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Delegations will find attached document SWD(2023) 432 final.

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COMMISSION STAFF WORKING DOCUMENT

Union submission to the International Maritime Organization's 16th Intersessional Working Group on GHG providing considerations for establishing the required Greenhouse gas Fuel Intensity (GFI) trajectory

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PURPOSE

This Staff Working Document contains a draft Union submission to the International Maritime Organization's 16th Intersessional Working Group on GHG (ISWG-GHG 16). The IMO has indicatively scheduled ISWG-GHG 16 from 11 to 15 March 2024.

The draft submission provides further considerations for establishing the required GFI trajectory.

The regulation for the goal-based marine fuel standard will require a quantified trajectory of the Greenhouse gas Fuel Intensity (GFI) of fuels. This submission proposes a methodology for determining the required GFI and shows the need for a new IMO GHG Study containing projections for the energy consumption of the regulated fleet.

EU COMPETENCE

Regulation (EU) 2015/757[1] (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[2] 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[3] 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,[4] to revise monitoring and reporting rules, also through the revision of the relevant implementing and delegated acts).
- Regulation (EU) 2023/1805[5] (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.

[1] 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

[2] 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

[3] 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

[4] 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.

[5] 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. [6] 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.

[6] 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). The present submission, however, does not produce legal effects and thus the procedure for Article 218(9) TFEU is not applied.

INTERSESSIONAL MEETING OF THE
WORKING GROUP ON REDUCTION OF
GHG EMISSIONS FROM SHIPS
16th session
Agenda item 2

ISWG-GHG 16/2/XX
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FURTHER CONSIDERATION OF THE DEVELOPMENT OF CANDIDATE MID-TERM MEASURE(S) IN THE CONTEXT OF PHASE III OF THE WORK PLAN FOR THE DEVELOPMENT OF MID- AND LONG-TERM MEASURES

Considerations for establishing the required Greenhouse gas Fuel Intensity (GFI) trajectory

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:	The regulation for the goal-based marine fuel standard will require a quantified trajectory of the Greenhouse gas Fuel Intensity (GFI) of fuels. This submission proposes a methodology for determining the required GFI and shows the need for a new IMO GHG Study containing projections for the energy consumption of the regulated fleet.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 19
Related documents:	Resolution MEPC.377(80)

Introduction

1 The 2023 IMO Strategy on Reduction of GHG Emissions from Ships (“2023 Strategy”) provides for the development and adoption of a basket of candidate measure(s), comprising a goal-based marine fuel standard regulating the phased reduction of the marine fuel’s GHG intensity and an economic element, on the basis of a maritime GHG emissions pricing mechanism.

2 Regardless of the detailed design of the goal-based marine fuel standard (for ease of reference called GFS in the rest of the text), it requires setting a Greenhouse gas Fuel Intensity (GFI) limit value (“required GFI”), that ships, or the fleet, have to meet. In order to meet the 2023 Strategy’s objective of GHG emissions from international shipping to reach net zero, taking account of the indicative checkpoints for 2030 and 2040, the required GFI should follow a phased, downward trajectory. The trajectory should be agreed for the entire

period up to the time when GHG emissions have to reach net-zero;[7] this would provide the certainty that investors in ships, fuel production and bunkering infrastructure need for optimising their operational choices and strategic planning in accordance with the regulations.

3 This submission proposes a methodology for developing the trajectory for the required GFI. In addition, it enumerates the policy choices which are available for the Committee to select, and the additional data which would be required, to establish the GFI trajectory consistently with the proposed methodology.

Methodology for establishing the GFI trajectory

4 The GFS is a technical measure contributing to the achievement of the net-zero goal of the 2023 Strategy, taking account of the indicative checkpoints for 2030 and 2040. The trajectory for the required GFI should therefore be defined in a way that allows meeting agreed goals and checkpoints.

5 The goals of the 2023 Strategy are defined in terms of percentage reductions of GHG emissions from international shipping, on a well-to-wake basis, compared to 2008. **The first step** in designing the GFI trajectory is therefore to establish the absolute GHG emissions, on a well-to-wake (WtW) basis, from international shipping in 2008 – in other words **the GHG emissions baseline.** This implies adding the well-to-tank (WtT) emissions to the TtW emissions inventory from the IMO Greenhouse Gas Studies and aligning the ship scope with the scope of the measures. The data required for the successful completion of this step are further described below in paragraphs 8 through 11.

6 **The second step** in designing the GFI trajectory is to decide on the shape of the GHG emissions reduction pathway in between the indicative checkpoints, i.e., between 2027 and 2030; between 2030 and 2040; and between 2040 and 2050. The pathways can be linearly interpolated in annual decreases or follow multi-year steps. This policy choice is further described below in paragraphs 12 through 14.

7 The GFI is expressed in terms of mass of GHG emissions on a lifecycle basis per unit of energy delivered to the ship, e.g., g CO_2e/MJ. Paragraphs 5 and 6 above refer to the establishment of the GHG emissions from international shipping in 2008 (baseline) and the GHG reduction pathway until the moment when emissions reach net-zero. Once these two elements are established, **the third step** is to evaluate the current and project the future demand for energy. This requires, establishing the total demand for energy in 2008, and its evolution, taking account of techno-economic development e.g., improvements in efficiency. The issues and policy choices to be made with regards to this step are further discussed below in paragraphs 15 through 17.

