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PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

**Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate
Change**

{SEC(2021) 89 final} - {SWD(2021) 25 final} - {SWD(2021) 26 final}

1. THE REALITY OF CLIMATE CHANGE IMPACTS – THE NEED TO ACT NOW

Climate change is happening today, so we have to build a more resilient tomorrow. The world has just concluded the hottest decade on record during which the title for the hottest year was beaten eight times. People, planet and prosperity are vulnerable to climate change, so we need to prevent the un-adaptable and adapt to the un-preventable¹. And we must do it faster, and in a smarter and more systemic way. The severe effects of the COVID-19 pandemic on our health and socio-economic wellbeing are a stark warning of the dangers of insufficient preparation. The choices we make today must create a better world.

Halting all greenhouse gas emissions would still not prevent the climate impacts that are already occurring. These will continue for decades, even if global and European efforts to cut greenhouse gas emissions prove effective. Even drastic temporary decreases of emissions, like those caused by the 2008 financial crisis or the economic disruption from the COVID-19 pandemic, have little effect on the overall trajectory of global warming. Major international commitments to reach climate neutrality are increasing the likelihood of a best-case scenario, but even in that case, substantial adaptation efforts would still be required.

The frequency and severity of climate and weather extremes is increasing². This has caused a surge in the number of, and damages from, disasters over the last two decades³. These extremes range from unprecedented forest fires and heatwaves right above the Arctic Circle to devastating droughts in the Mediterranean region; and from hurricanes ravaging EU outermost regions to forests decimated by unprecedented bark beetle outbreaks in Central and Eastern Europe. Slow onset events, such as desertification, loss of biodiversity, land and ecosystem degradation, ocean acidification or sea level rise are equally destructive over the long term.

Climate change impacts are having far-reaching effects inside and outside the Union. Water shortages in the EU have affected economic activities as diverse as agriculture, aquaculture, tourism, power plant cooling, and cargo shipping on rivers. It affects not only the economy, but also the health and well-being of Europeans, who increasingly suffer from heat waves (globally, the deadliest disaster of 2019 was the European heatwave with 2500 deaths). It also poses risks to food security, worsens existing social inequalities and threatens cultural heritage. The EU already is, and will increasingly be, affected by climate impacts outside Europe through cascading and spillover effects on trade or migration. This makes international climate resilience⁴ not only a matter of solidarity, but also of open strategic autonomy and self-interest for the EU and its Member States.

Economic losses from more frequent climate-related extreme events are increasing. In the EU, these losses already average over EUR 12 billion per year. Conservative, lower bound estimates show that exposing today's EU economy to global warming of 3°C above pre-industrial levels would result in an annual loss of at least EUR 170 billion (1.36% of EU GDP⁵). Slow onset sea level rise is also an increasing worry for coastal areas, which produce

¹ Adaptation is the process of adjustment to actual or expected climate and its effects ([IPCC AR5](#)). It is not a one-time emergency response, but a series of proactive measures to deal with the nexus of hazard (e.g. drought, sea level rise), exposure (e.g. less water in the South), and vulnerability (e.g. poverty or lack of education). Complications (and danger) arise from tipping points (i.e. thresholds in the rate of climate change) like permafrost melting, sea-ice loss, or massive forest dieback.

² <https://www.eea.europa.eu/highlights/soer2020-europes-environment-state-and-outlook-report>

³ <https://www.undrr.org/news/rrday-un-report-charts-huge-rise-climate-disasters>

⁴ For a discussion on the articulation between adaptation and resilience, see [IPCC](#).

⁵ <https://ec.europa.eu/jrc/en/peseta-iv/economic-impacts>

~ 40% of the EU GDP and are home to ~40% of its population. Losses are distributed unevenly, harming regions that may already face challenges like low growth or high youth unemployment.

Europe is rising to meet the climate challenge. The EU committed to climate neutrality by 2050 and a more ambitious emissions reduction target of at least 55% by 2030, compared to 1990. A climate emergency has been recognised by the European Parliament, by several Member States, and by over 300 cities. The European Council has concluded that climate change is “an existential threat”. The EU endorsed the 2020 Leaders’ Pledge for Nature⁶, to tackle jointly the climate and biodiversity crises. The focus on the green transition in the Recovery and Resilience Facility and the next generation Cohesion Policy programmes provides an opportunity to frontload investments and reforms that can help increase resilience to climate shocks as well as accelerate the decarbonisation of the economy. For the private sector, the EU taxonomy for sustainable activities will provide the framework to facilitate climate-resilient investments. At individual level, over 93% of Europeans consider that climate change is a serious problem, and 70% agree that adapting to climate change is positive.

The importance of adaptation is increasingly recognised globally – but multiple reports highlight the lack of preparedness⁷. Extreme weather events and their impacts have an almost constant presence in the media, and their increased intensity and frequency due to climate change features at the top of the global public agenda. The Global Commission on Adaptation highlighted adaptation solutions as often being “no regret”, i.e. worth pursuing regardless of the ultimate climate path. This is due to their multiple co-benefits, particularly for nature-based solutions and disaster risk prevention, and the “triple dividend” of adaptation: avoiding future human, natural and material losses; generating economic benefits by reducing risks, increasing productivity, and stimulating innovation; and the social, environmental and cultural benefits.

Box 1: The example of droughts

Due to the changing climate, many European regions are already facing more frequent, severe, and longer lasting droughts. Droughts⁸ can have cascading effects; for example, they reduce water levels in rivers and ground water, stunt tree and crop growth, increase pest attacks and fuel wildfires. In Europe, most of the losses caused by drought (~EUR 9 billion/year) affect agriculture, the energy sector and the public water supply. Extreme droughts in western and central Europe in 2018, 2019 and 2020 caused considerable damage. In 2018 alone, agricultural damages amounted to some EUR 2 billion in France, EUR 1.4 billion in the Netherlands, and EUR 770 million in Germany. With global warming at 3°C, droughts would happen twice as often and the absolute annual drought losses in Europe would increase to EUR 40 billion/year, with the most severe impacts in the Mediterranean and Atlantic Regions⁹.

The EU may respond to droughts with short-term emergency measures under the Union Civil Protection Mechanism, and EU-wide early warning systems are in place. Member States are implementing integrated river basin management through the Water Framework Directive, and some have adopted Drought Management Plans for vulnerable river basins. Given that

⁶ <https://www.leaderspledgefornature.org/>

⁷ [Adaptation Gap Report 2020](#), Global Commission on Adaptation reports [Adapt Now](#) and [State and trends in adaptation 2020](#).

⁸ A drought is an *unusual* and *temporary* deficit in water availability, whether atmospheric, surface water or ground water.

⁹ PESETA IV report <https://ec.europa.eu/jrc/en/peseta-iv/droughts>

in the longer term, almost all river basins could be exposed, organisational and technical adaptation solutions are required. This includes in agriculture the sustainable (re-)use of water, soil management and vegetation cover, drought resistant crops, vertical farming, or even land use planning and restoration of damaged areas. In energy and transport, this includes preparing for disruptions on particular waterways with freight transport, hydropower and cooling for power plants¹⁰. For drinking water, promoting residential water saving, or additional supply and storage infrastructure.

2. FORGING A CLIMATE-RESILIENT UNION

The European Green Deal, the EU's growth strategy for a sustainable future, is predicated on the realisation that the green transformation is an opportunity and that failure to act has a huge cost. It shows EU leadership in preventing the worst, by committing to climate neutrality, and in preparing better, by pointing to more ambitious adaptation action that builds on the 2013 EU Adaptation Strategy¹¹.

