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COM(2013) 480 final

2013/0224 (COD)

Proposal for a

**REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport and amending Regulation (EU) No 525/2013**

(Text with EEA relevance)

{SWD(2013) 236 final}

{SWD(2013) 237 final}

## EXPLANATORY MEMORANDUM

### 1. CONTEXT OF THE PROPOSAL

#### *The need to act on climate change and greenhouse gas emissions from ships*

In December 2010, Parties of United Nations Framework Convention on Climate Change (UNFCCC) recognized that global warming must not exceed the temperatures experienced before the industrial revolution by more than 2° C<sup>1</sup>. This is vital if the negative consequences of human interference with the climate system are to be limited. This long-term goal requires global greenhouse gas emissions to be reduced by at least 50% below 1990 levels by 2050<sup>2</sup>.

Developed countries should reduce their emissions by 80 to 95% by 2050 compared to 1990 levels<sup>3</sup>. In the medium term, the EU has committed to reduce its greenhouse gas emissions by 20% below 1990 levels by 2020, and by 30% if conditions are right. This commitment forms part of one of the EU's five headline targets in the *Europe 2020 Strategy*.<sup>4</sup> Additionally, both the European Council and the European Parliament have agreed that all sectors of the economy should contribute to reducing emissions<sup>5</sup>. In the view of contributing to the EU 2020 Strategy, the 2011 Commission White Paper on Transport<sup>6</sup> states that EU CO<sub>2</sub> emissions from maritime transport should be reduced by 40% (if feasible 50%) from 2005 levels by 2050.

In 2010 the total CO<sub>2</sub> emissions related to European maritime transport activities (including intra EU routes, incoming voyages to the EU and outgoing voyages from the EU) were estimated to be of the order of 180 Mt CO<sub>2</sub>. Despite of the introduction of minimum energy efficiency standards for certain categories of new ships ("Energy Efficiency Design Index", EEDI) by the International Maritime Organisation (IMO) in 2011<sup>7</sup>, the emissions are expected to increase. Main driver is the still expected increased demand for maritime transport triggered by growth of world trade.

This projected growth is expected to happen despite the availability of operational measures and existing technologies to reduce the specific energy consumption and CO<sub>2</sub> emissions of ships by up to 75% (according to IMO figures). A significant part of these measures can be regarded as cost-effective as the reduced fuel costs ensure the pay-back of any operational or investment costs. This contradiction can be explained by the existence of market barriers for the uptake of such technologies and operational measures such as the lack of reliable information on fuel efficiency of ships or of technologies for retrofitting ships, lack of access to finance for investments into ship efficiency and split incentives as ship owners would not benefit from their investments into ship efficiency as fuel bills are paid by operators.

#### *Mandate for action at EU level*

The projected increase of CO<sub>2</sub> emissions from shipping is not in line with the EU objectives, leading to negative impacts on climate change. Furthermore, at the EU level, international maritime transport remains the only transport mode not included in the EU's greenhouse gas emissions reduction commitment which requires additional efforts from all other sectors.

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<sup>1</sup> Decision 1/CP.16 of the Conference of Parties to the UNFCCC (the "Cancún Agreements").

<sup>2</sup> Based on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).

<sup>3</sup> Conclusions of the European Council of 29/30.10 2009 and European Parliament Resolution of 4.2 2009 (2008/215(INI)).

<sup>4</sup> COM(2010) 2020 final.

<sup>5</sup> Directive 2003/87/EC and Decision 406/2009/EC.

<sup>6</sup> COM(2011) 144 final

<sup>7</sup> Revision of MARPOL Annex VI

The Council and the Parliament recalled an earlier commitment to take action in the Climate and Energy Package adopted on 23 April 2009: "*in the event that no international agreement which includes international maritime emissions in its reduction targets through the International Maritime Organisation has been approved by Member States or no such agreement through the UNFCCC has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions in the Community reduction commitment, with the aim of the proposed act entering into force by 2013. Such a proposal should minimise any negative impact on the Community's competitiveness while taking into account the potential environmental benefits.*"<sup>8</sup>

This deadline has passed without sufficient international action as the EEDI, despite its utility is not expected alone to deliver absolute emission reductions compared to base years if forecasted growth in traffic will be realised. Therefore, the Commission launched preparatory activities in view of addressing greenhouse gas emissions from international maritime transport.

#### *Need for a staged approach to reduce greenhouse gas emissions from maritime transport*

Today, the precise amount of CO<sub>2</sub> and other greenhouse gas emissions of EU-related maritime transport is not known due to the lack of monitoring and reporting of such emissions. The impact assessment and stakeholder consultation (see section 2) identified that a robust system for monitoring, reporting and verification (MRV) of greenhouse gas emissions from maritime transport is a prerequisite for any market-based measure or efficiency standard, whether applied at EU level or globally.

Furthermore, a robust MRV system should contribute to the removal of market barriers, in particular related to the lack of information on ship efficiency. Based on the results of the impact assessment, it is expected that by introducing MRV, greenhouse gas emissions reductions of up to 2% compared to business-as-usual and aggregated net costs reduction of up to €1.2 billion by 2030 could be achieved.

By introducing MRV as a first step, more time can be dedicated to the discussion and decision making on emission reduction targets, market-based measures and efficiency standards to achieve these reductions at minimum cost. This is particularly relevant for discussions at global level in the IMO.

Given the Commission's clear preference for measures taken at global level, the EU MRV should serve as example for the implementation of a global MRV with the aim to speed up the international discussions. In this context, relevant submissions to the IMO will be made when appropriate. Once a global system is decided, the proposed Regulation should be amended to align the EU MRV with the global system.

## **2. RESULTS OF CONSULTATIONS WITH THE INTERESTED PARTIES AND IMPACT ASSESSMENTS**

### *Stakeholder consultation*

In order to review the policy options mentioned in the second IMO greenhouse gas study 2009<sup>9</sup> and in the 2009 CE Delft study<sup>10</sup>, a working group (WG6) was established under the European Climate Change Program II (ECCP). This group has also allowed formal technical

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<sup>8</sup> Recital 2 of the decision n°406/2009/EC and recital 3 of the directive n°2009/29/EC

<sup>9</sup> The Second IMO Greenhouse gases study, 2009.

<sup>10</sup> CE Delft, 2009 ([http://ec.europa.eu/clima/policies/transport/shipping/docs/ghg\\_ships\\_report\\_en.pdf](http://ec.europa.eu/clima/policies/transport/shipping/docs/ghg_ships_report_en.pdf)).

stakeholder consultations and provided input for the external support, e.g. by narrowing down the policy options. Three two-day meetings with more than 100 participants from national administrations, from EU and international shipping associations and from other associations and NGOs were organized in 2011. The minutes, the background paper and the presentation of these meetings are available on the Commission's website for public information<sup>11</sup>.

Furthermore, the Commission established a High Level Platform, bringing together high level experts in the maritime transport sector, to enable a strategic discussion directly with Vice President Kallas and Commissioner Hedegaard. These meetings took place on the 3 February 2011, 28 June 2011 and 7 November 2011.

An online public consultation was held from 19 January to 12 April 2012, i.e. 12 weeks. A press release announced the launch of this public consultation. The public consultation was carried out using the "General principles and minimum standards for consultation of interested parties by the Commission".

The consultation confirms that a global agreement in the IMO is perceived as the best long term option to achieve greenhouse gas emission reductions of the shipping sector. In the event of a European measure, there is general agreement that there should be a level playing field for all ships using European ports. It is also a largely shared view that any market-based measure or efficiency standard needs to be accompanied by transparent and robust monitoring of emissions. This monitoring should be established with the view of avoiding undue administrative burdens and ensure accurate reporting results. More results are published on the Commission's website<sup>12</sup>.

Finally, another stakeholder meeting with 120 participants from industry, NGOs, Member States and third countries took place on 5 December 2012 focussing on the design of a MRV system in the EU. This meeting confirmed the need for MRV as no robust data on CO<sub>2</sub> emission are available today. Several initiatives for monitoring and reporting of fuel consumption, CO<sub>2</sub> emissions and energy efficiency already exist in the shipping sector. The participants widely agreed that MRV should be based on information required by international Conventions and already available on board of ships to reduce the administrative burden. The presentations and conclusions are published on the Commission's website<sup>13</sup>.

### *Impact assessment*

The Impact Assessment analyses and compares several policy options for market-based measures and a MRV-only option. The main findings are the following:

- The key market barriers to the implementation of cost-effective abatement measures are:
  - (i) lack of reliable information on fuel efficiency of ships or of technologies available for retrofitting ships,
  - (ii) lack of access to finance for investments into ship efficiency
  - (iii) split incentives as ship owners would not benefit from their investments into ship efficiency as fuel bills, due to the structure of ship operations, are often paid by operators.

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<sup>11</sup> [http://ec.europa.eu/clima/policies/transport/shipping/index\\_en.htm](http://ec.europa.eu/clima/policies/transport/shipping/index_en.htm)

<sup>12</sup> [http://ec.europa.eu/clima/consultations/0014/index\\_en.htm](http://ec.europa.eu/clima/consultations/0014/index_en.htm)

<sup>13</sup> [http://ec.europa.eu/clima/events/0064/index\\_en.htm](http://ec.europa.eu/clima/events/0064/index_en.htm)

The removal of these market barriers will be key for the success of any particular measure.

- Significant emission reduction potentials exist for shipping through a range of technical and operational measures, which mainly aim to improve the energy efficiency of ships. The fuel cost savings associated with most of these technical or operational measures outweigh the expected costs.
- All policy options analysed offer net benefits in terms of environmental (reduction of CO<sub>2</sub> and other emissions), economic (net cost savings for the maritime transport sector) and social impacts (less health problems due to lower SO<sub>x</sub> and particle emissions, creation of jobs).
- Two types of compensation funds – a contribution-based fund with given carbon price and a target-based fund with defined reduction target and indirect price setting – and a maritime emission trading system (ETS) could offer the highest benefits in terms of emission reductions and cost savings.

