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Agenda item 2

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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**

**Revised possible draft amendments to MARPOL Annex VI to implement a simplified  
Global GHG Fuel Standard (GFS) with an energy pooling compliance mechanism**

**Submitted by ICS and IBIA**

**SUMMARY**

*Executive summary:* The co-sponsors propose possible draft amendments to MARPOL Annex VI, in terms of maximum permitted GHG intensity of fuels in 2030, i.e. an absolute fuel standard, similar to the approach used for the IMO 2020 regulation, but revised to provide for a voluntary "energy pooling compliance mechanism". This will provide the same flexibility as in other proposals to enable compliance, should fuels of the required GHG intensity not always be available, whilst avoiding the need for a complex system where "compliance units" and "remedial units" are traded and reported to, and purchased from, a central IMO registry, thus avoiding the considerable administrative burden for the Organization, flag States and ships entailed by an overly complex system. The co-sponsors support a GFS with an aggressive tightening of the GHG intensity standard after 2030, provided this is supported by the proposed Fund and Reward (feebate) measure, or similar. To send an unambiguous signal to fuel producers/suppliers, the co-sponsors still suggest a GFS simpler in design and with a smaller administrative burden to those set out in other proposals. This proposal would also make implementation of a GFS more likely to be practically feasible by 2027, in line with the 2023 IMO GHG Strategy.

*Strategic direction,  
if applicable:* 3

*Output:* 3.2

*Action to be taken:* Paragraph 37

*Related documents:* Resolution MEPC.377(80); MEPC 80/WP.6, MEPC 80/WP.7, MEPC 80/17; ISWG-GHG 13/4/7, ISWG 13/4/8; ISWG-GHG 15/3/1, ISWG-GHG 15/3/2, ISWG-GHG 15/3/4, ISWG-GHG 15/3/6 and ISWG-GHG 15/3/7

## Introduction

1 The 2023 IMO Strategy for the reduction of GHG emissions from ships (2023 IMO GHG Strategy) identifies the development and finalization of a basket of mid-term measure(s) including a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity (resolution MEPC.377(80), paragraph 4.5.1).

2 Prior to MEPC 80, ICS submitted document ISWG-GHG 15/3/6 providing possible draft amendments to MARPOL Annex VI to implement a Global GHG Fuel Standard (GFS) for consideration by the Committee.

3 Possible revised draft amendments to MARPOL Annex VI to implement a simplified GFS in terms of GHG Fuel Intensity ("Required GFI") of energy used on board the ship (gCO<sub>2e</sub>/MJ) are annexed to this new document for further consideration.

4 Noting the levels of ambition and indicative checkpoints set out in the 2023 IMO GHG Strategy, including the uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030, the co-sponsors recognize the need for maximum flexibility for achieving compliance with the GFS, as proposed in documents ISWG-GHG 13/4/7 and ISWG-GHG 15/3/1 (Austria et al.).

5 To support this flexible approach, the co-sponsors therefore now provide some possible additional draft regulatory provisions concerning a voluntary "energy pooling compliance mechanism", which is intended to entail a significantly reduced administrative burden for the Organization, flag States and ships compared to other proposals, which is an issue of importance to many developing countries, in particular least developed countries (LDCs) and small island developing States (SIDS).

6 As explained below, the simplified GFS suggested by the co-sponsors, which does not make use of the IMO Fuel Oil Data Collection System (DCS), makes it possible – should the Committee so decide – to extend the application of the GFS to ships of 400 GT and above, consistent with other provisions for fuel standards under MARPOL Annex VI.

## Discussion

7 Documents ISWG-GHG 13/4/7 and ISWG-GHG 13/4/8 (Austria et al.) contain further information about a proposal for a GFS as a technical measure within a basket of mid-term measures comprising also a separate economic measure using a ("levy-based") flat rate contribution by ships to an IMO fund based on GHG emissions. Austria et al. further elaborated on this proposal in documents ISWG-GHG 15/3/1 and ISWG-GHG 15/3/2. In addition to the proposal for a simplified GFS presented previously by ICS in document ISWG-GHG 15/3/6, document ISWG-GHG 15/3/4 (China) suggested combining a GFS with economic elements within a single measure (suggesting that a separate economic measure such as a flat rate contribution by ships to an IMO fund based on GHG emissions would therefore be unnecessary).