The long-term vision is that in 2050, the EU will be a climate-resilient society, fully adapted to the unavoidable impacts of climate change. This means that by 2050, when we aim to have reached climate neutrality, we will have reinforced adaptive capacity and minimised vulnerability to climate impacts, in line with the Paris Agreement and the proposed European Climate Law¹².

The European Climate Law proposal provides the foundation for increased ambition and policy coherence on adaptation. It sets both the framework for achieving climate neutrality and the ambition on adaptation by 2050 by integrating the internationally-shared vision for action into EU law (i.e. the global goal on adaptation in Article 7 of the Paris Agreement and Sustainable Development Goal 13). The proposal commits the EU and its Member States to make continuous progress to boost adaptive capacity, strengthen resilience and reduce vulnerability to climate change. The new adaptation strategy is showing the way and providing the solutions to help make this progress a reality. Given the systemic nature of adaptation policy, adaptation action will be implemented in an integrated manner with other European Green Deal initiatives such as the Biodiversity Strategy, Renovation Wave, Farm to Fork Strategy, the Circular Economy and Zero Pollution Action Plans, Forest Strategy, Soil Strategy, Smart and Sustainable Mobility Strategy, and Renewed Sustainable Finance Strategy.

The EU has already taken action to boost its resilience over the past years under the 2013 Adaptation Strategy¹³. All Member States now have a national adaptation strategy or plan; adaptation has been mainstreamed into the EU's policies and long-term budget; and the Climate-ADAPT platform¹⁴ has become a key reference for knowledge on adaptation. The Global Commission on Adaptation recognised the EU as a pioneer in integrating considerations of climate risk into decision-making¹⁵. This new strategy builds on that experience, increases ambition, and expands to cover new areas and priorities.

Member States will continue to be the main implementation partners - and more ambitious and more proactive EU-level action will help them meet their adaptation needs. The need for more EU-level support is substantiated by the accompanying impact

¹⁰ <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/water-energy-nexus-europe>

¹¹ An EU Strategy on adaptation to climate change [COM\(2013\)216 final](#).

¹² European Climate Law [COM/2020/80 final](#)

¹³ Evaluation of the EU Strategy on adaptation to climate change, [SWD/2018/461 final](#)

¹⁴ <https://climate-adapt.eea.europa.eu/>

¹⁵ <https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/>

assessment¹⁶. Even if adaptation challenges are local and specific, solutions are often widely transferable and applicable on a regional, national or transnational scale. Many climate change impacts have a strong cross-border dimension (e.g. in the Arctic region, macro-regions, or river basins), or international dimension (EU outermost regions and Overseas Countries and Territories) and there are EU-specific impacts on the Single Market. Solidarity across and within Member States is essential to achieving resilience in a just and fair way. The Commission will work closely with Member States on the implementation of this strategy, and to better align international and EU adaptation action. Regional and local-level adaptation will also benefit, while the European Climate Pact¹⁷ will empower individual citizens, who will play a key role in the success of the adaptation strategy¹⁸.

The gravity of the adaptation challenge makes it a whole-government and whole-society endeavour. It is vital for the private and public sectors to work together more closely, in particular on financing adaptation. The strategy, with the focus and the tools it provides, will support the private sector to identify risks and steer investment towards action on adaptation and resilience (and avoid maladaptation). By offering solutions to help meet the rising awareness of climate impacts (such as the non-financial disclosure obligations, the EU taxonomy for sustainable activities and the Renewed Sustainable Finance Strategy), it will help large companies, SMEs, local administrations, social partners, and the public. It will also help correct the misperception that adaptation is solely a cost - it is an investment.

The strategy aims to realise the 2050 vision of a climate-resilient Union by making adaptation smarter, more systemic, swifter, and by stepping up international action. This translates throughout the policy cycle into improved knowledge and data; support to policy development and climate risk management at all levels, and accelerated adaptation action across the board. With the new strategy, the Commission is doing its part to equip Europe to become more climate-resilient. Full implementation of the actions of the strategy would put Europe in a much better position to face climate impacts already by 2030. This would mean adaptation awareness and planning spread to every single local authority, company and household; adaptation implementation well underway for those most affected; and global leadership in areas such as climate services, climate proofing, or nature-based solutions.

2.1. Smarter adaptation: improving knowledge and managing uncertainty

Despite progress, wide gaps in our adaptation knowledge remain. Climate change manifests itself in a large number of hazards, bringing impacts to almost all sectors. Therefore, the knowledge base required to inform effective action is extensive. It includes uncertainty on how fast and how far the climate will change and affect natural and human systems, and the effectiveness of policies and measures. There is increasing demand to translate the wealth of climate information available into customised, user-friendly tools. We need to push the frontiers of adaptation knowledge, and acquire more and better climate-related data, notably on economic losses. And we need to bring it all together.

2.1.1. Pushing the frontiers of knowledge on adaptation

Decision-making and acting in the face of climate uncertainty can be facilitated by anchoring decisions in the latest science. We already have a robust knowledge base for

¹⁶ SWD(2021)25 and SWD(2021)26.

¹⁷ <https://europa.eu/climate-pact>

¹⁸ The upcoming Conference on the Future of Europe can be leveraged to promote awareness on adaptation at all levels.

action but further work is needed on adaptation, its costs, benefits and distributional effects. In addition, we must draw on science to improve our understanding of the nexus between climate hazards and socioeconomic vulnerabilities and inequalities. We must develop effective and inclusive governance mechanisms that ensure dialogue between policymakers and scientists, for example via the biennial European Climate Change Adaptation Conference. The EU is well placed to facilitate this, by drawing on its experience with the Framework Programmes for Research and Innovation, the Space Programme, and the Union Civil Protection Mechanism. Advances will be needed, for example on modelling to more accurately estimate future damage and customise adaptation measures, on understanding the health implications, the cascading effects from simultaneous or sequential climate impacts, or tipping points in Earth systems¹⁹.

The digital transformation is critical to achieving the Green Deal adaptation objectives.

All data from EU scientific lighthouses such as Copernicus²⁰ and the European Marine Observation and Data Network (EMODnet)²¹ are freely and openly available to all users worldwide. The Copernicus Climate Change Service will continue to increase data usability and further develop services such as on extreme event attribution services²². We must promote the use of the latest digital technologies and climate services to underpin decision-making (for example remote sensing, smart weather stations, artificial intelligence and high performance computing). New instruments such as Destination Earth and Digital Twins²³ hold great promise to boost our understanding of present and future climate impacts at planetary and local scale. Ocean measurements and observation will be also be further strengthened.

We need to better understand the interdependencies between climate change, ecosystems, and the services they deliver. Major shifts in terrestrial ecosystems and vegetation types on the European Union's land area are expected during this century, including in protected areas. Water cycle and temperature changes, or sea level rise will put ecosystems under additional stress. Over this century, the ocean is expected to reach unprecedented conditions with increased temperatures, further acidification, and oxygen decline. We need science-based, robust ecosystem restoration and management that helps minimise risks, improves resilience, and ensures the continued delivery of vital ecosystem services and features: food provision, air and water purification, flood protection, biodiversity, and climate mitigation.

The Commission will:

- *help to close knowledge gaps on climate impacts and resilience, including on oceans, through Horizon Europe, Digital Europe, Copernicus and EMODnet;*
- *improve the state of the art on adaptation modelling, risk assessment and management tools – towards “asset-level modelling”.*

¹⁹ <https://media.nature.com/original/magazine-assets/d41586-019-03595-0/d41586-019-03595-0.pdf>

²⁰ The [Copernicus program](#) is an EU flagship programme. With land, marine, climate change and atmospheric monitoring, it provides full, free and open access to a vast portfolio of Earth Observation and ground data, as well as products and services.

