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To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union

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Delegations will find attached document SWD(2023) 406 final.

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EUROPEAN  
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Brussels, 6.12.2023  
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## **COMMISSION STAFF WORKING DOCUMENT**

**Union submission to the 81st session of the International Maritime Organization's  
Marine Environment Protection Committee commenting on the final report of the  
Correspondence Group on the development of the Life Cycle Assessment (LCA)  
framework**

## **Union submission to the 81<sup>st</sup> session of the International Maritime Organization's Marine Environment Protection Committee commenting on the final report of the Correspondence Group on the further development of the Life Cycle Assessment (LCA) framework**

### **PURPOSE**

This Staff Working Document contains a draft Union submission to the 81<sup>st</sup> session of the International Maritime Organization's Marine Environment Protection Committee (MEPC 81). The IMO has indicatively scheduled MEPC 81 from 18 to 22 March 2024.

The draft submission provides comments on the final report of the Correspondence Group on the further development of the Life Cycle Assessment (LCA) framework established by MEPC 80. It highlights the importance of ensuring continuation of further technical discussion and work towards the identification of relevant methodologies for verification and certification of actual methane and nitrous oxide tank-to-wake emission factors.

### **EU COMPETENCE**

Regulation (EU) 2015/757<sup>1</sup> (EU MRV Regulation) establishes the legal framework for an EU system to monitor, report and verify (MRV) GHG emissions. The regulation aims to deliver robust and verifiable GHG emissions data and energy efficiency indicators, inform policy makers and stimulate the market uptake of energy efficient technologies and behaviours. It does so by addressing market barriers such as the lack of information. It entered into force on 1 July 2015.

The EU Climate Law<sup>2</sup> sets a binding Union climate target of a reduction of net greenhouse gas emissions—emissions after deduction of removals—by at least 55% by 2030 compared to 1990. It also includes the aim of climate neutrality by 2050 and an aspirational goal for net negative emissions after this time.

Based on the Commission's proposals of the *Fit for 55* package to reduce GHG emissions, the EU legislators adopted that the following legal acts specifically targeting GHG emissions from the shipping sector:

- the revision of the EU Emission Trading System (ETS) Directive (EU) 2023/959<sup>3</sup> to extend the EU ETS to the maritime transport sector to apply as of 1 January 2024, (together with the necessary amendments to the EU MRV Regulation,<sup>4</sup> to revise monitoring and reporting rules, also through the revision of the relevant implementing and delegated acts).
- Regulation (EU) 2023/1805<sup>5</sup> (FuelEU Maritime Regulation) focuses on the use of renewable and low-carbon fuels in the maritime sector and mandates the uptake thereof by ships calling at EU ports to apply as of 1 January 2025.

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<sup>1</sup> Regulation (EU) 2015/757 of the European Parliament and of the Council of 29 April 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC, OJ L 123, 19.5.2015, p. 55–76

<sup>2</sup> Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law'); OJ L 243, 9.7.2021, p. 1–17

<sup>3</sup> Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system, OJ L 130, 16.5.2023, p. 134–202

<sup>4</sup> Regulation (EU) 2023/957, of the European Parliament and of the Council of 10 May 2023 amending Regulation (EU) 2015/757 in order to provide for the inclusion of maritime transport activities in the EU Emissions Trading System and for the monitoring, reporting and verification of emissions of additional greenhouse gases and emissions from additional ship types, OJ L 130, 16.5.2023, p. 105–114

<sup>5</sup> Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC, OJ L 234, 22.9.2023, p. 48–100

Compliance with the new obligations stemming from the extension of the EU ETS to maritime transport and the FuelEU Maritime Regulation will build on the monitoring, reporting, and verification system established by the EU MRV Regulation.

Any IMO measure on GHG matters, which will require the monitoring, verification and reporting of GHG emissions from shipping, could affect the EU MRV Regulation as well as the EU ETS Directive and the FuelEU Maritime Regulation. Therefore, the EU has exclusive competence for GHG emissions in shipping.

In light of all of the above, the present draft Union submission falls under EU exclusive competence, pursuant to article 3(2) TFEU<sup>6</sup>. This Staff Working Document is presented to establish an EU position on the matter and to transmit the document to the IMO prior to the required deadline of 26 January 2024.