They are expected to best address the market barriers and result in emission reductions of around 10% by 2030 compared to 2005. Net cost savings for the shipping sector could be substantial in case market barriers could be completely removed (and may be up to €12 billion in 2030 and in average up to €5 billion per year). In particular there are substantial saving potentials by implementing existing fuel efficiency technologies at negative costs in this sector, and coupled with operational measures will further reduce CO<sub>2</sub> emissions.

- The MRV only option would lead to more limited emission reductions estimated at up to 2% in 2030 (compared to the baseline) leading to cost reductions up to around €1.2 billion in 2030 (in average about €900 million per year). This will target the removal of market barriers related to the lack of information thanks to the generation of information on fuel consumption and raising awareness at management level for potential fuel cost savings. Costs of implementation are estimated at around €26 million per year (when excluding ship below 5000 GT from the scope). Overall, the relative benefit/cost ratio of this option is very high.

The full results are presented in the impact assessment accompanying the proposal.

#### *Summary of the proposed action*

The main objective of this Regulation is to establish a European MRV system for CO<sub>2</sub> emissions from ships as first step of a staged approach to reduce these emissions. In order to reduce the related administrative costs while ensuring robust results, simple and lean MRV requirements are proposed. The approach is therefore designed to make use of already existing data on board of ships to the fullest extent.

Accordingly the operational features of the proposed MRV system would be as follows:

- Focus on CO<sub>2</sub> as predominant GHG emitted by ships and on other climate relevant information such as efficiency information to address market barriers for the uptake of cost-efficient mitigation measures and to align MRV with IMO discussion on efficiency standards for existing ships
- Calculate annual CO<sub>2</sub> emissions based on fuel consumption and fuel type and energy efficiency using available data from log books, noon reports and bunker delivery notes

- Use existing structures and bodies of the maritime sector, in particular recognised organisations to verify emission reports and to issue documents for compliance
- Exclude small emitters (ships below 5000 GT) which represent about 40% of the fleet, but only 10% of the total emissions

In principle, the MRV system could also cover emissions of other greenhouse gases, climate forcers and air pollutants such as SO<sub>x</sub> and NO<sub>x</sub>. Such an integrated approach could deliver a broad range of relevant environmental information while making use of synergy effects to the benefits of the shipping sector and public authorities. However, the proposed lean MRV approach based on existing documents and equipment on board of ships could not be used to measure other emissions than CO<sub>2</sub>. Furthermore, the measurement equipment required for other emissions than CO<sub>2</sub> cannot be considered as sufficiently reliable and commercially available for use at sea. Therefore, at this stage, the proposed MRV system should be implemented for CO<sub>2</sub> emissions only. It would be appropriate to review this scope at later stage.

As regards the geographical scope for monitoring, the following routes will in principle be covered in a non-discriminatory manner for all ships regardless their flag:

- intra-EU voyages
- voyages from the last non-EU port to the first EU port of call (incoming voyages)
- voyages from an EU port to the next non-EU port of call (outgoing voyages)

The compliance cycle will be based on a standard approach. It is proposed to use a lean approach and to assign a limited number of tasks to the Commission which shall be assisted by the European Maritime Safety Agency (EMSA). Tasks related to the check of monitoring plans, emission reports, communication with ship owners and operators and the issuance of documents of compliance would be ensured by accredited third party verifiers. Such bodies which may include recognised bodies already have extensive experience and play an important role for maritime safety. Enforcement of the MRV obligations would be ensured by Member States, more concretely by Port State Authorities making use of the existing flag State and port State control mechanisms and of data published by the Commission.

The proposed MRV system could be converted into a global system with only limited adjustments as it uses internationally required documents and existing structures such as flag State and port State authorities and classification societies.

In order to facilitate the implementation of the proposed MRV system, more specific rules for verification and the accreditation of verifiers are needed. In addition, the description of the four monitoring methods and the determination of other climate relevant information such as efficiency indicators provided in Annex I and II of the proposed Regulation should be revised based on the scientific evidence and the development of international standards. For these purposes, the Commission should be empowered to adopt respective delegated acts.

To simplify the preparation of monitoring plans, reporting and verification of emissions and other climate relevant information, electronic templates shall be used. These templates shall be provided and adopted by the Commission based on implementing acts.

The steps of the MRV process are illustrated by the following figure.

	Process	Entity in charge
Before starting the monitoring	Drafting of a monitoring plan (MP)	Company
	Assessment of the monitoring plan	Verifier
	Is the monitoring plan in line with the regulation?	Verifier
Every year	Monitoring of CO <sub>2</sub> and climate relevant information	Company
	Reporting of annual CO <sub>2</sub> and climate relevant information	Company
	Is the emission report in line with the regulation and the MP?	Verifier
	Revision of the emission report	Company
	Submission of verified emission report to Commission & flag state	Company
	Has the emission report been submitted?	Verifier
	Issuance of a document of compliance	Verifier

### 3. LEGAL ELEMENTS OF THE PROPOSAL

#### *Legal basis*

The legal basis for the legislative proposal is Article 192(1) of the TFEU. The proposal pursues a legitimate objective within the scope of Article 191(1) of the Treaty on the Functioning of the European Union, namely, combating climate change. The purpose of the legislative proposal is to ensure that greenhouse gas emissions from ships are monitored and reported, and therefore to improve the availability of information for policy and decision making in the context of the Union's climate change commitments and provide incentives for mitigation efforts. This objective cannot be achieved by less restrictive means than the legislative proposal.

#### *Subsidiarity principle*

For Union action to be justified, the subsidiarity principle must be respected.

##### (a) Transnational nature of the problem (necessity test)

The transnational nature of climate change and of maritime transport are important elements in determining whether Union action is necessary. National action alone would not suffice to meet the objectives set by the White Paper on Transport. It is therefore necessary for the Union to create an enabling framework to meet international and Union requirements, ensuring harmonised monitoring, reporting and verification of greenhouse gas emissions from maritime transport.

##### (b) Effectiveness test (added value)

By reason of its effectiveness, taking action at Union level would produce clear benefits compared to action at Member State level. As the overarching climate change commitments are made at the Union level including the emissions reduction target for the maritime transport sector for 2050 as established by the White Paper on Transport, it is effective to also develop the required rules for MRV at this level. Moreover, this legal framework will ensure effectiveness by employing harmonised MRV for ship voyages between ports of different Member States which account for about 90% of port calls in EU Member States. Furthermore, acting at the EU level could avoid competitive distortion in the internal market by ensuring equal environmental constraints on ships calling into EU ports.

#### *Proportionality principle*

The proposal complies with the proportionality principle for the following reasons:

It does not go beyond what is necessary to achieve the objective to collect reliable data of greenhouse gas emissions from ships. Furthermore, the methodology for MRV of the proposed Regulation is based on information already today available on board of ships. No additional equipment will be required.

The proportionality of the proposed measure is also ensured by focussing on CO<sub>2</sub> emissions representing about 98% of the greenhouse gas emissions of the shipping sector and on large ships above 5000 Gross Tons (GT). This excludes almost half of the about 19000 ships above 300 GT have called in EU ports in 2010<sup>14</sup> while still covering around 90% of the total emissions from ships.

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<sup>14</sup> IHS Fairplay, 2011



#### **4. BUDGETARY IMPLICATION**

As specified in the financial statement accompanying this Regulation, the Regulation will be implemented using the existing budget and will not have an impact on the multi-annual financial framework. Limited IT development costs for the necessary adjustment of an existing tool hosted and operated by EMSA of around 0.5 M€ are expected. EMSA's involvement depends on the respective ancillary task of the agency to be activated and approved by the EMSA Board.

#### **5. OPTIONAL ELEMENTS**

##### *Review/revision clause*

The proposal includes a provision allowing the Commission to review this Regulation in the context of future international developments, in particular in case of the introduction of a global MRV system through the IMO. In such an event the proposed Regulation should be reviewed and if appropriate amended to align the provisions on MRV with the international system.

Proposal for a

**REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**

**on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport and amending Regulation (EU) No 525/2013**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee<sup>15</sup>,

Having regard to the opinion of the Committee of the Regions<sup>16</sup>,

Acting in accordance with the ordinary legislative procedure,

Whereas:

- (1) The Climate and Energy Package<sup>17</sup> calling for contributions of all sectors of the economy to achieving these emission reductions, including international maritime shipping, provides a clear mandate: "...in the event that no international agreement which includes international maritime emissions in its reduction targets through the International Maritime Organisation has been approved by Member States or no such agreement through the UNFCCC has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions in the Community reduction commitment, with the aim of the proposed act entering into force by 2013. Such a proposal should minimise any negative impact on the Community's competitiveness while taking into account the potential environmental benefits."
- (2) In July 2011, the International Maritime Organisation (IMO) adopted technical and operational measures, in particular the Energy Efficiency Design Index (EEDI) for new ships and the Ship Energy Efficiency Management Plan (SEEMP), which will bring improvement in terms of reducing the expected increase in greenhouse gas emissions, but alone cannot lead to the necessary absolute emission reductions of greenhouse gases from international shipping to keep efforts in line with the global objective of limiting increases in global temperatures to 2°C.

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<sup>15</sup> OJ C , , p. .

<sup>16</sup> OJ C , , p. .