²¹ <https://emodnet.eu/en>

²² To understand the extent to which extreme weather and climate events can be linked to climate change. See [C3S](#).

²³ <https://ec.europa.eu/digital-single-market/en/destination-earth-destine#Digital-twins>

2.1.2. *More and better climate-related risk and losses data*

Data on climate-related risk and losses²⁴ are crucial to improve the accuracy of climate risk assessment. Any new investment and policy decision should be climate-informed and future-proof, from households renovating their homes, to SMEs setting up business in a vulnerable area, larger businesses managing supply chains, banks agreeing new loans, or cities planning zoning developments. At present, data quantifying disaster losses is unsatisfactory: it is often not recorded and/or not available in accessible formats and databases once collected.

To avoid “climate-blind” decisions, data from both the private and public sector should be recorded, collected and shared in a comprehensive and harmonised way. The Commission will promote common rules and specifications for the recording and collection of data on climate-related losses and physical climate risk, and support the central recording of this data from the public and private sector at EU level through its Risk Data Hub²⁵. It will encourage at the national level a voluntary approach of public private partnerships for the collection and sharing of loss data based on enhanced cooperation with Member States, cities and industry. The Commission will also define the data needs, and explore with industry the best ways to collect comprehensive and harmonised data from insurers, empowering, as relevant, the European Insurance and Occupational Pensions Authority (EIOPA).

The Commission will facilitate access to climate-related risk and losses data for stakeholders. The review of the INSPIRE Directive in 2021 as part of the ‘GreenData4All’ initiative offers an opportunity to revise the legislation to cover environmental and climate-related disaster loss data, extending the scope of public access. Climate-related disaster loss data could also be considered as high value datasets in future revisions of the implementing act of the Directive on open data and the re-use of public sector information. Similarly, data collected in public private partnerships will be made as accessible as possible.

The Commission will:

- *promote and support the use of its Risk Data Hub to harmonise the recording and collection of comprehensive and granular climate-related risk and losses data, and promote national level public private partnerships to collect and share such data;*
- *explore with EIOPA and industry the best ways to improve the collection of uniform and comprehensive insured loss data, and will empower EIOPA as needed;*
- *extend the scope of public access to environmental information in the INSPIRE Directive to include climate-related risk and losses data.*

2.1.3. *Making Climate-ADAPT the authoritative European platform for adaptation*

Climate knowledge platforms play an increasing role in decision-making for adaptation action. Climate-ADAPT is already an established reference tool and knowledge resource and

²⁴ This includes public and private losses from climate-related impacts, for example loss of life, damage to infrastructure, or commercial operations. It also includes costs of emergency response and recovery at asset and at different administrative levels. [Climate risk and loss data recording and sharing](#) supports work on the [Sendai Framework for Disaster Risk Reduction](#).

²⁵ <https://drmkc.jrc.ec.europa.eu/risk-data-hub#/>

is progressively expanded, for example with access to Copernicus data²⁶. But we must invest more in expanding its capabilities, user and contributor base, outreach, and impact²⁷. It will boost the exchange of knowledge, good practices and solutions, including from EU-funded projects, reaching out to and involving a growing network of users. It will also collect and process data from all relevant sources and subsequently develop high-quality information. Links to transnational, national and subnational adaptation platforms will be further developed, as well as connection and interoperability with relevant resources for climate impacts²⁸.

We need a deeper understanding of the climate-related risks for health and greater capacity to counter them. Climate change related health threats are increasing; they are serious and can only be addressed across borders. They include death and injury from heat, floods or forest fires; and the emergence and spread of infectious diseases and allergens linked to geographical shifts in vectors and pathogens²⁹. Climate change will also increasingly challenge the ability of public health systems to function effectively, e.g. to develop capacities to deal with diseases previously unknown in Europe. The Commission will pool and connect data, tools and expertise to communicate, monitor, analyse and prevent the effects of climate change on human health, based on a 'One Health' approach.

The Commission will:

- *update and expand Climate-ADAPT as source of knowledge on climate impacts and adaptation, including by federating various sources of information, and as monitoring and reporting mechanism;*
- *establish a European climate and health observatory under Climate-ADAPT.*

2.2. More systemic adaptation: Support policy development at all levels and sectors

Climate change is having such a pervasive impact that our response to it must be systemic. The Commission will continue to actively mainstream climate resilience considerations in all relevant policy fields applicable to both the public and the private sectors. Mainstreaming will extend beyond sectors targeted in the 2013 EU Adaptation Strategy, which included agriculture, infrastructure and insurance. It will support the further development and, most importantly, implementation of adaptation strategies and plans at all levels of governance. In this systemic approach, there are three cross cutting priorities: integrating adaptation into macro-fiscal policy, nature-based solutions for adaptation, and local adaptation action.

2.2.1. Improving adaptation strategies and plans

Adaptation strategies at all levels must be effective and based on the latest science. Adaptation strategies will remain important instruments. National, regional and local authorities should further develop them. The Commission offers support to build administrative capacity in Member States for the implementation of EU climate adaptation policies through its Technical Support Instrument. The Commission and the participating

²⁶ Copernicus federates the European Forest Fire Information System, the European Drought Observatory, and the [European Flood Awareness System](#), under the umbrella of its [Emergency Management Service](#).

²⁷ Guided by its in-depth evaluation <https://www.eea.europa.eu/publications/sharing-adaptation-information-across-europe>.

²⁸ For example: [Forest Information System for Europe](#), [EU Soil Observatory](#), [Biodiversity Information System for Europe](#), [European Drought Observatory](#), [Knowledge Centre for Biodiversity](#), [EU Science Hub on Earth Observation](#).

²⁹ <https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>

countries and regions will also stimulate cooperation across borders through the EU macro-regional strategies cooperation frameworks³⁰ and sea-basin and other maritime strategies³¹, Interreg funding programmes, and cooperation and networking opportunities under the Common Agricultural Policy. This will help adaptation implementation through coordinated and joint actions between Member States, and between EU and non-EU countries. The Commission will also foster the exchange of best practices and solutions to common adaptation challenges among the outermost regions and with their neighbours. As part of the reporting process of the functioning of the Common Fisheries Policy, the Commission will assess how this policy caters for climate change adaptation.

Monitoring, reporting and evaluation are essential to setting a robust baseline against which to measure progress on adaptation. The implementing regulation on the Governance of the Energy Union and Climate Action³² already stipulates the structure, format, submission processes and review of adaptation information reported by Member States. This robust reporting also supports the implementation of the National Energy and Climate Plans, for instance in the protection of the security of the EU's energy supply against climate impacts. Although the local specificity of adaptation often makes comparison difficult, it can be made for areas crossing several borders with common climate risks. Such areas include river basins, mountainous areas, islands, or the outermost regions (which are particularly vulnerable to climate change). The Commission will further develop suitable indicators and a resilience assessment framework based on the experience gained with adaptation preparedness scoreboards for the 2013 Adaptation Strategy, and in line with work in the UNFCCC Adaptation Committee.

Policy coherence must systematically take into account adaptation to avoid inadvertently undermining it. Whenever relevant, EU and Member State policymaking should apply the following policy coherence principles: ensure that regulation and funding take into account disaster risk to avoid creating new exposure; reduce existing risk by building up resilience, prevention and preparedness; manage residual risk. These principles should be integrated, for example, in calls for tender and selection criteria for EU-funded projects as well as taken into due account when designing policies more generally. When improving the way Better Regulation guidelines and supporting tools address sustainability matters, as announced in the European Green Deal, the Commission will make sure climate adaptation issues are duly and proportionately taken into account.