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<sup>6</sup> An EU position under Article 218(9) TFEU is to be established in due time should the IMO Marine Environment Protection Committee eventually be called upon to adopt an act having legal effects as regards the subject matter of the said draft Union submission. The concept of '*acts having legal effects*' includes acts that have legal effects by virtue of the rules of international law governing the body in question. It also includes instruments that do not have a binding effect under international law, but that are '*capable of decisively influencing the content of the legislation adopted by the EU legislature*' (Case C-399/12 Germany v Council (OIV), ECLI:EU:C:2014:2258, paragraphs 61-64).

**REDUCTION OF GHG EMISSIONS FROM SHIPS**  
**Comments on document MEPC 81/7/XX**

**Submitted by Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands (Kingdom of the), Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the European Commission, acting jointly in the interest of the European Union**

**SUMMARY**

*Executive summary:* This document comments on document MEPC 81/7/XX, providing the final report of the Correspondence Group on the further development of the Life Cycle Assessment (LCA) framework established by MEPC 80. It highlights the importance of ensuring continuation of further technical discussion and work towards the identification of relevant methodologies for verification and certification of actual methane and nitrous oxide tank-to-wake emission factors.

*Strategic direction, if applicable:*

*Output:*

*Action to be taken:* Paragraph 15

*Related documents:* ISWG-GHG 11/2/1, MEPC 78.WP.5, MEPC 80/7/4

1 MEPC 78 established the Correspondence Group (CG) on Marine Fuel Lifecycle Greenhouse Gas (GHG) Analysis, under the coordination of China, Japan and the European Commission. The Correspondence Group was tasked with the development of draft guidelines on lifecycle GHG intensity of marine fuels (LCA Guidelines), with a view to finalizing them at MEPC 80.

2 The LCA guidelines were adopted at MEPC 80 by Resolution MEPC.376(80). In addition to the adoption of the LCA guidelines, the Committee endorsed the ISWG-GHG 15 recommendation for intersessional follow-up, establishing the CG on the further development of the LCA framework, with a view to continue the work on the items identified for further work, as proposed in MEPC 80/7/4, paragraph 81.4.

3 The CG was inter alia tasked to advance the considerations on:

- .1  $C_{fCH_4}$  and  $C_{fN_2O}$  emission factors, for fuels other than those contained in resolution MEPC.364(79) (for which default values are provided for certain energy converters).
- .2 tank-to-wake methodologies for actual/onboard emission factors.

4 The demonstration of actual  $C_{fCH_4}$  and  $C_{fN_2O}$  emission factors for engines/energy converters is of direct relevance to both points 3.1 and 3.2, above. Such demonstration must be supported by relevant methodologies for verification and certification. To this end, Paragraph 10.5 of the LCA Guidelines allows for actual tank-to-wake (TtW) emission factors for all fuel pathways. Verification and certification methodologies would need further work to be established.

5 This document highlights the need to develop the relevant regulatory framework provisions with a methodology allowing for demonstration of actual  $C_{fCH_4}$  and  $C_{fN_2O}$  emission factors, whilst referring to the information MEPC 81/INFXX, with a view to support both technical discussions and necessary decision-making regarding adequacy of the different certification methodologies for that purpose.

## Discussion

6 As indicated in paragraph 10 of the LCA Guidelines, actual emission factors have the aim to allow demonstration of superior GHG performance compared to the default emission factors, subject to verification and certification by a third party. As the present document highlights the importance of further investigating and developing suitable methodological approach to serve the purpose of third party verification.

7 In particular for TtW actual emission factors of  $C_{fCH_4}$  and  $C_{fN_2O}$ , as well as for  $C_{slip}$ , it is important to take into consideration the relevance of a verification and certification methodology which incentivises the development of improved energy conversion technologies, with lower TtW or slippage GHG emission footprint. Such a possibility will promote innovation and create a favourable framework for continuous development of energy conversion technologies.

8 Notwithstanding the need to cover all energy conversion technologies, the pressing need refers immediately to internal combustion engines, remarkably dual-fuel/gas engines operating already today with methane and, in the very near future, also with ammonia as fuel. The co-sponsors consider it important that technological development in mitigation of non-CO<sub>2</sub> GHG emissions is incentivised by the possibility to certify/demonstrate actual TtW emission factors.