<sup>17</sup> Decision n°406/2009/EC and Directive n°2009/29/EC

- (3) According to data provided by the IMO, the specific energy consumption and CO<sub>2</sub> emissions of ships could be reduced by up to 75% by applying operational measures and implementing existing technologies; a significant part of those measures can be regarded as cost-effective as the reduced fuel costs ensure the pay-back of any operational or investment costs.
- (4) In order to reduce carbon dioxide emissions from shipping at Union level the best possible option remains setting up a system for monitoring, reporting and verification (MRV) of CO<sub>2</sub> emissions based on the fuel consumption of ships as a first step of a staged approach for the inclusion of maritime transport emissions in the Union's greenhouse gas reduction commitment.
- (5) The adoption of measures to reduce greenhouse gas emissions and fuel consumption is hampered by the existence of market barriers such as lack of reliable information on fuel efficiency of ships or of technologies available for retrofitting ships, lack of access to finance for investments into ship efficiency and split incentives as ship owners would not benefit from their investments into ship efficiency when fuel bills are paid by operators.
- (6) The results of the stakeholder consultation and discussions with international partners indicate that a staged approach for the inclusion of maritime transport emissions in the Union's greenhouse gas reduction commitment should be applied with the implementation of a robust MRV system for CO<sub>2</sub> emissions from maritime transport as a first step and the pricing of these emissions at a later stage. This approach facilitates making significant progress at international level on the agreement of greenhouse gas emission reduction targets and further measures to achieve these reductions at minimum cost.
- (7) The introduction of a Union MRV system is expected to lead to emission reductions of up to 2% compared to business-as-usual and aggregated net costs reductions of up to 1.2 billion EUR by 2030 as it could contribute to the removal of market barriers, in particular those related to the lack of information about ship efficiency. This reduction of transport costs should facilitate international trade. Furthermore, a robust MRV system is a prerequisite for any market-based measure or efficiency standard, whether applied at Union level or globally. It also provides reliable data to set precise emission reduction targets and to assess the progress of maritime transport's contribution towards achieving a low carbon economy.
- (8) All intra-Union voyages, all incoming voyages from the last non-Union port to the first Union port of call and all outgoing voyages from a Union port to the next non-Union port of call should be considered relevant for purposes of monitoring. CO<sub>2</sub> emissions in Union ports including when ships are at berth or move within a port, should be covered as well, in particular as specific measures for their reduction or avoidance are available. These rules should be applied in a non-discriminatory manner to all ships regardless of their flag.
- (9) The proposed MRV system should take the form of a Regulation on account of the complex and highly technical nature of provisions introduced, the need for uniform rules applicable throughout the Union to reflect the international nature of maritime transport with numerous ships being expected to call at ports in different Member States, and to facilitate implementation throughout the Union.
- (10) A robust ship-specific Union MRV system should be based on the calculation of emissions from fuel consumed on voyages from and to Union ports as fuel sales data

could not provide appropriately accurate estimates for the fuel consumption within this specific scope due to the large tank capacities of ships.

- (11) The Union MRV system should also cover other climate relevant information allowing for the determination of ships' efficiency or further analyse the drivers for the development of emissions. This scope also aligns the Union MRV system with international initiatives to introduce efficiency standards for existing ships, also covering operational measures, and contributes to the removal of market barriers related to the lack of information.
- (12) In order to minimise the administrative burden for ship owners and operators, in particular for small and medium sized enterprises, and to optimise the benefits-costs-ratio of the MRV system without jeopardising the objective to cover a widely predominant share of greenhouse gas emissions from maritime transport, the rules for MRV should only apply to large emitters. A threshold of 5000 gross tonnage (GT) has been selected after detailed objective analysis of sizes and emissions of ships going to and coming from Union ports. Ships above 5000 GT account for around 55% of the number of ships calling into Union ports and represent around 90% of the related emissions. This non-discriminatory threshold would ensure that the most relevant emitters are covered. A lower threshold would result in higher administrative burden while a higher threshold would limit the coverage of emissions and thus the environmental effectiveness of the system.
- (13) To further reduce the administrative effort for ship owners and operators, the monitoring rules should focus on CO<sub>2</sub> as the by far most relevant greenhouse gas emitted by maritime transport which contributes to up to 98% of the total greenhouse gas emissions of this sector.
- (14) The rules should take into account existing requirements and data already available on board of ships; therefore, ship owners should be given the opportunity to select one out of the following four monitoring methods: the use of Bunker Fuel Delivery Notes, bunker fuel tank monitoring, flow meters for applicable combustion processes or direct emission measurements. A ship specific monitoring plan should document the choice made and provide further details on the application of the selected method.
- (15) Any company with responsibility for an entire reporting period over a ship performing shipping activities should be considered responsible for all monitoring and reporting requirements arising in relation to this reporting period, including the submission of a satisfactorily verified emissions report. In case of change of ownership, the new owner will only be responsible for the monitoring and reporting obligations related to the reporting period where the change of ownership has taken place. To facilitate the fulfilment of these obligations the new owner should receive a copy of the latest monitoring plan, and document of compliance if applicable. Change of ownership should also lead to the modification of the monitoring plan in order to allow new ship owner to make their own choices in relation to the monitoring methodology.
- (16) Other greenhouse gases, climate forcers or air pollutants should not be covered by the Union MRV system at this stage to avoid requirements to install not sufficiently reliable and commercially available measurement equipment, which could impede the implementation of the Union MRV system.
- (17) To minimise the administrative burden for ship owners and operators, reporting and publication of reported information should be organised on an annual basis. By restricting the publication of emissions, fuel consumption and efficiency-related

information to annual averages and aggregated figures, confidentiality issues should be addressed. The data reported to the Commission should be integrated with statistics to the extent that these data are relevant for the development, production and dissemination of European statistics in accordance with Commission Decision 2012/504/EU of 17 September 2012 on Eurostat<sup>18</sup>.

- (18) Verification by accredited verifiers should ensure that monitoring plans and emission reports are correct and in compliance with the requirements defined by this Regulation. As an important element to simplify verification, verifiers should check data credibility by comparing reported data with estimated data based on ship tracking data and characteristics. Such estimates could be provided by the Commission. Verifiers should be independent and competent persons or legal entities and should be accredited by national accreditation bodies established pursuant to Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93<sup>19</sup>.
- (19) A document of compliance issued by a verifier should be kept on board of ships to demonstrate compliance with the obligations for monitoring, reporting and verification. Verifiers should inform the Commission on the issuance of such documents.
- (20) Based on experience from similar tasks related to maritime safety, the European Maritime Safety Agency (EMSA) should support the Commission by carrying out certain tasks.
- (21) Non compliance with the provisions of this Regulation should result in the application of sanctions. Enforcement of the obligations related to the MRV system should be based on existing instruments, namely those instituted in application of Directive 2009/21/EC of the European Parliament and of the Council on compliance with flag State requirements<sup>20</sup> and Directive 2009/16/EC of the European Parliament and of the Council of 23 April 2009 on port State control<sup>21</sup>, and on information on the issuance of documents of compliance. The document confirming compliance of the ship with the monitoring and reporting obligations should be added by the Commission to the list of certificates and documents referred to in Article 13(1) of Directive 2009/16/EC.
- (22) Directive 2009/16/EC provides for the detention of ships in the absence of certificates which have to be carried on board. In the case of ships having failed to comply with monitoring and reporting obligations for more than one reporting period, it is nonetheless appropriate to provide for the possibility of expelling. This should be applied in such a way as to allow the situation to be rectified within a reasonable period of time.
- (23) Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change<sup>22</sup> should be amended to establish requirements for the monitoring and

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<sup>18</sup> OJ L 251, 18.9.2012, P. 49

<sup>19</sup> OJ L 218, 13.8.2008, p. 30.

<sup>20</sup> OJ L131, 28.5.2009 p. 132.

<sup>21</sup> OJ L131, 28.05.2009, p. 57.

<sup>22</sup> OJ L165,18.06.2013, p. 13-40.

reporting of CO<sub>2</sub> emissions from maritime transport by Member States pursuant to this Regulation.

- (24) The Union MRV system should serve as a model for the implementation of a global MRV system. A global MRV system is preferable as it could be regarded as more effective due to the broader scope. In this context, the Commission should share relevant information on the implementation of this Regulation with the IMO and other relevant international bodies on a regular basis and relevant submissions should be made to the IMO. Where an agreement on a global MRV system is reached, the Commission should review the Union MRV system in view of aligning it to the global system.
- (25) In order to make use of the best available practices and scientific evidence, the power to adopt acts in accordance with Article 290 of the Treaty should be delegated to the Commission in respect of reviewing certain technical aspects of monitoring and reporting of CO<sub>2</sub> emissions from ships and of further specifying rules for the verification of emission reports and the accreditation of verifiers. It is of particular importance that the Commission carries out appropriate consultations during its preparatory work, including at expert level. The Commission, when preparing and drawing-up delegated acts, should ensure a simultaneous, timely and appropriate transmission of relevant documents to the European Parliament and Council.
- (26) In order to ensure uniform conditions for the use of automated systems and standard electronic templates for coherent reporting of emissions and other climate-relevant information to the Commission and involved States implementing powers should be conferred on the Commission. Those necessary implementing powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by the Member States of the Commission's exercise of implementing powers<sup>23</sup>.
- (27) The objective of the proposed action, namely to monitor, report and verify CO<sub>2</sub> emissions from ships as first step of a staged approach to reduce these emissions cannot be sufficiently achieved by the Member States acting individually, due to the international nature of maritime transport and can therefore, by reason of scale and effects of the action, be better achieved at Union level. The Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.
- (28) The rules establishing the MRV system should comply with the provisions of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data<sup>24</sup> and with Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and of the free movement of such data<sup>25</sup>.

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<sup>23</sup> OJ L 251, 18.9.2012, p. 49

<sup>24</sup> OJ L 281, 23.11.1995, p. 31.

<sup>25</sup> OJ L 8, 12.1.2001, p. 1.

- (29) This Regulation should enter into force on 1 July 2015 to ensure that the Member States and relevant stakeholders have sufficient time to take the necessary measures for the effective application of this Regulation before the first reporting period starts on 1 January 2018.