The Commission will:

- *stimulate cooperation regionally and across borders and enhance the guidelines on national adaptation strategies in cooperation with the Member States;*
- *upgrade adaptation monitoring, reporting and evaluation by using a harmonised framework of standards and indicators;*
- *provide ex-ante project assessment tools to better identify co-benefits and positive impacts on the economy of adaptation and prevention projects;*
- *update its Better Regulation guidelines and toolbox to better reflect the principles of climate-risk management policy coherence.*

³⁰ https://ec.europa.eu/regional_policy/en/policy/cooperation/macro-regional-strategies/

³¹ https://ec.europa.eu/maritimeaffairs/policy/sea_basins_en

³² European Commission [Implementing Regulation \(EU\) 2020/1208](#)

2.2.2. *Fostering local, individual, and just resilience*

The local level is the bedrock of adaptation, so EU support must help increase local resilience. Financial support is increasingly available through the European Structural and Investment Funds³³, the Common Agricultural Policy, the LIFE Programme, and the Recovery and Resilience Facility. The Commission will support the local uptake of data, digital and smart solutions related to climate adaptation tailored to local and regional specificities. This will build on existing initiatives and instruments such as the EIP-SCC Marketplace³⁴, the Digital Europe Programme, Horizon Europe, and the Intelligent Cities Challenge³⁵. To engage and empower individual Europeans to take direct adaptation action, the Commission will use the European Climate Pact initiative and Education for Climate Coalition³⁶ to inform, inspire and connect.

The EU and Global Covenant of Mayors will be strengthened to assist local and regional authorities. To help them move from planning to action, the EU will pilot a policy support facility to assist authorities under the EU Covenant of Mayors. This facility will provide direct technical assistance to help develop and implement their adaptation strategies and plans. The EU will encourage even greater involvement of regional bodies in adaptation agenda setting through the Urban Agenda for the EU, the Fisheries Local Action Groups, and will involve the Committee of the Regions representatives as part of the EU Covenant of Mayors.

Achieving resilience in a just and fair way is essential so that the benefits of climate adaptation are widely and equitably shared. European regions and citizens are directly affected by climate change, for example through job losses in climate-affected sectors such as agriculture, fisheries, and tourism. Unequal exposure and vulnerability to climate impacts of different regions and socio-economic groups worsens pre-existing inequalities and vulnerabilities³⁷. The impacts of climate change are not neutral. Men and women, older people, persons with disabilities, displaced persons, or socially marginalised have different adaptive capabilities. Adaptation measures need to consider their situation. Support is increasingly needed for education, training and reskilling initiatives that lead to green jobs. The EU will promote long-term economic diversification strategies and policies that enable workers to requalify and move towards green growth sectors, while ensuring sufficient and highly skilled workforce. This will require improving our understanding of the effects of climate change on workers, working conditions, health and safety, assessing the related distributional effects, and involving social partners. Support can be found through the European Skills Agenda, the Youth Guarantee, the European Social Fund Plus (ESIF+), or the Recovery and Resilience Facility.

The Commission will:

- *step up support to planning and implementation of local adaptation and launch an adaptation support facility under the EU Covenant of Mayors;*
- *support the reskilling and requalification of workers for a just and fair resilience with education and training through ESF+, Erasmus+ and European Solidarity*

³³ [Mainly by the Cohesion Fund](#) and the European Regional Development Fund; to a lesser extent by the European Agricultural Fund for Rural Development, the European Maritime and Fisheries Fund and the European Social Fund.

³⁴ <https://eu-smartcities.eu/>

³⁵ <https://www.intelligentcitieschallenge.eu/>

³⁶ https://ec.europa.eu/education/education-in-the-eu/european-education-area/education-climate-coalition_en

³⁷ See [EEA report](#): Unequal exposure and unequal impacts

Corps;

- *continue to ensure the enforcement of existing employment and social legislation, and, where relevant, consider proposing new initiatives that increase workers' protection from climate impacts.*

2.2.3. Integrating climate resilience in national fiscal frameworks

National fiscal frameworks in the EU include climate change and natural disaster fiscal risks only to a limited extent. Relief and reconstruction after extreme weather and slow-onset events will increase government expenditure, including via compensation for uninsured losses. The effects on production capacity may have a negative impact on economic growth. Disaster risk management includes processes and tools to address ex-ante climate related risks and reducing ex-post disaster consequences. This needs to be reflected in budgetary planning, and in governance and institutional arrangements. Disaster risk financing can be complemented with a combination of risk management and risk sharing instruments provided by the private sector adapted to the severity and frequency of disasters. Given the possible effect on fiscal stability, there is also a need to manage the risks to long-term public debt sustainability.

Macro-fiscal resilience requires factoring the range of plausible climate scenarios into economic policies and an understanding of disaster risk management³⁸. Sound risk assessments should assess the impact and the probability of plausible climate change scenarios. Developing scenario analyses, in turn, could feed into stress-test exercises on macroeconomic variables³⁹. Robust assessments of the main economic impacts stemming from natural risks should be made available and estimates of their fiscal impacts reflected in the budgetary planning process. Taking into account quantitative disaster risk assessments in budgetary plans would help make funds available rapidly and commensurate with need. Dedicated funds and instruments, both at EU and national level, such as from the EU Solidarity Fund⁴⁰, can contribute to post-disaster emergency and recovery operations. This must include as a minimum “build back better” considerations. Transparency on these contributions can provide incentives for adaptation and reduce moral hazard⁴¹.

Climate adaptation and resilience objectives are embedded in the EU-level COVID-19 pandemic recovery effort. Supporting the recovery will remain a central goal of macro-fiscal policy in the short and medium term. The scale and nature of the spending, also from the national budgets, heightens the importance of building back better. The Recovery and Resilience Facility will support Member States in their economic recovery and long-term resilience. The National Recovery and Resilience Plans are expected to support investments and reforms to improve climate resilience across the entire EU. At least 37% of the allocation of the plans should be directed to climate action covering both mitigation and adaptation efforts. In addition, the Recovery and Resilience Facility will not support measures that do

³⁸ Climate sensitivity is an estimated range –economic policy must prepare for the case that global temperatures increase much higher for a given amount of emissions than expected in most probable scenarios. See for example [CRESCENDO](#).

³⁹ Reference scenarios of EU global standing by 2040 will be developed in the Commission’s 2021 Strategic Foresight Report.

⁴⁰ https://ec.europa.eu/regional_policy/en/funding/solidarity-fund/

⁴¹ The use of the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and into the revitalization of livelihoods, economies, and the environment ([United Nations General Assembly, 2016](#)).

significant harm to the environment⁴², including to the objective of climate change adaptation.

The Commission will:

- *develop ways to measure the potential impact of climate-related risks on public finances, develop tools and models for climate stress testing, and engage in discussions with Member States on better take into account climate change in national reporting and fiscal frameworks;*
- *explore and discuss with Member States actions to dampen the fiscal impact of climate-related events and reduce fiscal-sustainability risks;*
- *explore with Member States whether and to what extent Stability and Convergence Programmes could factor in the climate adaptation dimension;*
- *promote better coordination and complementarity between the post-disaster emergency and recovery operations supported by the European Union Solidarity Fund and other EU funds to encourage the “build back better” principle.*

2.2.4. Promoting nature-based solutions for adaptation

Implementing nature-based solutions on a larger scale would increase climate resilience and contribute to multiple Green Deal objectives. Blue-green (as opposed to grey) infrastructures⁴³ are multipurpose, “no regret” solutions and simultaneously provide environmental, social and economic benefits and help build climate resilience⁴⁴. For example, protecting and restoring wetlands, peatlands, coastal and marine ecosystems; developing urban green spaces and installing green roofs and walls; promoting and sustainably managing forests and farmland will help adapt to climate change in a cost-effective way. It is vital to better quantify their benefits, and to better communicate them to decision-makers and practitioners at all levels to improve take-up⁴⁵. In addition, the Commission will develop a certification mechanism for carbon removals, which will enable robust monitoring and quantification of the climate benefits of many nature-based solutions.

