate-related hazards modelling and enable the adaptation of construction and infrastructure, including building codes and integrated management systems.

The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([666]) or rely on blue or green infrastructure ([667]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	The activity is not undertaken for the purposes of fossil fuel extraction or fossil fuel transport.
(3) Sustainable use and protection of water and marine resources	The activity complies with the criteria set out in Appendix B to this Annex.
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A

([666]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([667]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(6) Protection and restoration of biodiversity and ecosystems	N/A

9.2. **Close to market research, development and innovation**

Description of the activity

Research, applied research and experimental development of solutions, processes, technologies, business models and other products dedicated to climate change adaptation.

The economic activities in this category could be associated with NACE code M72 or for research that is an integral part of those economic activities for which technical screening criteria are specified in this Annex the NACE codes set out in other Sections of this Annex in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852 where it meets the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity researches, innovates or develops solutions, technologies, products, processes or business models, including nature based and nature inspired solutions ([668]), dedicated to enable one or more activities for which the technical screening criteria have been specified in this Annex to meet the respective criteria for substantial contribution to climate change adaptation to increase their climate-resilience, while respecting the relevant criteria for doing no significant harm to other environmental objectives.

2. Where the researched, developed or innovated technology, product or other solution already enables an activity or several activities addressed in this Annex to meet their technical screening criteria for substantial contribution, the research, development and innovation activity focuses on the delivery of technologies, products or other solutions with new significant advantages, such as better performance or lower cost.

3. The economic activity removes information, financial, technological and capacity barriers to adaptation through new or improved solutions, technologies, products, processes or business models, including nature based solutions.

4. The economic activity has the potential to reduce material impacts due to climate risks identified through a robust climate risk assessment in another economic activity through the development, research, or innovation of solutions, technologies, products, processes or business models, the risk reduction potential of which has at least been demonstrated in an operational environment ([669]) at pre-commercial scale and are further substantiated through at least one of the following elements:

(a) the first use of a patent not older than 10 years associated with the solution, technology, product, process or business model;

([668]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en).

([669]) Corresponding to at least Technology Readiness Level TRL 7 in accordance with Annex G of the General Annexes of HORIZON 2020 WORK PROGRAMME 2016– 2017, p. 29, satisfying at least the criteria for substantial contribution to climate change adaptation for the targeted activities.

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(b) other forms of intellectual property rights associated with the solution, technology, product, process or business model, such as trade secrets, trademarks or copyrights;

(c) a permit obtained from a competent authority for operating the demonstration site associated with the solution, technology, product, process or business model for the duration of the demonstration project.

5. The economic activity uses state-of-art climate projections and assessment of impacts, the best available science for vulnerability and risk analysis and related methodologies in accordance with the most recent Intergovernmental Panel on Climate Change reports and scientific peer-reviewed publications as a benchmark for the solutions, technologies, products, processes or business models it develops.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity is not undertaken for the purposes of fossil fuel extraction, transport or use.The projected life-cycle GHG emissions from the researched technology, product or other solution do not undermine GHG mitigation objectives under the Paris Agreement or hinder the deployment of climate mitigation solutions.
(3) Sustainable use and protection of water and marine resources	Any potential risks to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters from the researched technology, product or other solution are evaluated and addressed.
(4) Transition to a circular economy	Any potential risks to the circular economy objectives from the researched technology, product or other solution are evaluated and addressed, by considering the types of potential significant harm as set out in Article 17(1), point (d), of Regulation (EU) 2020/852.
(5) Pollution prevention and control	Any potential risks to generate a significant increase in the emissions of pollutants to air, water or land from the researched technology, product or other solution are evaluated and addressed.
(6) Protection and restoration of biodiversity and ecosystems	Any potential risks to the good condition or resilience of ecosystems or to the conservation status of habitats and species, including those of Union interest, from the researched technology, product or other solution are evaluated and addressed.

10. FINANCIAL AND INSURANCE ACTIVITIES

10.1. **Non-life insurance: underwriting of climate-related perils**

Description of the activity

Provision of the following insurance services (other than life insurance) as defined in Annex I of Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 ([670]) related to the underwriting of climate related perils set out in Appendix A to this Annex:

([670]) Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), (OJ L 12, 17.1.2015, p. 1).

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(a) medical expense insurance;

(b) income protection insurance;

(c) workers' compensation insurance;

(d) motor vehicle liability insurance;

(e) other motor insurance;

(f) marine, aviation and transport insurance;

(g) fire and other damage to property insurance;

(h) assistance.