HAVE ADOPTED THIS REGULATION:

CHAPTER I  
**GENERAL PROVISIONS**

*Article 1*

**Subject matter**

This Regulation lays down rules for the accurate monitoring, reporting and verification of carbon dioxide (CO<sub>2</sub>) emissions and other climate relevant information from ships arriving at, within or departing from ports under the jurisdiction of a Member State in order to promote the reduction of CO<sub>2</sub> emissions from maritime transport in a cost effective manner.

*Article 2*

**Scope**

1. This Regulation applies to ships above 5000 gross tons in respect of emissions released during their voyages from the last port of call to a port under the jurisdiction of a Member State and from a port under the jurisdiction of a Member State to their next port of call, as well as within ports under the jurisdiction of a Member State.
2. This Regulation does not apply to warships, naval auxiliaries, fish catching or processing ships, wooden ships of a primitive build, ships not propelled by mechanical means and government ships used for non-commercial purposes.

*Article 3*

**Definitions**

For the purposes of this Regulation the following definitions apply:

- (a) 'emissions' means the release of CO<sub>2</sub> into the atmosphere by ships as provided for in Article 2;
- (b) 'port of call' means the port where a ship stops to load or unload cargo or to embark or disembark passengers, excluding stops for the sole purpose of refuelling, obtaining fresh supplies and/or relieving the crew;
- (c) 'company' means the owner of a ship as provided for in Article 2 or any other person, such as the manager or the bareboat charterer, who has assumed the responsibility from the ship-owner for its operations;
- (d) 'gross tonnage' (GT) means the metric gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex 1 to the International Convention on Tonnage Measurement of Ships, 1969;

- (e) 'verifier' means a legal entity carrying out verification activities that is accredited by a national accreditation body pursuant to Regulation (EC) No 765/2008 of the European Parliament and of the Council<sup>26</sup> and this Regulation;
- (f) 'verification' means the activities carried out by a verifier to assess the conformity of the documents transmitted by the company with the requirements under this Regulation;
- (g) 'other climate-relevant information' means information related to the consumption of fuels, transport work and energy efficiency of ships which allow for analysing emission trends and assessing ships' performances;
- (h) 'emission factor' means the average emission rate of a greenhouse gas relative to the activity data of a source stream assuming complete oxidation for combustion and complete conversion for all other chemical reactions;
- (i) 'uncertainty' means a parameter, associated with the result of the determination of a quantity, that characterises the dispersion of the values that could reasonably be attributed to the particular quantity, including the effects of systematic as well as of random factors, expressed in per cent, and describes a confidence interval around the mean value comprising 95 % of inferred values taking into account any asymmetry of the distribution of values;
- (j) 'conservative' means that a set of assumptions is defined in order to ensure that no under-estimation of annual emissions or over-estimation of distances or amounts of cargo carried occurs;
- (k) 'tonnes of CO<sub>2</sub>' means metric tonnes of CO<sub>2</sub>;
- (l) 'reporting period' means one calendar year during which emissions have to be monitored and reported.

## CHAPTER II

### MONITORING AND REPORTING

#### SECTION 1

##### **Principles and methods for monitoring and Reporting**

###### *Article 4*

##### **Common principles for monitoring and reporting**

1. Companies shall monitor and report for every ship the amount and type of fuel consumed during a calendar year within each port under the jurisdiction of a Member State and for each voyage arriving to and departing from a port located under the jurisdiction of a Member State in accordance with paragraphs 2 to 6.
2. Monitoring and reporting shall be complete and cover all emissions from the combustion of fuels. Companies shall apply appropriate measures to prevent any data gaps within the reporting period.

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<sup>26</sup> OJ L 218, 13.8.2008, p. 30.



3. Monitoring and reporting shall be consistent and comparable over time. Companies shall use the same monitoring methodologies and data sets subject to changes and derogations approved by the verifier.
4. Companies shall obtain, record, compile, analyse and document monitoring data, including assumptions, references, emission factors and activity data, in a transparent manner that enables the reproduction of the determination of emissions by the verifier.
5. Companies shall ensure that emission determination is neither systematically nor knowingly inaccurate. They shall identify and reduce any source of inaccuracies.
6. Companies shall enable reasonable assurance of the integrity of emission data to be monitored and reported.

#### *Article 5*

#### **Methods for monitoring and reporting emissions on maritime transport**

For the purposes of Article 4(1), (2) and (3), companies shall determine their emissions and other climate relevant information for each of their ships above 5000 GT in accordance with any of the methods set out in Annex I.

## **SECTION 2**

### **MONITORING PLAN**

#### *Article 6*

#### **Content and submission of the monitoring plan**

1. By 31 August 2017, companies shall submit to the verifiers a monitoring plan indicating the method chosen to monitor and report emissions and other climate-relevant information for each of their ships above 5000 GT.
2. By way of derogation from paragraph 1, for ships falling under the scope of this Regulation for the first time after 1 January 2018, the company shall submit a monitoring plan to the verifier without undue delay and no later than two months after their first call in a port under the jurisdiction of a Member State.
3. The monitoring plan referred to in paragraph 1 shall consist of a complete and transparent documentation of the monitoring methodology of a specific ship and shall contain at least the following elements:
  - (a) the identification and type of the ship including the name of the ship, its International Maritime Organisation (IMO) registration number, its port of registry or home port and the name of the ship owner;
  - (b) the name of the company and the address, telephone, fax and e-mail details for a contact person;
  - (c) a description of the emission sources on board of the ship such as main engines, auxiliary engines, boilers and inert gas generators and the fuel types used;
  - (d) a description of procedures, systems and responsibilities used to update the completeness of the list of emission sources over the monitoring year for the

- purpose of ensuring the completeness of monitoring and reporting of the emissions of the ship;
- (e) a description of the procedures used to monitor the completeness of the list of voyages;
  - (f) a description of the procedures for monitoring fuel consumption of the ship, including:
    - (i) the chosen method as set out in Annex I for calculating the fuel consumption of each emission source including a description of the measurement equipment used, as applicable;
    - (ii) procedures for the measurement of fuel uplifts and fuel in tanks, a description of the measuring instruments involved and the procedures for recording, retrieving, transmitting and storing information regarding measurements, as applicable;
    - (iii) the chosen method for the determination of density, where applicable;
    - (iv) a procedure to ensure that the total uncertainty of fuel measurements is consistent with the requirements of this regulation, where possible referring to national laws, clauses in customer contracts or fuel supplier accuracy standards;
  - (g) single emission factors used for each fuel type, or in the case of alternative fuels, the methodologies for determining the emission factors, including the methodology for sampling, methods of analysis, a description of the laboratories used (and confirmed ISO 17025 accreditation where relevant);
  - (h) a description of the procedures used for determining activity data per voyage, including:
    - (i) the procedures, responsibilities and data sources for determining and recording the distance per voyage made;
    - (ii) the procedures, responsibilities, formulae and data sources for determining and recording the cargo carried and the number of passengers as applicable;
    - (iii) the procedures, responsibilities, formulae and data sources for determining and recording the time spent at sea between the port of departure and the port of arrival;
  - (i) a description of the method to be used to determine surrogate data for closing data gaps;
  - (j) the date of the latest modification to the monitoring plan.
4. Companies shall use standardised monitoring plans based on templates. Technical rules establishing the templates for the monitoring plans referred to in paragraph 1 shall be determined by means of implementing acts. Those implementing acts shall be adopted by the Commission in accordance with the procedure referred to in Article 25(2) of this Regulation.

#### *Article 7*

#### **Modifications of the monitoring plan**

Companies shall regularly check if the ship's monitoring plan reflects the nature and functioning of the ship and whether the monitoring methodology can be improved.

A company shall modify the monitoring plan in any of the following situations:

- (a) where a change of ownership of ships occurs;
- (b) where new emissions occur due to new emission sources or due to the use of new fuels not yet contained in the monitoring plan;
- (c) where the change in availability of data, due to the use of new measuring instrument types, sampling methods or analysis methods, or for other reasons, leads to higher accuracy in the determination of emissions;
- (d) where data resulting from the previously applied monitoring methodology has been found incorrect;
- (e) where the monitoring plan is not in conformity with the requirements of this Regulation and the verifiers requests the company to modify it.

Companies shall notify any proposals for modification of the monitoring plan to the verifiers without undue delay.

Any significant modification of the monitoring plan shall be subject to assessment by the verifier.

### SECTION 3

## **MONITORING OF EMISSIONS AND OTHER RELEVANT INFORMATION**

### *Article 8*

#### **Monitoring of activities within a reporting period**

From 1 January 2018, companies shall, based on the monitoring plan approved in accordance with Article 13(1), monitor emissions for each ship on a per-voyage and an annual basis by applying the appropriate method among those set out in part B of Annex I and by calculating emissions in accordance with part A of Annex I

### *Article 9*

#### **Monitoring on a per-voyage basis**

Based on the monitoring plan approved in accordance to Article 13(1), for each ship and for each voyage arriving to and departing from a port under a Member State's jurisdiction, companies shall monitor in accordance with part A of Annex I and Annex II, the following information:

- (a) port of departure and port of arrival including the date and hour of departure and arrival;
- (b) amount and emission factor for each type of fuel consumed in total and differentiated between fuel used inside and outside emission control areas;
- (c) CO<sub>2</sub> emitted;
- (d) distance travelled;
- (e) time spent at sea;

- (f) cargo carried;
- (g) transport work.

#### *Article 10*

#### **Monitoring on a yearly basis**

Based on the monitoring plan approved in accordance to Article 13(1), for each ship and for each calendar year, the company shall monitor in accordance with part A of Annex I and Annex II the following parameters:

- (a) amount and emission factor for each type of fuel consumed in total and differentiated between fuel used inside and outside emission control areas;
- (b) total CO<sub>2</sub> emitted;
- (c) aggregated CO<sub>2</sub> emissions from all voyages between ports under a Member State's jurisdiction;
- (d) aggregated CO<sub>2</sub> emissions from all voyages which departed from ports under a Member State's jurisdiction;
- (e) aggregated CO<sub>2</sub> emissions from all voyages to ports under a Member State's jurisdiction;
- (f) CO<sub>2</sub> emissions which occurred within ports under a Member State's jurisdiction at berth;
- (g) total distance travelled;
- (h) total time spent at sea;
- (i) total transport work;
- (j) average energy efficiency.