Nature-based solutions are essential for sustaining healthy water, oceans and soils. They must play a bigger role in land-use management and infrastructure planning to reduce costs, provide climate-resilient services, and improve compliance with Water Framework Directive requirements for good ecological status. Using nature-based solutions inland, including the restoration of the sponge-like function of soils, will boost the supply of clean, fresh water and reduce risk of flooding. In coastal and marine areas, nature-based solutions will enhance coastal defence and reduce risk of algal blooms. Simultaneously, they will provide benefits such as carbon sequestration, tourism opportunities, and biodiversity conservation and restoration.

Europe needs to leverage more investments in nature-based solutions to generate gains for adaptation, mitigation, disaster risk reduction, biodiversity, and health. Investments in nature-based solutions must be viable over the long-term, because climate change is

⁴² Within the meaning of Article 17 of the [Taxonomy Regulation \(EU\) 2020/852](#).

⁴³ https://ec.europa.eu/environment/nature/ecosystems/benefits/index_en.htm

⁴⁴ Nature-based solutions are inspired and supported by nature. See [here](#), [here](#), and [Council Conclusions of 16 October 2020](#).

⁴⁵ This work can build on [UN guidelines](#), [EU-supported research and guidance documents](#), and the International Union for Conservation of Nature [global standard for nature-based solutions](#).

amplifying stresses on ecosystems. This can be done through new and innovative financing approaches and products under InvestEU ⁴⁶, targeted support under Cohesion Policy programmes, and support for investments, eco-schemes and advisory services in the Common Agricultural Policy. Through carbon farming, the Commission will promote a new business model for land-based carbon removals, including financial incentives to rollout nature-based solutions.

The Commission will:

- *propose nature-based solutions for carbon removals, including accounting and certification in upcoming carbon farming initiatives;*
- *develop the financial aspects of nature-based solutions and foster the development of financial approaches and products that also cover nature-based adaptation;*
- *continue to incentivise and assist Member States to rollout nature-based solutions through assessments, guidance, capacity building, and EU funding.*

2.3. Faster adaptation: Speeding up adaptation across the board

To accelerate adaptation action, implementation requires resources that are commensurate with the challenge. The EU increased the spending target for climate action to 30% in its long-term budget for 2021-2027, with adaptation as a key component. Further strengthening of the social dimension in the EU budget under the European Social Fund will unlock more support to protect the most vulnerable. Nonetheless, based on estimates of the investment needed to meet adaptation needs, there is a sizeable financing gap for climate resilient investments in Europe ⁴⁷ so other sources of funding are needed. The European Investment Bank announced in its new climate roadmap ⁴⁸ full support for the EU's new Adaptation Strategy, which will be further detailed by end-2021. The EIB will ensure that all the operations it supports are climate-proof and will actively pursue investment opportunities in the development and deployment of climate- resilient technologies, products and services.

The climate adaptation gap is wide and increasing, so we must bridge it more swiftly. The European Environment Agency has regularly highlighted this issue in its assessment reports on adaptation ⁴⁹. Progress in adaptation planning remains slow, and implementation and monitoring even slower. Current measures mostly focus on awareness raising, institutional organisation or policy development, but actually rolling out physical solutions, such as creating more green spaces to reduce the impacts of heatwaves or adjusting sewerage systems to better cope with storm overflows, is lagging behind. The aim of this strategy is therefore to shift the focus to developing and rolling out solutions, to help reduce climate risk, increase climate protection, and safeguard freshwater access.

2.3.1. Accelerating the rollout of adaptation solutions

The lack of access to actionable solutions is one of the main barriers to adaptation. The EU Framework Programme and the Climate Knowledge and Innovation Community ⁵⁰

⁴⁶ While fully respecting its demand-driven approach.

⁴⁷ EU-wide economic evaluation of adaptation to climate change [BASE](#) (2016).

⁴⁸ EIB [Climate Roadmap 2021-2025](#) (Adopted November 2020).

⁴⁹ Most recently [on urban adaptation](#).

⁵⁰ <https://www.climate-kic.org/>

already support adaptation innovation, but recent analysis shows the need to step it up⁵¹. One of the proposed Horizon Europe Missions will be on “Adaptation to Climate Change, including Societal Transformation”⁵². The Mission would test integrated solutions that can achieve the vision of climate-resilience by 2050 with an emphasis on citizen engagement. These solutions could then be scaled up and rolled out in Europe and beyond. The Mission proposal aims to support 200 communities to develop solutions for transformative adaptation, and scale up 100 deep demonstrations of climate-resilience. Horizon Europe also has planned missions on soil health, climate-neutral cities, and oceans, which are directly relevant to action on adaptation⁵³.

Solutions are urgently needed to help farmers and land managers tackle climate risks.

The boundaries of today’s biogeographical regions will shift northwards and uphill, changing vegetation patterns and ecosystems, and triggering major shifts in forests and farmland. Trees and crops may not be able to keep up with such changes, especially when suitable habitats are fragmented. One solution is to make better use of genetic diversity and non-harmful plant genetic resources for adaptation, based on the latest science. This can be achieved for example by better integrating adaptation considerations in the way forests are managed. The Commission will facilitate the broadening of the supply of suitable high-quality plant reproductive material to support adaptation in agriculture, forestry, and land ecosystem management. More work is needed to encourage collaborative, transnational production and transfer of seeds and planting material through active policies and actions by amending the Directive on the marketing of forest reproductive material and the Marketing Directives on seed and other propagating material⁵⁴.

Climate resilience decision support systems and technical advice must become more accessible and rapid to foster their take-up. The Commission will support the development of rapid response solutions for decision-makers and adaptation practitioners. Such solutions would have to work on a timescale and with resources available for the financial sector, SMEs or small farmers, and draw on essential data from Copernicus and other sources. Public authorities and area managers responsible for Natura 2000 sites require guidance on suitable conservation approaches and adaptation strategies. Major private-sector investment in adaptation solutions will also increase the range of options available and make them more affordable for all. The EU Taxonomy for sustainable activities covers adaptation⁵⁵ and will act as an enabler and incentive to channel private finance towards increasing climate resilience.

The Commission will:

- *implement the planned Horizon Europe Mission on ‘Adaptation to Climate Change’ and other adaptation-relevant Missions, including on soil health, climate-neutral cities, and oceans once these are endorsed;*
- *support the development of further adaptation solutions, including rapid response decision support tools to enrich the toolbox for adaptation practitioners;*

⁵¹ The share of climate adaptation inventions in 2015 was roughly the same as in 1995, while innovation on climate mitigation nearly doubled. Moreover, only few adaptation inventions are transferred across borders, and there is virtually no transfer of patented knowledge to low-income countries ([World Bank](#)).

⁵² https://ec.europa.eu/info/publications/climate-resilient-europe_en

⁵³ https://ec.europa.eu/info/horizon-europe/missions-horizon-europe_en

⁵⁴ https://ec.europa.eu/food/plant/plant_propagation_material/legislation/eu_marketing_requirements_en

⁵⁵ EU Taxonomy on sustainable activities. For more details see [here](#).