The economic activities in this category could be associated with NACE code K65.12 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852 where it meets the technical screening criteria set out in this section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. *Leadership in modelling and pricing of climate risks:*

1.1. The insurance activity uses state-of-the-art modelling techniques that:

(a) properly reflect climate change risks;

(b) do not only rely on historical trend;

(c) integrate forward-looking scenarios.

1.2. The insurer publicly discloses how the climate change risks are considered in the insurance activity.

1.3. With the exception of legal restrictions on contractual conditions and insurance premiums, the insurance activity provides incentives for risk reduction by setting out the (pre)-conditions for the insurance coverage of risk and by acting as a price signal of risk. For the purpose of this point, reduced premiums or deductibles, possibly based on supportive information on existing/possible actions, to policyholders who protect an asset or activity against natural catastrophes damages may be considered an incentive for risk reduction.

1.4. After a climate risk event, the insurer provides information on the conditions under which coverage under the insurance activity could be renewed or maintained and in particular the benefits of building better in that context.

2. *Product design:*

2.1. Insurance products sold under the insurance activity offer risk-based rewards for preventive actions taken by policyholders.

For the purpose of this point, where a policyholder has invested in adaptation measures, lower premiums may be considered as a risk-based reward for preventive actions taken by policyholders.

By way of derogation from this point, where legal restrictions on contractual conditions and insurance premiums prevent the insurance or reinsurance company from providing risk-based rewards, insurance products may instead provide to customers measures in relation to an asset, an activity, or people that prevent or protect against natural catastrophes. Such measures may be provided as information or advice to customers on climate risks and preventive measures that customers could take.

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2.2. The distribution strategy for such products covers measures to ensure that policyholders are informed on the relevance of preventive measures that they could take, for the terms and conditions of the insurance coverage, including any impact of such measures on the insurance coverage or the premium level.

3. *Innovative insurance coverage solutions:*

3.1. Insurance products sold under the insurance activity offer coverage for the climate-related perils ([671]) where the demands and needs of policyholders require so.

3.2. Depending on the demands and needs of individual customers, products may include specific risk transfer solutions such as protection against business interruption, contingent business interruption, other non-physical damage-related loss factors, cascading effects and interdependencies of hazards (secondary perils), cascading impacts of interacting natural and technological hazards, critical infrastructure failures.

4. *Data sharing:*

4.1. With due regard to Regulation (EU) 2016/679 of the European Parliament and of the Council ([672]), a significant share of loss data related to insurer's activity is made available, free of charge, to one or several public authorities for the purpose of analytical research. Those public authorities declare to use the data for purposes of enhancing adaptation to climate change by the society in a region, country or internationally and the insurer provides the data at a level of granularity sufficient for the use declared by the respective public authorities.

4.2. Where the insurer is not yet sharing such data with a public authority for the aforementioned purpose, it has declared the intention to make its data available, free of charge, to interested third parties and has indicated under which conditions such data can be shared. That declaration of intention to share available data is easily accessible, including on the insurer's website, for relevant public authorities.

5. *High level of service in post-disaster situation:*

Claims under insurance activity, both ongoing and those from large-scale loss events resulting from climate risks, are processed fairly with respect to customers, in accordance with high handling standards for claims and in timely fashion in line with applicable law and there has been no failure to do so in the context of recent large-scale loss events. Information as regards procedures on additional measures in case of large-scale loss events is publicly available.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The activity does not include insurance of the extraction, storage, transport or manufacture of fossil fuels or insurance of vehicles, property or other assets dedicated to such purposes.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([671]) See Appendix A.

([672]) Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), (OJ L 119, 4.5.2016, p. 1).

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10.2. **Reinsurance**

Description of the activity

Coverage of risks stemming from climate-related perils set out in Appendix A to this Annex ceded by the insurer to the reinsurer. The coverage is set out in an agreement between insurer and reinsurer specifying the insurers' products ('underlying product') from which the ceded risks originate. A reinsurance intermediary ([673]) may be involved in the preparation or conclusion of the contractual agreement between the insurer and the reinsurer.