### **SECTION 4**

#### **REPORTING**

#### *Article 11*

#### **Content of the emission report**

1. From 2019, by 30 April of each year, companies shall submit to the Commission and to the authorities of the flag States concerned, an emission report concerning the emissions and other climate-relevant information during the entire reporting period for each ship under their responsibility, which has been verified as satisfactory by a verifier in accordance with the requirements referred to in Article 14.
2. Where there is a change in ownership of ships, the new company shall ensure that each ship under its responsibility complies with the requirements of this Regulation in relation to the entire reporting period where it takes responsibility for the ship concerned.
3. Companies shall include in the emission report referred to in paragraph 1 the following information:
  - (a) data identifying the ship and the company, including:

- (i) name of the ship,
  - (ii) IMO registration number,
  - (iii) port of registry or home port,
  - (iv) technical efficiency of the ship (the Energy Efficiency Design Index (EEDI) or the Estimated Index Value (EIV) in accordance with IMO Resolution MEPC.215 (63), where applicable)
  - (v) name of the ship owner,
  - (vi) address of the ship owner and his principal place of business,
  - (vii) name of the company (if not the ship owner),
  - (viii) address of the company (if not the ship owner) and his principal place of business,
  - (ix) address, telephone, fax and e-mail details for a contact person;
- (b) information on the monitoring method used and the related level of uncertainty;
  - (c) the results from annual monitoring of the parameters in accordance with Article 10.

#### *Article 12*

#### **Format of the emission report**

1. The emission report referred to in Article 11 shall be submitted using automated systems and complete data exchange formats, including electronic templates.
2. Technical rules establishing the data exchange format including electronic templates referred to in paragraph 1 shall be determined by means of implementing acts. Those implementing acts shall be adopted by the Commission in accordance with the procedure referred to in Article 25(2) of this Regulation.

### CHAPTER III

### **VERIFICATION AND ACCREDITATION**

#### *Article 13*

#### **Scope of verification activities and verification report**

3. The verifier shall assess the conformity of the monitoring plan referred to in Article 6 with the requirements laid down in Articles 6 and 7. Where the assessment contains recommendations necessary to be incorporated within a monitoring plan, the respective company shall revise its monitoring plan before the reporting period starts.
4. The verifier shall assess the conformity of the emission report with the requirements laid down in Articles 8 to 11 and Annex I and II.
5. In particular the verifier shall ensure that the emissions and other climate-relevant information included in the emission report have been determined in accordance with Articles 8, 9 and 10 and the monitoring plan referred to in Article 6. The verifier shall also ensure that the emissions and other climate-relevant information declared in the reports are consistent with data calculated from other sources in accordance with Annexes I and II.

6. Where the assessment concludes that, to the best knowledge of the verifier, the emission report is free from material misstatements and errors, the verifier shall issue a verification report. The verification report shall specify all issues relevant to the work carried out by the verifier.
7. Where the assessments concludes that the emission report includes material misstatements, errors, inconsistencies or does not meet the requirements of Articles 11 and 14 and Annex I, the verifier shall inform the company thereof on a timely basis and ask it to resubmit a reviewed emission report. The company shall correct any communicated non-conformities or inconsistencies so as to allow the verification process to be finished in a timely manner. The verifier shall report in its verification report whether the non-conformities have been resolved by the company during verification.

#### *Article 14*

##### **General obligations and principles for the verifiers**

1. The verifier shall be independent from a company or operator of the ship concerned and carry out the activities required under this regulation in the public interest. For that purpose, the verifier and any part of the same legal entity shall not be a company or ship operator, the owner of a company or owned by them nor shall the verifier have relations with the company that could affect its independence and impartiality.
2. When considering the verification of the emission report referred to in Article 11 and of the monitoring procedures applied by the company, the verifier shall assess the reliability, credibility and accuracy of the monitoring systems and of the reported data and information relating to emissions, in particular:
  - (d) the assigning of fuel consumption to voyages within the scope of this Regulation;
  - (e) the reported fuel consumption data and related measurements and calculations;
  - (f) the choice and the employment of emission factors;
  - (g) the calculations leading to the determination of the overall emissions;
  - (h) the calculations leading to the determination of the energy efficiency.
3. The verifier shall only consider reports submitted in accordance with Article 11 if reliable and credible data and information allow the emissions to be determined with a high degree of certainty and provided that the following are ensured:
  - (a) the reported data is coherent in view of estimated data based on ship tracking data and characteristics such as the installed engine power;
  - (b) the reported data is free of inconsistencies, in particular when comparing the total volume of fuel purchased annually by each ship and the aggregate fuel consumption during voyages which fall within the scope of this Regulation;
  - (c) the collection of the data has been carried out in accordance with the applicable rules;
  - (d) the relevant records of the ship are complete and consistent.

## *Article 15*

### **Verification procedures**

1. The verifier shall identify potential risks related to the monitoring and reporting process by comparing reported emissions with estimated data based on ship tracking data and characteristics such as the installed engine power. Where significant deviations are found, the verifier shall carry out further analyses.
2. The verifier shall identify potential risks related to the different calculation steps by reviewing all data sources and methodologies used.
3. The verifier shall take into consideration any effective risk control methods applied by the company to reduce levels of uncertainty, considering the accuracy of the monitoring methods used.
4. The company shall provide the verifier with any additional information that enables it to carry out the verification procedures. The verifier may conduct spot-checks during the verification process to determine the reliability of reported data and information.
5. The Commission shall be empowered to adopt delegated acts in accordance with Article 24 in order to further specify the rules for the verification activities referred to in this Regulation and the methods of accreditation of verifiers. These delegated acts shall be based on the principles for verification provided for in Article 14 and on relevant internationally accepted standards.

## *Article 16*

### **Accreditation of verifiers**

1. A verifier assessing monitoring plans and emission reports and issuing verification and compliance documents referred to in Articles 13 and 17 shall be accredited for activities under the scope of the present Regulation by a national accreditation body pursuant to Regulation (EC) No 765/2008.
2. Where no specific provisions concerning the accreditation of verifiers are laid in this Regulation, the relevant provisions of Regulation No EC 765/2008 shall apply.
3. The Commission shall be empowered to adopt delegated acts in accordance with Article 24, in order to further specify the methods of accreditation of verifiers.

## **CHAPTER IV**

### **COMPLIANCE AND PUBLICATION OF INFORMATION**

## *Article 17*

### **Issuance of a document of compliance**

1. Where the emission report referred to in Article 11 fulfils the requirements of Articles 11, to 15 and those laid down in Annexes I and II, on the basis of a verification report, the verifier shall deliver a document of compliance for the ship concerned.
2. The document of compliance referred to in paragraph 1 shall include the following information:

- (a) the identity of the ship (name, IMO registration number and port of registry or home port);
  - (b) name and address and principal place of business of the owner of the ship;
  - (c) the identity of the verifier;
  - (d) the date of issue of the document of compliance (the reporting period it refers to and its period of validity).
3. Documents of compliance shall be considered valid documents for a period of 18 months after the end of the reporting period.
4. Without delay, the verifier shall inform the Commission and the authority of the flag State on the issuance of any document of compliance and transmit the information referred to in paragraph 2 using automated systems and complete data exchange formats, including electronic templates established by the Commission in accordance with the procedure established in the present Regulation.
5. Technical rules establishing the data exchange format including electronic templates referred to in paragraph 4 shall be determined by means of implementing acts. Those implementing acts shall be adopted by the Commission in accordance with the procedure referred to in Article 25(2) of this Regulation.

#### *Article 18*

##### **Obligation to carry a valid document of compliance on board**

From 30 June 2019 ships arriving at, within or departing from a port under the jurisdiction of a Member State shall carry on board a valid document certifying the ship's compliance with the reporting and monitoring obligations for the concerned reporting period, issued in accordance with Article 17.

#### *Article 19*

##### **Compliance with monitoring and reporting obligations and inspections**

1. Based on the information published in accordance with Article 21(1), each Member State shall ensure the compliance with the monitoring and reporting requirements set out in Articles 8 to 12 by ships flying its flag.
2. Each Member State shall ensure that any inspection of a ship in a port under its jurisdiction includes verification that the document of compliance referred to in Article 18 is carried on board.
3. Without prejudice to paragraph 2 of this Article and based on the information published in accordance with Article 21, for each ship in failure to comply with Article 21(2) (j) and (k) which entered a port under jurisdiction of a Member State, the Member State shall verify that the document of compliance referred to in Article 18 is carried on board.

#### *Article 20*

##### **Penalties, information exchange and expulsion order**

1. Member States shall lay down a system of penalties for failure to comply with the monitoring and reporting requirements set out in Articles 8 to 12 and shall take all the measures necessary to ensure that those penalties are applied. The penalties



provided for shall be no less stringent than those foreseen under national legislation on greenhouse gas emissions in case of non-compliance with reporting obligations by operators and be effective, proportionate and dissuasive. Member States shall notify these provisions to the Commission by 1 July 2017, and shall notify any subsequent amendments affecting these provisions to the Commission without delay.

2. Member States shall establish an effective exchange of information and effective cooperation between their national authorities ensuring compliance with the monitoring and reporting requirements or, where applicable, their authority entrusted with the sanctioning procedures. National sanctioning procedures launched by any Member State shall be notified to the Commission, the European Maritime Safety Agency (EMSA), to the other Member States and to the flag State concerned.
3. For ships having failed to comply with the monitoring and reporting requirements for more than one reporting period, the national State port authority may issue an expulsion order which shall be notified to the Commission, EMSA, the other Member States and the flag State concerned. As a result of the issuing of such an expulsion order, every Member State shall refuse entry of this ship into any of its ports until the company fulfils its monitoring and reporting requirements in accordance with Articles 8 to 12, confirmed by the notification of a valid document of compliance to the national port State authority which issued the expulsion order.