- *integrate adaptation in the update of Natura 2000 and climate change guidance, and in guidelines on biodiversity-friendly afforestation and reforestation, and in the forthcoming Forest Strategy;*
- *strengthen its support to protect the potential of genetic resources for adaptation, including by proposing legislation on the production and marketing of seeds;*
- *further develop the EU taxonomy for sustainable activities for climate adaptation.*

2.3.2. Reducing climate-related risk

Investing in resilient, climate-proof infrastructure pays off. Infrastructure often lasts for many decades but much of the existing stock is not coping well with the changing climate. To minimise the risk of disasters and be cost-effective over its lifetime, infrastructure investments should be climate resilient. This may require an additional upfront cost of ~3% of a project but resilience investments have a cost-benefit-ratio of about 1:4⁵⁶. The Commission has developed extensive climate proofing guidance for new major infrastructure projects. These guidelines have been updated and will be expanded to other EU funds⁵⁷ with special attention to critical infrastructure. The Commission will continue to update this guidance and extend to existing infrastructure and promote its use beyond EU funding. It will also use external policy instruments to promote their international uptake. The Commission has worked with European Standardisation Organisations to update standards governing the safety and performance of infrastructure in a changing climate. They produced guidance for standard writers and initiated an update of 12 infrastructure standards as a pilot. This action will cover a wider range of standards and help speed up the standardisation of adaptation solutions⁵⁸. The Commission will encourage Member States to involve national standardisation in the implementation of their National Adaptation Strategies, in complementarity with the EU-level standardisation work.

Climate adaptation action must better leverage synergies with broader work on disaster risk prevention and reduction. Both provide a range of complementary approaches to managing climate risks in order to build resilient societies. Better coherence in terms of practices, standards, guidance, targets, resources and knowledge could be achieved by closer coordination at national level, EU level (under the Union Civil Protection Mechanism), and internationally (under the Sendai Framework for Disaster Risk Reduction). Building on its *Overview of natural and man-made disaster risks the European Union may face*⁵⁹, relevant research projects⁶⁰, its series of PESETA reports⁶¹, and taking into account existing sector regulations, the Commission will draw up an EU-wide climate risk assessment. This assessment will pay special attention to health threats, ecosystem vulnerabilities, critical infrastructures, TEN-E projects of common interest⁶² and TEN-T corridors and networks hotspots. The Commission will help address storm water overflows and urban runoff as part

⁵⁶ <https://gca.org/reports/adapt-now-a-global-call-for-leadership-on-climate-resilience/>

⁵⁷ In the long-term EU budget 2021-2027: InvestEU, Connecting Europe Facility (CEF), the Regional Development Fund (ERDF), Cohesion Fund (CF), and the Just Transition Fund (JTF).

⁵⁸ To update existing standards on the safety and performance of infrastructure and equipment for future climate conditions. Standards also promote technical solutions that help assets adapt to the changing climate e.g. green roofs and walls.

⁵⁹ SWD(2020) 330 final https://ec.europa.eu/echo/news/european-commission-publishes-new-report-disaster-risks-eu_en

⁶⁰ For example, on bridging climate change adaptation and disaster risk reduction, or cascading risks from climate impacts.

⁶¹ <https://ec.europa.eu/jrc/en/peseta-iv>

⁶² The [revised TEN-E Regulation](#) includes a requirement for projects of common interest to integrate climate adaptation measures both at the design phase and as part of the Environmental Impact Assessment and relevant environmental permitting.

of the revision of the Urban Waste Water Treatment Directive, and share best practices on preventing water pollution through industrial accidents caused by flooding and droughts.

We need to do more to prepare Europe's building stock to withstand the impacts of climate change. Extreme weather and long-lasting climatic changes can damage buildings and their mitigation potential e.g. solar panels or thermal insulation after hailstorms. However, buildings can also contribute to large-scale adaptation, for example through local water retention that reduces the urban heat island effect with green roofs and walls. The Renovation Wave and the Circular Economy Action Plan identify climate resilience as a key principle. The Commission will explore options to better predict climate-induced stress on buildings and to integrate climate resilience considerations into the construction and renovation of buildings through Green Public Procurement criteria for public buildings, the Digital Building Logbook, and as part of the process to revise the Energy Performance of Buildings Directive and the Construction Products Regulation.

The Commission will:

- *enhance climate proofing guidance, and promote its use in Europe and abroad;*
- *develop an EU-wide climate risk assessment and strengthen climate considerations in EU disaster risk prevention and management;*
- *address EU-level preparedness and response to climate-related health threats, including through the EU Framework on Health Threats and, as relevant, the planned Health Emergency Preparedness and Response Authority;*
- *increase cooperation with standardisation organisations to climate-proof standards and to develop new ones for climate adaptation solutions;*
- *support the integration of climate resilience considerations into the criteria applicable to construction and renovation of buildings and critical infrastructure.*

2.3.3. Closing the climate protection gap

The climate protection gap is the share of non-insured economic losses caused by climate-related disasters. This gap appears to be widening because of slow adaptation action, and more frequent extreme weather events in the absence of higher climate insurance penetration rates⁶³. Moreover, the known losses are lower bound estimates that underrepresent trends. Climate impacts pose destabilising risks to assets and to business. To some extent, business can mitigate the risks when the resulting losses are covered, including by risk-pooling instruments both nationally and across borders. Today, only 35% on average of the climate-related economic losses are insured, and as low as 5% or less in some parts of Europe.

Using insurance as a risk-transfer mechanism to absorb financial losses related to climate risks can be a first step from crisis reaction towards risk management and anticipation. According to a report by the insurance industry, a 1% increase in insurance coverage could reduce the global cost of climate-related disasters to taxpayers or governments by 22%⁶⁴. Both the EU insurance industry and the European Insurance and Occupational Pensions Authority, have warned of looming insurability and affordability

⁶³ EEA (2019) [Economic losses from climate-related extremes](#).

⁶⁴ Lloyd's Global Underinsurance Report 2012

concerns in a climate-damaged world. It is therefore important to examine and promote natural disaster insurance penetration in Member States and to promote national insurance disaster schemes that encourage users to invest in adaptation. This will be aided by developing the EIOPA's natural catastrophe dashboard, and the publication of guidelines for governmental action⁶⁵. Ultimately, the mechanism this strategy puts in place will lead to national-level assessments of insurance penetration rates and recommendations to improve them.

Dialogue and innovation can greatly increase the climate resilience potential of insurance regimes. The Commission will facilitate cooperation and discussion on best practices between the insurance sector's stakeholders and strengthen the dialogue between insurers, reinsurers, public authorities, and other stakeholders, such as real-estate developers and infrastructure operators in the case of the built environment. As part of the forthcoming Renewed Sustainable Finance Strategy, the Commission will explore further actions in the area of the provision of climate-relevant insurance products. This will include best practices in financial instruments to manage temporary risks, whether market or climate-induced, and the potential of novel and innovative risk transfer solutions⁶⁶.

The Commission will, in the context of the Renewed Sustainable Finance Strategy:

- *help to examine natural disaster insurance penetration in Member States, and promote it, for example through guidelines and invite EIOPA to develop its natural catastrophe dashboard allowing country level assessments;*
- *strengthen dialogue between insurers, policymakers and other stakeholders;*
- *identify and promote best practices in financial instruments for risk management, in close cooperation with EIOPA;*
- *explore the wider use of financial instruments and innovative solutions to deal with climate-induced risks.*

2.3.4. Ensuring the availability and sustainability of freshwater

Ensuring that freshwater is available in a sustainable manner is fundamental for climate resilience. Water underpins many sectors of the economy and access to drinking water is a basic human need⁶⁷ but torrential rains and floods can have devastating effects on communities and infrastructure. Europe is increasingly facing situations of either too much or not enough water. Smart, sustainable water use requires transformational changes in all sectors. The Commission will prioritise this through the enhanced engagement of the Common Implementation Strategy of the Water Framework and Floods Directives. Nature-based solutions are particularly well suited for climate resilience to water impacts. Climate change exacerbates the challenge of sharing water resources and requires closer cooperation between adaptation action and water management authorities, including across borders.⁶⁸

⁶⁵ EIOPA [dashboard on insurance protection gap](#) and [discussion paper](#).