The economic activities in this category could be associated with NACE code K65.20 in accordance with to the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

An economic activity in this category is an enabling activity as referred to in Article 11(1) point (b) of Regulation (EU) 2020/852 where it meets the technical screening criteria set out this section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. *Leadership in modelling and pricing of climate risks:*

1.1. The reinsurance activity uses state-of-the-art modelling techniques that:

(a) are used to properly reflect in the premium level the exposure, hazard and vulnerability to climate change risks as well as actions taken by the policyholder of the insurer to protect the insured asset or activity against those risks, where such information is provided by the insurer to the reinsurer;

(b) do not only rely on historical trends;

(c) integrate forward-looking scenarios.

1.2. The reinsurer discloses publicly how the risks stemming from climate-related perils are considered in the reinsurance activity.

2. *Supporting development and supply of enabling non-life reinsurance products:*

2.1. The reinsurance activity's underlying products cover risks stemming from climate-related perils and reward, in a risk-based manner and without prejudice to legal restrictions on contractual conditions and insurance premiums, preventive actions taken by the insurer's policyholders.

2.2. The reinsurance activity complies with one or more of the following criteria:

(a) where desired by the insurer, the reinsurer engages with the insurer, either directly or via a reinsurance intermediary, during the development of the underlying product by:

(i) discussing possible reinsurance solutions that the reinsurer is willing to offer in relation to that product. The final product is brought to market using one of the reinsurance solutions that were discussed with the reinsurer during the product development phase;

(ii) providing data or other technical advice enabling the insurer to price the coverage for risks stemming from climate-related perils as well as risk-based rewards for preventive actions taken by the insurer's policyholders;

([673]) As defined in Art. 2, point (5), of Directive (EU) 2016/97 of the European Parliament and of the Council of 20 January 2016 on insurance distribution, (OJ L 26, 2.2.2016, p. 19).

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(b) the insurer would likely reduce or discontinue its coverage under the underlying product without the reinsurance agreement or a comparable reinsurance agreement in place;

(c) the reinsurer provides, as part of the business relationship with the insurer or the reinsurance intermediary, data or other technical advice or both enabling the insurer to offer coverage of risks stemming from climate-related perils and the coverage allows for risk-based rewards for preventive actions taken by the insurer's policyholders.

2.3. Where a reinsurance product applies at the level of a portfolio of underlying products, only a share of the reinsurance activity's underlying products may cover risks stemming from climate- related perils and reward, in a risk-based manner, preventive actions taken by the insurer's policyholders for the purpose of point 2.1. In that case, the reinsurer is able to identify the share of reinsurance premiums that relate to those underlying products.

3. *Innovative reinsurance coverage solutions:*

3.1. Reinsurance products sold under the reinsurance activity offer coverage for risks stemming from climate-related perils where the demands and needs of the insurer's clients, based on the underlying products, require so. Such insurance products appropriately reflect risk-based rewards for preventive actions taken by the insurer's policyholders.

3.2. Depending on the demands and needs of the individual customers of the insurer, reinsurance products may include specific risk transfer solutions which may include protection against business interruption, contingent business interruption, other non-physical damage-related loss factors, cascading effects and inter-dependencies of hazards (secondary perils), cascading impacts of interacting natural and technological hazards or critical infrastructure failures.

4. *Data sharing:*

4.1. With due regard to Regulation (EU) 2016/679, a significant share of loss data related to the reinsurer's activity is made available, free of charge, to one or several public authorities for the purpose of analytical research. The public authorities declare to use the data for purposes of enhancing adaptation to climate change by the society in a region, country or internationally and the reinsurer provides the data at a level of granularity sufficient for the use declared by the respective public authorities.

4.2. Where the reinsurer is not yet sharing such data with a public authority for the aforementioned purpose, it has declared the intention to make its data available, free of charge, to interested third parties and has indicated under which conditions such data can be shared. That declaration of intention to share available data is easily accessible, including on the reinsurer's website, for relevant public authorities.

5. *High level of service in post-disaster situation:*

Claims under the reinsurance activity, both ongoing and those from large-scale loss events resulting from risks stemming from climate-related perils, are processed fairly with respect to customers, in accordance with high handling standards for claims and in timely fashion in line with applicable law and there has been no failure to do so in the context of recent large-scale loss events. Where appropriate, the reinsurer supports the insurer or the reinsurance intermediary in assessing the claims from the underlying product. Information as regards procedures on additional measures by the reinsurer in case of large-scale loss events is publicly available.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	The reinsurance activity does not cover cession of insurance of the extraction, storage, transport or manufacture of fossil fuels or the cession of insurance of vehicles, property or other assets dedicated to such purposes.
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A

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(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

11. EDUCATION

Description of the activity

Public or private education at any level or for any profession. The instructions may be oral or written and may be provided by radio, television, internet or via correspondence. It includes education by the different institutions in the regular school system at its different levels as well as adult education and literacy programmes, including military schools, academies and prison schools at their respective levels.