9 Different methodologies for verification and certification exist which could be considered for the purpose of demonstrating actual TtW emissions of CH<sub>4</sub> and N<sub>2</sub>O from engines, including test bed and on-board certification, with the last option possible through different approaches, including Test Cycle, Continuous Monitoring or even Engine Load distribution. For each method different benefits and drawbacks must be considered when deciding on the applicability and relevance for the specific purpose. Irrespective of the approach, as a guiding principle, any certification procedure should provide reasonable assurance that the engine on average emits less than the default values for tank-to-wake emission factors.

10 The use of the NO<sub>x</sub> Technical Code 2008 (NTC 2008) for both test bed certification approach (NTC chapter 5) and on-board verification (NTC chapter 6) may be considered as a possible starting point for the discussion and development of further work for the specific objective of measurement of CH<sub>4</sub> and N<sub>2</sub>O emissions. While the NTC 2008 does not include procedures for measurement and certification of CH<sub>4</sub> and N<sub>2</sub>O, a procedure could be developed using NTC 2008 as a basis, integrating relevant elements from ISO 8178 regarding measurement for CH<sub>4</sub> and N<sub>2</sub>O and by ensuring that drawbacks identified in Annex to MEPC 81/INFXX are minimised, and that a conservative estimation of real-world emissions is achieved.

11 The use of on-board certification and verification, through test-cycle, continuous monitoring or engine load distribution, is also a possibility that can be considered for the demonstration of actual CH<sub>4</sub> and N<sub>2</sub>O emission factors. The NTC 2008 Chapter 6 already includes procedures relevant for the test-cycle approach onboard, with provisions for demonstrating compliance with NO<sub>x</sub> emission limits on board including a Chapter 6.3 for a simplified measurement method. However, when deciding to define a procedure which balances the benefits of a higher approximation to real-operating conditions with the challenges of using onboard-based procedures and instrumentation, further expert judgement is required.

### **Proposal**

12 On the basis of the above considerations, the co-sponsors propose that the specific work on the development of a methodology for verification and certification of actual CH<sub>4</sub> and N<sub>2</sub>O emission factors and Cslip values is given priority for the continuation of the work on the LCA Guidelines, in a possible inter-sessional work continuation, following MEPC81. Such continuation of the work should enable to further add to MEPC.376(80) as adopted, with the relevant methodology and reference protocols to be followed for demonstration of actual CH<sub>4</sub> and N<sub>2</sub>O emission factors.

13 Acknowledging the challenges stemming from the need to put in place a relevant verification and certification framework for demonstration of actual non-CO<sub>2</sub> GHG emission factors, and bearing in mind the need to urgently operationalise the IMO LCA guidelines, the co-sponsors propose to establish at MEPC 81 the continuation of the CG on the further development of the LCA framework to further develop a methodology and relevant framework for measuring and demonstrating actual CH<sub>4</sub> and N<sub>2</sub>O emission factors.

14 To further support the work ahead the co-sponsors refer to accompanying document MEPC 81/INFXX containing identification of different methodologies that may be considered as a starting point for the objective defined in paragraphs 12 and 13 above. In addition the co-sponsors propose indicative Terms of Reference for intersessional continuation, in annex to this document.

### **Action requested**

15 The Committee is invited to consider the proposal in paragraphs 12 to 14 of this document and take action, as appropriate.

## **ANNEX**

### **Proposed Terms of Reference (ToR) for intersessional continuation of the Correspondence Group on the further development of the LCA framework to be defined at MEPC81**

Given the need to define a methodology for verification and certification of actual CH<sub>4</sub> and N<sub>2</sub>O emission factors and actual Cslip values for energy converters, the Correspondence Group on the further development of the LCA framework should be tasked to continue the work, intersessionally, following MEPC81, with a view to:

1. Work on the definition of acceptable methodology for verification and certification of actual CH<sub>4</sub> and N<sub>2</sub>O emission factors for energy converters, taking into account the different options identified in document MEPC 81/INFXX and any other relevant technical references.
2. Identify the relevant gaps and open questions, and propose recommendations, with a view to operationalize existing approach test cycle (test bed and on-board); continuous monitoring or engine load distribution.
3. Propose a methodological framework for verification and certification of actual non-CO<sub>2</sub> GHG values, in support of the application of the LCA Guidelines, including any necessary proposals for standardization required regarding a test cycle approach (including mode points and weighting factors); continuous monitoring; engine load distribution, and associated measurement equipment technology and procedures, as applicable.