⁶⁶ The state of Quintana Roo in Mexico took out an insurance policy on a reef to protect its coastline and tourism industry from hurricanes. In October 2020, hurricane Delta prompted a first payout of ~ EUR 700,000 to be used for repairs to the reef.

⁶⁷ As recognised by the [European Pillar of Social Rights, Principle 20](#), which places water and sanitation among the essential services to which everyone should have access.

⁶⁸ Examples of cooperation across borders include [Rhine Catchment](#) and [ICPDR](#).

We also need to sharply reduce water use. To that end, the Commission will promote a wider use of drought management plans, measures to increase the water retention capacity of soils and safe water reuse. The Commission will address improving water efficiency and reuse by raising the requirements for products subject to eco-design and energy labelling, energy production, housing and buildings, and agriculture and will look at how to improve water savings in industrial plants. The Commission and the Member States must also promote the transition to water-saving technologies and practices by setting a price that correctly reflects the value of water. This can be achieved by promoting instruments such as water resource allocation, water-permitting systems and by incorporating environmental externalities. In agriculture, a knowledge-based approach, as well as both high tech and nature-based solutions are necessary to ensure a sustainable use of water. Member States can support precision farming via national Common Agricultural Policy Strategic Plans. Member States must also ensure that water is priced correctly, in line with the Water Framework Directive, so that consumers are not misled about the real cost of food.

Climate change also threatens water quality. A stable and secure supply of drinking water is of highest importance and it must be guaranteed. Climate change will increase the risk of contamination and acute pollution of freshwater due to impacts such as low river flows, increased water temperatures, flooding, and forest loss. It is important to include climate impacts in the risk analyses of (drinking) water management plans, develop water-monitoring technologies, and ensure minimum river flow. These will play an important role in ensuring water quality and preserving sufficient water quantities for the environment and all people. Similarly, it is important to maximise the capacity of soils to purify water and reduce pollution.

The Commission will:

- *help ensure climate-resilient, sustainable use and management of water across sectors and borders by improving coordination of thematic plans and other mechanisms, such as water resource allocation and water-permits;*
- *help reduce water use by raising the water-saving requirements for products, encouraging water efficiency and savings, and by promoting the wider use of drought management plans as well as sustainable soil management and land-use;*
- *help to guarantee a stable and secure supply of drinking water, by encouraging the incorporation of the risks of climate change in risk analyses of water management.*

3. STEPPING UP INTERNATIONAL ACTION FOR CLIMATE RESILIENCE

Our climate change adaptation ambition must match our global leadership in climate change mitigation. The Paris Agreement established the global goal on adaptation and highlighted adaptation as a key contributor to sustainable development. Adaptation is a crosscutting element in the EU's and Member States' external action, spanning international cooperation, migration, trade, agriculture and security⁶⁹. To maximise results, the EU and its Member States should work in a coherent and coordinated way. Climate change and security

⁶⁹ For example, many agricultural commodities exported to the EU are at risk from extreme weather and slow onset climate change – adaptation and trade diversification are necessary to support populations dependent on such exports.

are interrelated; the Commission and the High Representative emphasised already in 2008 that climate change is a threat multiplier, exacerbating existing tensions and instability⁷⁰.

The EU will promote sub-national, national and regional approaches to adaptation, with a specific focus on adaptation in Africa, Small Island Developing States (SIDS), and Least Developed Countries (LDCs). External action must target adaptation more effectively, through a humanitarian-development-peace nexus approach to reach the most exposed, vulnerable, conflict-prone or marginalised communities, leaving no one and no place behind. Specific, tailored measures are needed to address the disproportionate impact climate change has on vulnerable groups and on human rights.⁷¹ Dialogue with partner countries should aim at increasing cooperation on climate change adaptation, achieving a better understanding of adaptation challenges in third countries and promoting climate change adaptation action and good practices. Priority will be assigned to climate-vulnerable countries and those who are particularly proactive partners in climate action. The EU will implement the Green Agenda for the Western Balkans and strong partnerships with its neighbourhood, in particular the Mediterranean region⁷².

The EU has a history of cooperating with other countries to work on climate adaptation at all levels. The core of EU external action on adaptation must be the economic, environmental and societal development model of the UN Sustainable Development Goals and the European Green Deal. This development model is based on resilience, planning, support for local groups, prevention, and well-informed decision-making. Nationally Determined Contributions, National Adaptation Plans and other climate-relevant plans (e.g. biodiversity, disaster risk reduction) offer a solid platform for collaboration. The EU can also learn from others: many of our international partners have long been on the frontlines of climate change and have valuable experience that can help Europe become more climate resilient.

There is an urgent need for additional international finance for climate change adaptation, both from public and private sources. Innovative finance mechanisms will be developed to leverage private finance in adaptation in partner countries. In addition to scaling up support for adaptation, climate finance needs to be more targeted to the most effective action and to countries and communities that are particularly vulnerable to the impacts of climate change and have less capacity to act. Political leadership, collective international action and commitment are needed to dedicate resources to climate resilience.

Box 2: Climate change adaptation in Africa⁷³

Both the EU and Africa are fighting climate change⁷⁴. The World Bank estimates that, in Sub-Saharan Africa alone, climate change may trigger the migration of up to 70 million people by 2050. The EU is already committed to helping Africa adapt to a more hostile climate, including through nature-based solutions like the Great Green Wall Initiative. Over the period 2014-2019, the EU mobilised approximately EUR 3.4 billion to support climate adaptation in the region. The EU supports, among others, the African Adaptation Initiative, the African Risk Capacity, and has launched the Africa Research and Innovation Partnership.

⁷⁰ [S113/08 Climate Change and International Security](#)

⁷¹ Important work has been developed in the [UNFCCC Task Force on Displacement](#). See also the [EU Gender Equality Strategy](#) and [Disability Rights Strategy](#).

⁷² The Mediterranean is a climate change hotspot, warming 20% faster than the global average – this shows the importance of supporting adaptation efforts in the Southern Neighbourhood.

⁷³ Africa is one of the most vulnerable continents due to its high exposure and low adaptive capacity ([IPCC AR4, WG 2](#)).

⁷⁴ Towards a comprehensive Strategy with Africa [JOIN\(2020\) 4 final](#)

The EU will support and promote partner countries in developing local, national and regional adaptation and strategies for disaster risk reduction. It will continue working with African initiatives and institutions supporting regional adaptation and disaster risk management. These efforts will capitalise on the “Team Europe” approach and will pursue integration between adaptation, development and humanitarian aid.

3.1. Increasing support for international climate resilience and preparedness

Supporting partner countries to adapt to climate change includes provision of resources, prioritising action, and increasing effectiveness. This can be achieved by implementing comprehensive risk management approaches, through national or subnational adaptation and climate-resilient policies, in synergy with disaster risk management and environmental and social policies. Support will focus on building administrative capacity, assessing exposure and vulnerabilities, improving data collection and analyses, developing adaptation plans in line with national priorities and vulnerabilities, and promoting climate proof structural reforms and nature-based solutions in view of their co-benefits.

Climate change multiplies the threats to international stability and security, which affect in particular people in already fragile and vulnerable situations. Climate change is increasingly recognised as contributing to underlying conditions that are conducive to violent conflict⁷⁵. Adaptation action can be a valuable tool in conflict prevention and mediation. Human development and climate objectives should be taken into account when building resilience in fragile, conflict-affected countries. Adaptation strategies, programmes and projects should be designed in a conflict-sensitive way to avoid aggravating tensions. This is important to reduce the risks of climate-related displacement and better understand and manage the interconnections between climate change, security and mobility⁷⁶.