The economic activities in this category could be associated with NACE code P85 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([674]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

([674]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

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3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([675]), scientific peer-reviewed publications and open source ([676]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([677]) or rely on blue or green infrastructure ([678]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

([675]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([676]) Such as Copernicus services managed by the European Commission.

([677]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([678]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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12. HUMAN HEALTH AND SOCIAL WORK ACTIVITIES

12.1. **Residential care activities**

Description of the activity

Provision of residential care combined with either nursing, supervisory or other types of care as required by the residents. Facilities are a significant part of the production process and the care provided is a mix of health and social services with the health services being largely some level of nursing services.

The economic activities in this category could be associated with NACE code Q87 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([679]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([680]), scientific peer-reviewed publications and open source ([681]) or paying models.

4. The adaptation solutions implemented:

([679]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([680]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([681]) Such as Copernicus services managed by the European Commission.

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(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([682]) or rely on blue or green infrastructure ([683]) to the extent possible;

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	A waste management plan is in place and ensures (1) the safe and environmentally-sound handling of hazardous waste (in particular toxic or infectious waste) and pharmaceuticals and (2) maximal re-use or recycling of non-hazardous waste, including through contractual agreements with waste management partners.
(6) Protection and restoration of biodiversity and ecosystems	N/A

13. ARTS, ENTERTAINMENT AND RECREATION

13.1. **Creative, arts and entertainment activities**

Description of the activity

Creating, arts and entertainment activities include the provision of services to meet the cultural and entertainment interests of their customers. This includes the production and promotion of, and participation in, live performances, events or exhibits intended for public viewing and the provision of artistic, creative or technical skills for the production of artistic products and live performances. These activities exclude the operation of museums of all kinds, botanical and zoological gardens, the preservation of historical sites and nature reserves activities, gambling and betting activities as well as sports and amusement and recreation activities.

The economic activities in this category could be associated with NACE code R90 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

([682]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([683]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions ('adaptation solutions') that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([684]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([685]), scientific peer-reviewed publications and open source ([686]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([687]) or rely on blue or green infrastructure ([688]) to the extent possible;

([684]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([685]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([686]) Such as Copernicus services managed by the European Commission.

([687]) Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([688]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe's Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

13.2. **Libraries, archives, museums and cultural activities**

Description of the activity

Libraries, archives, museums and cultural activities includes the activities of libraries and archives, the operation of museums of all kinds, botanical and zoological gardens, the operation of historical sites and nature reserves activities. These activities also include the preservation and exhibition of objects, sites and natural wonders of historical, cultural or educational interest, including world heritage sites. These activities exclude sports and amusement and recreation activities such as the operation of bathing beaches and recreation parks.

The economic activities in this category could be associated with NACE code R91 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([689]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([690]), scientific peer-reviewed publications and open source ([691]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([692]) or rely on blue or green infrastructure ([693]) to the extent possible;

([689]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([690]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([691]) Such as Copernicus services managed by the European Commission.

([692]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([693]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with one of the following primary objectives:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm ('DNSH')	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

13.3. **Motion picture, video and television programme production, sound recording and music publishing activities**

Description of the activity

Motion picture, video and television programme production, sound recording and music publishing activities include the production of theatrical and non-theatrical motion pictures whether on film, video tape or disc for direct projection in theatres or for broadcasting on television, supporting activities such as film editing, cutting or dubbing, distribution of motion pictures and other film productions to other industries as well as motion picture or other film productions projection. Buying and selling of motion picture or other film productions distribution rights is also included. These activities also include the sound recording activities, including the production of original sound master recordings, releasing, promoting and distributing them, publishing of music as well as sound recording service activities in a studio or elsewhere.

The economic activities in this category could be associated with NACE code J59 in accordance with the statistical classification of economic activities established by Regulation (EC) No 1893/2006.

Where an economic activity in this category complies with the substantial contribution criterion specified in point 5, the activity is an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, provided that it meets the technical screening criteria set out in this Section.

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Technical screening criteria

Substantial contribution to climate change adaptation

1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

(a) screening of the activity to identify which physical climate risks from the list in Appendix A to this Annex may affect the performance of the economic activity during its expected lifetime;

(b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Appendix A to this Annex, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;

(c) an assessment of adaptation solutions that can reduce the identified physical climate risk.