#### *Article 21*

#### **Publication of information**

1. By 30 June each year, the Commission shall make publicly available the emissions reported in accordance with Article 11 and information on the company's compliance with the monitoring and reporting requirements set out in Articles 11 and 17.
2. The publication referred to in paragraph 1 shall include the following information:
  - (a) the identity of the ship (name, IMO registration number and port of registry or home port);
  - (b) the identity of the ship owner (name and address of owner and his principal place of business);
  - (c) technical efficiency of the ship (EEDI or EIV where applicable);
  - (d) annual CO<sub>2</sub> emissions;
  - (e) annual total fuel consumption for voyages falling within the scope of this Regulation;
  - (f) annual average fuel consumption and greenhouse gas emissions per distance travelled of voyages falling within the scope of this Regulation;
  - (g) annual average fuel consumption and greenhouse gas emissions per distance travelled and cargo carried on voyages falling within the scope of this Regulation;
  - (h) annual total time spent at sea in voyages falling within the scope of this Regulation;
  - (i) methodology for monitoring applied;
  - (j) the date of issue and the expiry date of the document of compliance;

- (k) the identity of the verifier having approved the emission report.
3. The Commission shall publish an annual report on emissions and other climate-relevant information from maritime transport.
  4. EMSA shall assist the Commission in its work to comply with Articles 11, 12, 17 and 21 of this Regulation, in accordance with Regulation (EC) No 1406/2002 of the European Parliament and of the Council<sup>27</sup>.

## CHAPTER V

### INTERNATIONAL COOPERATION

#### *Article 22*

##### **International cooperation**

1. The Commission shall inform the IMO and other relevant international bodies on a regular basis of the implementation of this Regulation with a view to facilitate the development of international rules within the IMO for the monitoring, reporting and verification of greenhouse gas emissions from maritime transport.
2. The Commission shall maintain technical exchange with third countries on the implementation of this Regulation, in particular the further development of monitoring methods, the organisation of reporting and the verification of emission reports.
3. Where an international agreement on global measures to reduce greenhouse gas emissions from maritime transport is reached, the Commission shall review this Regulation and may, if appropriate, propose amendments to this Regulation.

## CHAPTER VI

### DELEGATED AND IMPLEMENTING POWERS AND FINAL PROVISIONS

#### *Article 23*

##### **Delegation of powers**

The power to adopt delegated acts in order to supplement and amend the provisions of Annexes I and II to take into account up-to-date scientific evidence available, as well as the relevant data available on board of ships and the relevant international rules and internationally accepted standards, to identify the most accurate and efficient methods for monitoring of emissions, and to improve the accuracy of the information requested related to the monitoring and reporting of emissions is conferred on the Commission subject to the conditions laid down under Article 24 to the extent it concerns non-essential elements of this Regulation.

#### *Article 24*

##### **Exercise of delegation**

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<sup>27</sup> OJ L 208, 5.8.2002, p. 1.

1. The power to adopt delegated acts referred to in Articles 15, 16 and 23 shall be conferred on the Commission for a period of five years from 1 July 2015.
2. The delegation of power referred to in Article 23 may be revoked at any time by the European Parliament or by the Council. A decision of revocation shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.
3. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.
4. A delegated act adopted pursuant to Article 23 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or the Council.

#### *Article 25*

#### **Implementing acts**

1. The Commission shall be assisted by the Committee established by Article 8 of Decision 93/389/EC. That Committee shall be a committee within the meaning of Regulation (EU) N° 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

#### *Article 26*

#### **Amendments to Regulation (EU) No 525/2013**

Regulation (EU) 525/2013 is amended as follows:

1. In Article 1 of Regulation 525/2013<sup>28</sup>, the following point (h) shall be added:  
"(h) monitoring and reporting of greenhouse gas emissions from marine ships pursuant to Articles 9 and 10 of Regulation (EU) No XXXX/XXXX."
2. The following 'Article 21a' shall be inserted:

#### *Article 21a*

#### Reporting emissions from maritime transport

- (1) "Member States shall report to the Commission by 15 January each year ('year X') for the year X-2, the CO<sub>2</sub> emissions from maritime transport pursuant to Articles 9 and 10 of Regulation (EU) No XXXX/XXXX."
- (2) The Commission shall be empowered to adopt delegated acts in accordance with [Article 25 of this Regulation] to specify the requirements for the

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<sup>28</sup> OJ L 165,18.06.2013 p.13-40

monitoring and reporting of CO<sub>2</sub> emissions from maritime transport pursuant to Articles 9 and 10 of Regulation (EU) No XXXX/XXXX and taking into account, where applicable, relevant decisions adopted by the bodies of the UNFCCC and the Kyoto Protocol or agreements deriving from them or succeeding them or decisions adopted in the context of the International Maritime Organisation.

(3) The Commission shall adopt implementing acts to set out the structure, format and process for the Member states' submission of CO<sub>2</sub> emissions from maritime transport pursuant to Articles 9 and 10 of Regulation (EU) No XXXX/XXXX. These implementing acts shall be adopted in accordance with the examination procedure referred to in [Article 26(2)]."

3. In Article 25 (2), (3) and (5) the following reference shall be inserted:

"21a"

#### *Article 27*

#### **Entry into force**

This Regulation shall enter into force on 1 July 2015.

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

Done at Brussels,

*For the European Parliament*  
*The President*

*For the Council*  
*The President*

## ANNEX I

### **Methods for monitoring and reporting greenhouse gas emissions and other climate relevant information**

#### A. CALCULATION OF FUEL CONSUMPTION (Article 9)

For the purposes of calculating fuel consumption companies shall respect the following formula:

Fuel consumption x Emission factor

Fuel consumption shall include fuel consumed by main engines, auxiliary engines, boilers and inert gas generators.

Fuel consumption within ports at berth shall be calculated separately.

In principle, default values for emission factors of fuels shall be used unless the company decides using data on fuel quality set out in the Bunker Fuel Delivery Notes and used for demonstrating compliance with applicable regulations of sulphur emissions.

Default emission factors shall be based on latest available IPCC values. They can be derived from Annex VI to Commission Regulation (EU) No°601/2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council<sup>29</sup>.

Appropriate emission factors shall be applied in respect of biofuels and alternative non-fossil fuel fuels.

#### B. METHODS FOR DETERMINING EMISSIONS

The company shall define in the monitoring plan which monitoring methodology is used to calculate fuel consumption for each ship type under its responsibility and ensure that once it has been chosen, is consistently applied.

In selecting a monitoring methodology, the improvements from greater accuracy shall be balanced against the additional costs.

Actual fuel consumption for each voyage shall be used and be calculated using one of the following methods:

- (a) Bunker Fuel Delivery Note (BDN) and periodic stocktakes of fuel tanks;
- (b) Bunker fuel tank monitoring on board;
- (c) Flow meters for applicable combustion processes;
- (d) Direct emissions measurements.

##### 1. Method A:BDN (Bunker Delivery Notes) and periodic stock-takes of fuel tanks

This method is based on the quantity and type of fuel as defined on the BDN combined with periodic stock-takes of fuel tanks based on tank readings. The fuel at the beginning of the period, plus deliveries, minus fuel available at the end of the period and de-bunkered fuel between the beginning of the period and the end of the period together constitute the fuel consumed over the period.

The period includes time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be specified.

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<sup>29</sup> OJ L 181, 12.7.2012, p. 30-104

This approach shall not be used when BDN are not available on board of ships, especially when cargo is used as a fuel, for example, liquefied natural gas (LNG) boil-off.

The BDN is mandated under existing MARPOL Annex VI Regulations and relevant records are retained on board for 3 years after the delivery of the bunker fuel and be readily available. The periodic stock-take of fuel tanks on-board is based on fuel tank readings. It uses tank tables relevant to each fuel tank to determine the volume at the time of the fuel tank reading. The uncertainty associated with the BDN shall be specified in the monitoring plan referred to in Article 6. Fuel tank readings shall be carried out by appropriate methods such as automated systems, soundings and dip tapes. The method for tank sounding and uncertainty associated shall be specified in the monitoring plan referred to in Article 6.

Where the amount of fuel uplift or the amount of fuel remaining in the tanks is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- (a) on-board measurement systems;
- (a) the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or delivery note.

The actual density shall be expressed in kg/litre and determined for the applicable temperature for a specific measurement. In cases for which actual density values are not available, a standard density factor for the relevant fuel type shall be applied upon approval by the verifier.

## 2. Method B: Bunker fuel tank monitoring on-board

This method is based on fuel tank readings for all fuel tanks on-board. The tank readings shall occur daily when the ship is at sea and each time the ship is bunkering or de-bunkering.

The cumulative variations of the fuel tank level between two readings constitute the fuel consumed over the period.

The period means time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be specified.

Fuel tank readings shall be carried out by appropriate methods such as automated systems, soundings and dip tapes. The method for tank sounding and uncertainty associated shall be specified in the monitoring plan referred to in Article 6.

Where the amount of fuel uplift or the amount of fuel remaining in the tanks is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- (a) on-board measurement systems;
- (b) the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or delivery note.

The actual density shall be expressed in kg/litre and determined for the applicable temperature for a specific measurement. In cases for which actual density values are

not available, a standard density factor for the relevant fuel type shall be applied upon approval by the verifier.

3. Method C: Flow meters for applicable combustion processes

This method is based on measured fuel flows on-board. The data from all flow meters linked to relevant emission sources shall be combined to determine all fuel consumption for a specific period.