The Commission will take a tailored approach to help increase climate resilience globally. In line with the UN’s New Urban Agenda, the EU will step up its support to local authorities. This will include progressing on adaptation under the Global Covenant of Mayors, promoting sustainable and resilient urban and rural development, supporting community engagement in planning and implementation locally-led adaptation, putting a focus on informal settlements, and channelling financial resources to the local level. The EU will also integrate climate considerations for international resources managed by the EU jointly with other partners, such as international fisheries or the protection of biodiversity beyond areas of national jurisdiction under the UN Convention on the Law of the Sea. It will also engage with regional fisheries management organisations, including the Commission for the Conservation of Antarctic Marine Living Resources, to promote adaptation and new marine protected areas.

⁷⁵ For instance, research suggests that climate change-induced resource shortages and changed migration patterns indirectly contribute to conflict, including farmer-herder clashes.

⁷⁶ With [Knowledge Centre for Migration and Demography](#), [Disaster Risk Management Knowledge Centre](#) and [Horizon 2020](#).

The European Union will:

- *strengthen the support for the development and implementation of Nationally Determined Contributions and National Adaptation Plans in EU partner countries and mainstream conflict-sensitive, anticipatory and preventive climate resilience and preparedness in relevant EU policies and instruments for external action;*
- *intensify and broaden adaptation support to local authorities in EU partner countries and develop regional programmes, including for countries in the EU Southern and Eastern neighbourhoods, and in candidate countries and potential candidates;*
- *include climate change considerations in the future agreement on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction.*

3.2. Scaling up international finance to build climate resilience

It is crucial to identify new and innovative financial resources for adaptation and resilience, particularly for LDCs and SIDS. Globally, around 93% of public and private sector finance for climate action flows to mitigation⁷⁷. Funding for climate adaptation averaged some EUR 25 billion a year in 2017 but needs are estimated to be ten-fold⁷⁸. The EU and its Member States increased their overall climate finance support to third countries by 7.4% in 2019, amounting to reach EUR 21.9 billion, 52% of which was spent on helping EU partners adapt to climate change⁷⁹. Providing a high share of climate finance within EU international cooperation, and specifically towards adaptation, has earned the EU international praise, and it is important to maintain in the future. The Commission will aim to scale up resources and further mobilise larger-scale adaptation finance, including through innovative mechanisms such as the European Fund for Sustainable Development Plus (EFSD+), leveraging resources in bilateral channels and through the EU Member States.

The EU will provide targeted support to partner countries to help unlock existing and new financial resources towards climate adaptation. This includes supporting partner countries in accessing climate finance from international sources, such as the Green Climate Fund and the Adaptation Fund, and collaborating with multilateral development banks, financial institutions and the private sector. Particular attention is needed to ensure that financial resources reach the most vulnerable communities in developing countries, such as those with a traditionally limited institutional capacity to absorb international financial resources, particularly in fragile and conflict-affected countries. To boost funding for international climate-related disaster risk management, the EU will promote the use of financing instruments. These include insurance of public assets, contingency funds and credit lines, and sovereign or private insurance. The EU will also seek to promote the climate proofing of existing and new investments, starting with those receiving EU financial support.

⁷⁷ [Climate Policy Initiative](#) (2019).

⁷⁸ <https://www.cas2021.com/documents/reports/2021/01/22/state-and-trends-in-adaptation-report-2020>

⁷⁹ This includes finance that benefits adaptation alone, and mitigation and adaptation simultaneously.

The European Union will:

- *aim to increase international climate finance for adaptation through the EU instruments for external action and by leveraging private sector investments;*
- *promote the design and implementation of disaster risk finance strategies to increase macroeconomic climate resilience in partner countries;*
- *support partner countries in the design of policies and incentives to promote climate resilient investment, including in nature-based solutions;*
- *enhance the climate proofing of all EU external investments and actions.*

3.3. Strengthen global engagement and exchanges on adaptation

The increasing momentum on adaptation will be reinforced at international level. As the strongest proponent of ambitious international action under the Paris Agreement, we will continue to answer to renewed calls for more multilateralism. This will entail working with the other Parties to the United Nations Framework Convention on Climate Change and the Paris Agreement to ensure that climate change adaptation, and loss and damage issues, are adequately addressed in the international negotiations. As part of this engagement, the EU will communicate adaptation plans and action under the Paris Agreement in line with the parity of importance between adaptation and mitigation.

The EU is well equipped to conduct structured dialogues to share solutions, and is keen to learn from others. The EU has extensive experience in implementing adaptation policies. Through information services such as those provided by Copernicus, it could support partner countries in managing natural resources, assess climate risks and prepare adequate responses. The EU is strongly engaged in international ocean governance, observation and research, and is active in global networks such as the International Coral Reef Initiative. There are significant knowledge gaps and innovative approaches where the EU could benefit from existing experience, for instance on community-led and nature-based adaptation. This is of urgent relevance for outermost regions and Overseas Countries and Territories, which already face stark adaptation challenges. We will also join, support and extend global and regional adaptation-relevant initiatives, such as the All-Atlantic Ocean Research Alliance.

The impacts of climate change have knock-on effects across borders and continents. Even local climate impacts have regional or global repercussions, and such transboundary climate risk can reach Europe. For instance, the disruption of port infrastructure could hamper or even close down trade routes, both for commodities and goods, with potential cascading effects across international supply chains. To address the shared challenges of interconnected societies (e.g. migration, conflict, displacement), ecosystems (e.g. shared river basins, the ocean, and Polar Regions), and economies (e.g. global value chains), we will strengthen cooperation and dialogue on adaptation in our trade agreements.

The European Union will:

- *submit the EU's adaptation plans and actions under the Paris Agreement;*
- *deepen political engagement on climate change adaptation with international and regional partners, and partner countries;*
- *increase the pool of knowledge and tools on adaptation available to non-EU countries and promote adaptation in Green Alliances and partnerships.*

4. CONCLUSIONS

Adaptation is a crucial component of the global response to climate change. The EU and the global community are currently underprepared for the increasing intensity, frequency and pervasiveness of climate change impacts, especially as emissions continue to rise. We must swiftly build our resilience to climate change – moving from heightened awareness and public concern to mass action on adaptation. The stark warnings from the scientific community, the increased visibility of impacts of climate change in Europe and the recovery from the pandemic all make this a defining moment to take action on climate change and cement the current generations' legacy to protect future ones.

The new EU Adaptation Strategy paves the way for a higher ambition on climate resilience: in 2050, the EU will be a climate-resilient society, fully adapted to the unavoidable impacts of climate change. For this reason, climate change adaptation is an integral part of the European Green Deal and its external dimension, and firmly anchored in the proposed European Climate Law. The new Strategy seeks to step up action across the economy and society to bring us towards the 2050 vision for climate resilience, while increasing synergies with other policy areas such as biodiversity. We will work towards this vision by improving knowledge of climate impacts and adaptation solutions to manage uncertainty; by stepping up adaptation planning and climate risk assessments; by accelerating adaptation action; and by helping to strengthen climate resilience globally. The Commission will ensure that the strategy is implemented in close concert with the other elements of the European Green Deal.

The Commission invites the European Parliament and the Council to endorse this strategy, and together with the Committee of Regions and the European Economic and Social Committee to jointly forge a climate-resilient Union. The Commission will reach out to the public, to cities, businesses, social partners and regions to encourage them to participate actively in implementing out this strategy and join forces in meeting the adaptation challenge.