The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:

(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;

(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios ([694]) consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.

3. The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports ([695]), scientific peer-reviewed publications and open source ([696]) or paying models.

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions ([697]) or rely on blue or green infrastructure ([698]) to the extent possible;

([694]) Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

([695]) Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/reports/.

([696]) Such as Copernicus services managed by the European Commission.

([697]) Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of 4.6.2021: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).

([698]) See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Green Infrastructure (GI) — Enhancing Europe’s Natural Capital (COM/2013/0249 final).

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(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.

5. In order for an activity to be considered as an enabling activity as referred to in Article 11(1), point (b), of Regulation (EU) 2020/852, the economic operator demonstrates, through an assessment of current and future climate risks, including uncertainty and based on robust data, that the activity provides a technology, product, service, information, or practice, or promotes their uses with the primary objectives of:

(a) increasing the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; or

(b) contributing to adaptation efforts of other people, of nature, of cultural heritage, of assets and of other economic activities.

Do no significant harm (‘DNSH’)	
(1) Climate change mitigation	N/A
(3) Sustainable use and protection of water and marine resources	N/A
(4) Transition to a circular economy	N/A
(5) Pollution prevention and control	N/A
(6) Protection and restoration of biodiversity and ecosystems	N/A

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Appendix A

CLASSIFICATION OF CLIMATE-RELATED HAZARDS [1]

	Temperature-related	Wind-related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	Permafrost thawing		Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

[1] The list of climate-related hazards in this table is non-exhaustive, and constitutes only an indicative list of most widespread hazards that are to be taken into account as a minimum in the climate risk and vulnerability assessment.

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Appendix B

GENERIC CRITERIA FOR DNSH TO SUSTAINABLE USE AND PROTECTION OF WATER AND MARINE RESOURCES

Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC ([1]) and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders. Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.

([1]) For activities in third countries, in accordance with applicable national law or international standards which pursue equivalent objectives of good water status and good ecological potential, through equivalent procedural and substantive rules, i.e. a water use and protection management plan developed in consultation with relevant stakeholders which ensures that 1) the impact of the activities on the identified status or ecological potential of potentially affected water body or bodies is assessed and 2) deterioration or prevention of good status/ecological potential is avoided or, where this is not possible, 3) justified by the lack of better environmental alternatives which are not disproportionately costly/technically unfeasible, and all practicable steps are taken to mitigate the adverse impact on the status of the body of water.

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Appendix C

GENERIC CRITERIA FOR DNSH TO POLLUTION PREVENTION AND CONTROL REGARDING USE AND PRESENCE OF CHEMICALS

The activity does not lead to the manufacture, placing on the market or use of:

(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021, except in the case of substances present as an unintentional trace contaminant;

(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852;

(c) substances, whether on their own, in mixture or in articles, listed in Annex I or II to Regulation (EC) No 1005/2009;

(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU, except where there is full compliance with Article 4(1) of that Directive;

(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006, except where there is full compliance with the conditions specified in that Annex;

(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;

(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.

▼B

Appendix D

GENERIC CRITERIA FOR DNSH TO PROTECTION AND RESTORATION OF BIODIVERSITY AND ECOSYSTEMS

An Environmental Impact Assessment (EIA) or screening [1] has been completed in accordance with Directive 2011/92/EU [2].
Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.
For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment [3], where applicable, has been conducted and based on its conclusions the necessary mitigation measures [4] are implemented.

[1] The procedure through which the competent authority determines whether projects listed in Annex II to Directive 2011/92/EU is to be made subject to an environmental impact assessment (as referred to in Article 4(2) of that Directive).

[2] For activities in third countries, in accordance with equivalent applicable national law or international standards requiring the completion of an EIA or screening, for example, IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks.

[3] In accordance with Directives 2009/147/EC and 92/43/EEC. For activities located in third countries, in accordance with equivalent applicable national law or international standards, that aim at the conservation of natural habitats, wild fauna and wild flora, and that require to carry out (1) a screening procedure to determine whether, for a given activity, an appropriate assessment of the possible impacts on protected habitats and species is needed; (2) such an appropriate assessment where the screening determines that it is needed, for example IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.

[4] Those measures have been identified to ensure that the project, plan or activity will not have any significant effects on the conservation objectives of the protected area.