The period means time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be monitored.

The calibration methods applied and the uncertainty associated with flow meters used shall be specified in the monitoring plan referred to in Article 6.

Where the amount of fuel consumed is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- (a) on-board measurement systems;
- (b) the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or delivery note.

The actual density shall be expressed in kg/litre and determined for the applicable temperature for a specific measurement. In cases for which actual density values are not available, a standard density factor for the relevant fuel type shall be applied upon approval by the verifier.

4. Method D: Direct emissions measurement

The direct emissions measurements may be used for voyages within the scope of this regulation and for emissions occurring in ports located in a Member State's jurisdiction. CO<sub>2</sub> emitted shall include CO<sub>2</sub> emitted by main engines, auxiliary engines, boilers and inert gas generators. For ships on which reporting is based on this method, the fuel consumption shall be calculated using the measured CO<sub>2</sub> emissions and the applicable emission factor of the relevant fuels.

This method is based on the determination of CO<sub>2</sub> emission flows in exhaust gas stacks (funnels) by multiplying the CO<sub>2</sub> concentration of the exhaust gas with the exhaust gas flow.

The calibration methods applied and the uncertainty associated with the devices used shall be specified in the monitoring plan referred to in Article 6.

## **ANNEX II**

### **Monitoring of other climate-relevant information**

#### **A.- Monitoring on a per voyage basis (Article 9)**

For the purposes of monitoring other climate-relevant information on a per-voyage basis (Article 9), companies shall respect the following rules:

The date and hour of departure and arrival shall be considered using Greenwich Mean Time (GMT). The time spent at sea shall be calculated based on port departure and arrival information and shall exclude ankering.

The distance travelled can be the distance of the most direct route between the port of departure and the port of arrival or the real distance travelled. In the event of the use of the distance of the most direct route between the port of departure and the port of arrival, conservative correction factor should be taken into account to ensure that the distance travelled is not significantly underestimated. The monitoring plan referred to in Article 6 shall specify which distance calculation is used and, if necessary, the correction factor used. The distance travelled shall be expressed in nautical-miles.

For passenger ships, the number of passengers shall be used to express cargo carried. For all other categories of ships, the amount of cargo carried shall be expressed as metric tonnes and cubic meters of cargo.

Transport work shall be determined by multiplying the distance travelled with the amount of cargo carried.

#### **B. Monitoring on a yearly basis (Article 10)**

For the purposes of monitoring other climate-relevant information on a yearly basis, companies shall respect the following rules:

The values to be monitored according to Article 10 should be determined by aggregation of the respective per voyage data.

Average energy efficiency shall be monitored by using at least four indicators, fuel consumption per distance, the fuel consumption per transport work, the CO<sub>2</sub> emissions per distance and the CO<sub>2</sub> emissions per transport work, which shall be calculated as follows:

Fuel consumption per distance = total annual fuel consumption / total distance travelled

Fuel consumption per transport work = total annual fuel consumption / total transport work

CO<sub>2</sub> emissions per distance = total annual CO<sub>2</sub> emissions / total distance travelled

CO<sub>2</sub> emissions per transport work = total annual CO<sub>2</sub> emissions / total transport work



## LEGISLATIVE FINANCIAL STATEMENT

### **1. FRAMEWORK OF THE PROPOSAL/INITIATIVE**

- 1.1. Title of the proposal/initiative
- 1.2. Policy area(s) concerned in the ABM/ABB structure
- 1.3. Nature of the proposal/initiative
- 1.4. Objectives
- 1.5. Grounds for the proposal/initiative
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- 2.1. Monitoring and reporting rules
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- 3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected
- 3.2. Estimated impact on expenditure
  - 3.2.1. *Summary of estimated impact on expenditure*
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  - 3.2.3. *Estimated impact on appropriations of an administrative nature*
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  - 3.2.5. *Third-party contributions*
- 3.3. Estimated impact on revenue

## LEGISLATIVE FINANCIAL STATEMENT

### 1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

#### 1.1. Title of the proposal/initiative

Regulation of the European Parliament and the Council for the monitoring, reporting and verification of carbon dioxide emissions from maritime transport.

#### 1.2. Policy area(s) concerned in the ABM/ABB structure<sup>30</sup>

Policy area 34 = 'Climate action'

#### 1.3. Nature of the proposal/initiative

The proposal/initiative relates to a new action

The proposal/initiative relates to a new action following a pilot project/preparatory action<sup>31</sup>

The proposal/initiative relates to the extension of an existing action

The proposal/initiative relates to **an action redirected towards a new action**

#### 1.4. Objectives

##### 1.4.1. *The Commission's multiannual strategic objective(s) targeted by the proposal/initiative*

Reduce greenhouse gas emissions by at least 20% compared to 1990 levels or by 30%, if the conditions are right; increase the share of renewable energy sources in our final energy consumption to 20%; and a 20% increase in energy efficiency

##### 1.4.2. *Specific objective(s) and ABM/ABB activity(ies) concerned*

###### Specific objective No. 1

Contribute, through climate actions at EU level, to the long-term objective of stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

###### ABM/ABB activity(ies) concerned

ABB code 34 02: Climate action at EU and international level

###### Specific objective No. 2

To pursue ambitious climate action policies at international level to achieve the long-term objective of stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

###### ABM/ABB activity(ies) concerned

ABB code 34 02: Climate action at EU and international level

##### 1.4.3. *Expected result(s) and impact*

*Specify the effects which the proposal/initiative should have on the beneficiaries/groups targeted.*

<sup>30</sup> ABM: Activity-Based Management – ABB: Activity-Based Budgeting.

<sup>31</sup> As referred to in Article 49(6)(a) or (b) of the Financial Regulation.

The implementation of a system for monitoring, reporting and verification of greenhouse gas emissions from ships would provide data on these emissions which are currently only estimated in the absence of appropriate reporting requirements. It can be expected that monitoring and reporting such emissions and indicators on fuel consumption and ship efficiency would raise awareness within the maritime transport sector on related fuel costs and improvements potentials.

According to the Impact Assessment, emission reductions and fuel savings are expected to be up to 2% compared to business as usual. This translates into net costs savings of up to €1.2 billion annual net savings for the sector in 2030 due to reduced fuel bills.

#### 1.4.4. *Indicators of results and impact*

*Specify the indicators for monitoring implementation of the proposal/initiative.*

Number and percentage of ships that are monitoring and reporting their emissions in line with the regulation compared to the number of ships calling into EU ports

Annual CO<sub>2</sub> emissions from maritime transport within the EU scope, measured on board and based on fuel consumption

### 1.5. **Grounds for the proposal/initiative**

#### 1.5.1. *Requirement(s) to be met in the short or long term*

Today, the precise amount of CO<sub>2</sub> and other GHG emissions of EU-related maritime transport is not known due to the lack of monitoring and reporting of such emissions. The impact assessment and stakeholder consultation identified that a robust system for monitoring, reporting and verification (MRV) of greenhouse gas emissions from maritime transport is a prerequisite for any market-based measure, whether applied at EU level or globally.

By introducing MRV as a first step, more time can be dedicated to the discussion and decision making on emission reduction targets and market-based measures to achieve these reductions at minimum cost. This is particularly relevant for discussions at global level in the IMO. Furthermore, a robust MRV system should contribute to the removal of market barriers, in particular related to the lack of information on ship efficiency.

For further explanations please consult the explanatory memorandum of the proposal

#### 1.5.2. *Added value of EU involvement*

As the overarching climate change commitments are made at the Union level including the emissions reduction target for the maritime transport sector for 2050 as established by the White Paper on Transport, it is effective to also develop the required rules for MRV at this level. Moreover, this legal framework will ensure effectiveness by employing harmonised MRV for ship voyages between ports of different Member States which account for about 90% of port calls in EU Member States. Furthermore, acting at the EU level could avoid competitive distortion in the internal market by ensuring equal environmental constraints on ships calling into EU ports.

#### 1.5.3. *Lessons learned from similar experiences in the past*

Measures to reduce greenhouse gas emissions in other sectors, notably the EU-ETS as world's largest cap and trade system, demonstrate the need for robust rules for

monitoring, reporting and verification of emissions. The aim is to ensure a common understanding on the definition of one tonne of CO<sub>2</sub> emitted by an installation or by an operator.

*1.5.4. Compatibility and possible synergy with other appropriate instruments*

Although the proposal MRV rules for the maritime transport sector take full account of the specific aspects of this transport mode, the basic monitoring and reporting approach is comparable to the MRV used within the scope of the EU-ETS.

This should allow the comparison of efforts for emission reductions by different sectors and transport modes.

## 1.6. Duration and financial impact

Proposal/initiative of **limited duration**

- Proposal/initiative in effect from [DD/MM]YYYY to [DD/MM]YYYY
- Financial impact from YYYY to YYYY

X Proposal/initiative of **unlimited duration**

- Implementation with a start-up period from 2016 to 2017,
- followed by full-scale operation by 2018.

## 1.7. Management mode(s) envisaged<sup>32</sup>

X Centralised direct management by the Commission

Centralised indirect management with the delegation of implementation tasks to:

- executive agencies
- bodies set up by the Communities<sup>33</sup>
- national public-sector bodies/bodies with public-service mission
- persons entrusted with the implementation of specific actions pursuant to Title V of the Treaty on European Union and identified in the relevant basic act within the meaning of Article 49 of the Financial Regulation

**Shared management** with the Member States

**Decentralised management** with third countries

**Joint management** with international organisations (*to be specified*)

*If more than one management mode is indicated, please provide details in the "Comments" section.*

### Comments

The measures required for implementation of the proposed MRV system with budgetary implications are exclusively related to the development of IT tools, more precisely the extension of existing tools operated by the European Maritime Safety Agency, including administrative expenses. The budget for this one-off project will be provided by the Commission, under DG CLIMA's budget line 34 02 01.