Establishing the absolute GHG emissions from international shipping in 2008 – baseline

8 The Fourth IMO Greenhouse Gas Study ("GHG Study") is the best available source of data for establishing the GHG emissions from international shipping in 2008, as its results have been accepted by IMO. For that reason, it should be the basis to define the 2008 emissions baseline. An agreed baseline is needed to assess progress towards both the goal and the intermediate checkpoints as endorsed in the 2023 Strategy. The GHG Study does not comprise data on upstream emissions. The scope in terms of ship coverage could potentially also be further refined.

[7] i.e. zero emissions within the boundaries of the energy system of international shipping, as specified in paragraph 3.2 of the 2023 Strategy.

9 As regards the missing data on upstream emissions, the 2008 emissions in the GHG Study cover the Tank-to-Wake (TtW) part, while – according to the 2023 Strategy – both the GHG reduction targets and the development of the basket of candidate mid-term GHG reduction measures should take into account the well-to-wake (WtW) GHG emissions. Translating the TtW emissions into WtW emissions would require adding the well-to-tank (WtT) emissions. WtT emissions are fuel/energy source specific. For Heavy Fuel Oil (HFO) and Marine Diesel Oil (MDO), default values for the WtT emissions are available in the LCA Guidelines (Resolution 376(80)). However, such values are not yet available for LNG. The on-going work of the Correspondence Group refining the LCA Guidelines is the best available instrument to compute and endorse such values.

10 As regards the scope (ship coverage), the GFS will need to use the data from ships collected through the IMO's Data Collection System (DCS). The latter currently requires ships falling within its scope to report all the fuel used in a year, without distinguishing between domestic and international voyages.

11 The scope of the baseline emissions considered to determine the GFI trajectory should be as close as possible to the scope of the GFS. The GHG Study includes emissions estimates for 2008 for (1) all shipping; (2) vessel-based international shipping; or (3) voyage-based international shipping. Which of these estimates should be used, depends on the application scope of the GFS. The GHG Study inventory includes all ships of 100 gross tonnage (GT) and above, although the vessel-based international emissions estimate excludes the smallest ships, using a ship-type specific threshold expressed in deadweight tonnage (dwt). A 2008 baseline is required for the same ship scope to which the GFS will apply i.e., with a threshold based on gross tonnage. In interest of achieving quick progress on this issue, an expert workshop should be organised to recommend to the Committee the most appropriate way to convert the dwt-based threshold to a GT-based threshold. Following that step, the consortium behind the 4th GHG Study should be tasked with preparing an inventory report **combining the outcome of the workshop and of the relevant work of the Correspondence Group on LCA Guidelines, and establishing, as soon as possible, the 2008 GHG emissions for the right scope of ships on a WtW basis**.

Deciding on the shape of the GHG emissions reduction pathway in between the indicative checkpoints

12 The reductions of the GHG emissions (and therefore also of the required GFI) could, in principle, be linearly interpolated from the baseline, intermediate checkpoints and the net-zero goal and be decreased annually or stepwise, e.g., once every two or five years or a combination thereof.

13 The shape of the curve has impacts on the return on investments, and it determines whether the shipping cost change brought about by the GFS is gradual or uneven, at times requiring very quick adaptations, which, in turn, may have implications for the impacts on States.

14 When the moment comes to decide on the shape of the curve, the co-sponsors propose, to take into account the certainty provided to investors and the impacts on shipping costs and on States.

Projecting the total demand for energy until the date where emissions reach net-zero

15 The projections of the energy demand of the fleet could in principle be derived from the business-as-usual (BAU) emissions projections of the GHG Study. Even though the latter does not report the energy demand projection, the emission projections assume a constant fuel mix, and consequently a constant ratio between emissions and energy use. Using this ratio, the emission projections can be translated into projections of energy consumption.

16 However, the projections do not take into account:

.1 changes in maritime trade that have occurred after 2019 in reaction to the COVID pandemic and geopolitical events;

.2 the entry into force of the short-term measures and their impact on the energy efficiency of the fleet; and

.3 the impacts of the future maritime GHG pricing mechanism, which – depending on its design and according to certain scientific sources – could have a very significant impact on the uptake of energy efficiency measures and tools.

In particular, the third issue might change projected energy demand of the shipping sector, which would imply that the GFI trajectory required to meet the GHG emissions pathway could be less steep.

17 Because of these limitations, energy demand projections should be updated in order to establish more precise estimations of the GFI trajectory necessary to deliver the goal and checkpoints defined in the 2023 Strategy. Therefore, **it is recommended that the Committee launches a targeted energy consumption projection study** explicitly projecting the energy demand of the world fleet, taking account of the past and current regulatory framework and techno-economic development as well as the GHG pricing mechanism and, where appropriate, the outcomes of the Comprehensive Impact Assessment, **and that this study is performed without implying undue delays to the design of the measures.**

Conclusions

18 In order to quantify the trajectory of the GFI required to meet the levels of ambition and checkpoints of the 2023 Strategy, the Committee will need to take decisions as to the appropriate emissions reduction pathway. It should also task the consortium which prepared the 4th GHG Study, with preparing an emissions inventory, taking into account notably the WtT emission factors and adjusting the ship type scope. Furthermore, the Committee is recommended to launch a new targeted energy consumption projection study.

Action requested by the Working Group

19 The Working Group is invited to consider the information contained in this document, and to recommend to the MEPC establishing a 2008 WtW GHG emissions inventory, as well as a study projecting the development of energy demand of the fleet between 2008 and 2050, with final results to be provided at the latest to the session which has to agree on the GFI trajectory.