EMSA's possible involvement depends on the respective ancillary task of the agency to be activated by the EMSA Board.

Due to its highly automated character, it is expected that the operation of the tool could later be absorbed by existing staff in EMSA.

<sup>32</sup> Details of management modes and references to the Financial Regulation may be found on the BudgWeb site: [http://www.cc.cec/budg/man/budgmanag/budgmanag\\_en.html](http://www.cc.cec/budg/man/budgmanag/budgmanag_en.html)

<sup>33</sup> As referred to in Article 185 of the Financial Regulation.

## 2. MANAGEMENT MEASURES

### 2.1. Monitoring and reporting rules

The Commission will regularly meet the consultants developing the necessary IT tool (extension of existing THETIS system operated by EMSA) to monitor the progress of the work.

### 2.2. Management and control system

#### 2.2.1. Risk(s) identified

There are no budgetary risks connected with the proposal that would require measures beyond regular EU budgetary control framework.

#### 2.2.2. Control method(s) envisaged

No specific control methods are required, standard mechanisms shall apply where appropriate.

#### 2.2.3. Costs and benefits of controls and probable non-compliance rate

The envisaged standard mechanisms are not expected to lead to additional costs. With such standard controls, no non-compliance is expected.

### 2.3. Measures to prevent fraud and irregularities

*Specify existing or envisaged prevention and protection measures.*

No specific measures are needed. The normal framework for contracts and procurement will apply.

## 3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

### 3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected

- Existing budget lines

In order of multiannual financial framework headings and budget lines.

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Number [Description..... .....]	Diff./non-diff. ( <sup>34</sup> )	from EFTA countries <sup>35</sup>	from candidate countries <sup>36</sup>	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
2	34 02 01 [Reduction of EU greenhouse gas emissions]	Diff	NO	NO	NO	NO

<sup>34</sup> Diff. = Differentiated appropriations / Non-Diff. = Non-differentiated appropriations.

<sup>35</sup> EFTA: European Free Trade Association.

<sup>36</sup> Candidate countries and, where applicable, potential candidate countries from the Western Balkans.

- New budget lines requested

In order of multiannual financial framework headings and budget lines.

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Number [Heading..... .....]	Diff./non-diff.	from EFTA countries	from candidate countries	from third countries	within the meaning of Article 18(1)(aa) of the Financial Regulation
	[XX.YY.YY.YY]		YES/NO	YES/NO	YES/NO	YES/NO

### 3.2. Estimated impact on expenditure

[This part must be completed on the spreadsheet on budget data of an administrative nature (second document in the annex to this financial statement) to be uploaded to CISNET for interdepartmental consultation purposes.]

#### 3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework:	2	Preservation and management of natural resources
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DG: CLIMA			2016	2017	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)			TOTAL
• Operational appropriations										
34 02 01	Commitments	(1)	0.500							0.500
	Payments	(2)	0.200	0.300						0.500
Number of budget line	Commitments	(1a)								
	Payments	(2a)								
Appropriations of an administrative nature financed from the envelope of specific programmes <sup>37</sup>										
Number of budget line		(3)								
TOTAL	appropriations	Commitments	=1+1a +3	0.500						0.500

<sup>37</sup> Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former 'BA' lines), indirect research, direct research.



for DG CLIMA	Payments	=2+2a +3	0.200	0.300							<b>0.500</b>
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• TOTAL operational appropriations	Commitments	(4)	0.500								<b>0.500</b>
	Payments	(5)	0.200	0.300							<b>0.500</b>
• TOTAL appropriations of an administrative nature financed from the envelope for specific programmes		(6)									
<b>TOTAL appropriations under HEADING 2</b> of the multiannual financial framework	Commitments	=4+ 6	0.500								<b>0.500</b>
	Payments	=5+ 6	0.200	0.300							<b>0.500</b>

**If more than one heading is affected by the proposal / initiative:**

• TOTAL operational appropriations	Commitments	(4)									
	Payments	(5)									
• TOTAL appropriations of an administrative nature financed from the envelope for specific programmes		(6)									
<b>TOTAL appropriations under HEADINGS 1 to 4</b> of the multiannual financial framework (Reference amount)	Commitments	=4+ 6									
	Payments	=5+ 6									

<b>Heading of multiannual financial framework</b>	<b>5</b>	'Administrative expenditure'
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EUR million (to three decimal places)

		Year N	Year N+1	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)			TOTAL
DG: <.....>									
• Human resources									
• Other administrative expenditure									
<b>TOTAL DG &lt;.....&gt;</b>	Appropriations								

<b>TOTAL appropriations for HEADING 5 of the multiannual financial framework</b>	(Total commitments = Total payments)								
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EUR million (to three decimal places)

		2016	2017	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)			TOTAL
<b>TOTAL appropriations under HEADINGS 1 to 5 of the multiannual financial framework</b>	Commitments	0.500							
	Payments	0.200	0.300						

3.2.2. *Estimated impact on operational appropriations*

- The proposal/initiative does not require the use of operational appropriations
- The proposal/initiative requires the use of operational appropriations, as explained below:

Commitment appropriations in EUR million (to three decimal places)

Indicate objectives and outputs  ↓			Year N	Year N+1	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)										TOTAL			
	<b>OUTPUTS</b>																			
	Type <sup>38</sup>	Average cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Number	Cost	Total number	Total cost
SPECIFIC OBJECTIVE NO 1 <sup>39</sup>																				
- Output																				
- Output																				
- Output																				
Subtotal for specific objective No 1																				
SPECIFIC OBJECTIVE No 2...																				
- Output																				
Subtotal for specific objective No 2																				
<b>TOTAL COST</b>																				

<sup>38</sup> Outputs are products and services to be supplied (e.g.: number of student exchanges financed, number of km of roads built, etc.).

<sup>39</sup> As described in point 1.4.2. ‘Specific objective(s)...’

### 3.2.3. Estimated impact on appropriations of an administrative nature

#### 3.2.3.1. Summary

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

EUR million (to three decimal places)

	Year N <sup>40</sup>	Year N+1	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)			TOTAL
--	-------------------------	-------------	-------------	-------------	---	--	--	-------

<b>HEADING 5 of the multiannual financial framework</b>								
Human resources								
Other administrative expenditure								
<b>Subtotal HEADING 5 of the multiannual financial framework</b>								

<b>Outside HEADING 5<sup>41</sup> of the multiannual financial framework</b>								
Human resources								
Other expenditure of an administrative nature								
<b>Subtotal outside HEADING 5 of the multiannual financial framework</b>								

<b>TOTAL</b>								
--------------	--	--	--	--	--	--	--	--

The administrative appropriations required will be met by the appropriations of the DG which are already assigned to management of the action and/or which have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

<sup>40</sup> Year N is the year in which implementation of the proposal/initiative starts.

<sup>41</sup> Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former 'BA' lines), indirect research, direct research.

### 3.2.3.2. Estimated requirements of human resources

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below:

*Estimate to be expressed in full time equivalent units*

	Year N	Year N+1	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)		
<b>Establishment plan posts (officials and temporary agents)</b>							
XX 01 01 01 (Headquarters and Commission's Representation Offices)							
XX 01 01 02 (Delegations)							
XX 01 05 01 (Indirect research)							
10 01 05 01 (Direct research)							
<b>• External personnel (in Full Time Equivalent unit: FTE)</b> <sup>42</sup>							
XX 01 02 01 (CA, INT, SNE from the "global envelope")							
XX 01 02 02 (CA, INT, JED, LA and SNE in the delegations)							
<b>XX 01 04 yy</b> <sup>43</sup>	- at Headquarters						
	- in delegations						
<b>XX 01 05 02</b> (CA, SNE, INT - Indirect research)							
10 01 05 02 (CA, SNE, INT - Direct research)							
Other budget lines (specify)							
<b>TOTAL</b>							

**XX** is the policy area or budget title concerned.

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	
External staff	

<sup>42</sup> CA= Contract Agent; LA = Local Agent; SNE = Seconded National Expert; INT = agency staff ('Intérimaire'); JED= 'Jeune Expert en Délégation' (Young Experts in Delegations).

<sup>43</sup> ABM: Activity-Based Management – ABB: Activity-Based Budgeting.

3.2.4. *Compatibility with the current multiannual financial framework*

- Proposal/initiative is compatible the current multiannual financial framework.
- Proposal/initiative will entail reprogramming of the relevant heading in the multiannual financial framework.

Explain what reprogramming is required, specifying the budget lines concerned and the corresponding amounts.

[...]

- Proposal/initiative requires application of the flexibility instrument or revision of the multiannual financial framework.<sup>44</sup>

Explain what is required, specifying the headings and budget lines concerned and the corresponding amounts.

[...]

3.2.5. *Third-party contributions*

- The proposal/initiative does not provide for co-financing by third parties.
- The proposal/initiative provides for the co-financing estimated below:

Appropriations in EUR million (to three decimal places)

	Year N	Year N+1	Year N+2	Year N+3	Enter as many years as necessary to show the duration of the impact (see point 1.6)			Total
Specify the co-financing body								
TOTAL appropriations cofinanced								

<sup>44</sup> See points 19 and 24 of the Interinstitutional Agreement.

### 3.3. Estimated impact on revenue

- Proposal/initiative has no financial impact on revenue.
- Proposal/initiative has the following financial impact:
  - on own resources
  - on miscellaneous revenue

EUR million (to three decimal places)

Budget line: revenue	Appropriations available for the current financial year	Impact of the proposal/initiative <sup>45</sup>					Enter as many years as necessary to show the duration of the impact (see point 1.6)		
		Year N	Year N+1	Year N+2	Year N+3				
Article .....									

For miscellaneous ‘assigned’ revenue, specify the budget expenditure line(s) affected.

[...]

Specify the method for calculating the impact on revenue.

[...]

<sup>45</sup> As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 25% for collection costs.