8 As stated in document ISWG-GHG 15/3/6 (ICS), in combination with a separate economic measure or what the 2023 IMO GHG Strategy now refers to as a "GHG pricing mechanism", the co-sponsors fully support the development of a GFS as a separate "fuel neutral" technical measure to help to establish global demand from international shipping for low-, near-zero and zero-GHG fuels, on a pathway to transition to net-zero GHG emissions as soon as possible, and by or around, i.e. close to, 2050.

9 As a technical measure, the GFS is a performance standard, independent of fuel type, which may help increase the production and uptake of all types of low-, near-zero and zero-GHG fuels, including methanol, ammonia, hydrogen and synthetic fuels, which some ships may start to use before 2030, as well as sustainable biofuels (with the sustainability criteria for sustainable biofuels with a biological origin<sup>1</sup> to be established taking account of the LCA Guidelines adopted at MEPC 80, as may be amended). It is emphasized, however, that significant production and availability of such near-zero and zero-GHG fuels is only likely to occur after 2030 and will only be possible if the GFS is complemented by an economic measure, such as the Fund and Reward (feebate) mechanism as set out in documents ISWG-GHG 14/3 (ICS) and ISWG-GHG 14/3/1 (Japan).

10 The co-sponsors continue to support the development and finalization of a GFS, but the measures described in other proposals for a GFS made to previous sessions of the Group seem excessively complex, compared to a simplified GFS combined with a flat rate contribution by ships to an IMO fund as a separate economic measure/GHG pricing mechanism.

### **Summary of suggested possible draft of new chapter to MARPOL Annex VI**

11 To help progress the discussion among Member States during Phase III of the Work plan for the development of mid- and long-term measures, the co-sponsors continue to suggest an approach which is similar to that used for the IMO 2020 global sulphur limit as set out in regulation 14.1 of MARPOL Annex VI. To demonstrate how this would work, the co-sponsors set out, in the annex to this document, a possible draft new chapter to MARPOL Annex VI.

12 The Group will recall that the possible draft amendments in the annex to this document use a similar approach to that used for the IMO 2020 standards regulating the global sulphur content of marine fuel, which were adopted with a requirement that a review of fuel availability would be undertaken two years ahead of implementation by 2018. However, given the concern about the potential for disproportionately negative impacts on States, it is proposed that this review, to be undertaken by 2028, should also take into account the cost of compliant fuels, as well as their availability.

13 Compliance with the GHG intensity requirement could also be achieved using technologies such as carbon capture and storage (CCS), and other technologies, pursuant to regulation 4 of MARPOL Annex VI on "Equivalentents" – and a provision for this has been included in the suggested draft regulatory text in the annex to this document.

14 Rather than combining such a technical measure with an economic measure within the same set of regulations, which would be significantly challenging to do from a drafting perspective, the co-sponsors suggest that this technical measure should be developed in parallel to an economic measure as a separate chapter within MARPOL Annex VI.

### **"Energy pooling compliance mechanism"**

15 The revised version of the possible draft amendments to MARPOL Annex VI, as set out in the annex to this document, now includes additional provisions for an "energy pooling compliance mechanism" that may be used on a voluntary basis by ships to comply with the GFS.

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<sup>1</sup> i.e. biofuel, comprising biogas, manufactured from residues and waste sustainable biomass, seed oil from tree species that do not compete for food and fodder, and certified as a sustainable fuel as per recognized international standard such as International Sustainability and Carbon Certification Scheme (ISSC) or the Roundtable on Sustainable Biomaterials Scheme (RSB).

16 Whilst the decision by ships to use such a pooling mechanism would be voluntary, the suggested draft provisions set out in the annex to this document currently provide for consideration by Member States of the use of non-mandatory language as to whether Administrations would be required to implement such a pooling mechanism, if so requested by a ship flying its flag. However, in view of the need for a flexible approach, the co-sponsors consider it necessary that as many Administrations as possible will allow the use of a pooling mechanism. The co-sponsors also emphasize that it is imperative that appropriate guidelines are adopted by the Organization to ensure uniform and consistent implementation globally of the proposed energy pooling compliance mechanism.

17 The draft requirements, as suggested in the annex to this document, would permit shipping companies, with all sizes of fleet, to share their ability to comply with the GFS should fuels of the required GHG intensity not always be available to individual ships in sufficient quantities. The mechanism would permit a ship, or ships, which "over-comply" with the required GFI – operated by the same or different companies and registered with one or more flag States – to share the "excess" required GFI with another ship or ships in the "pool" that may be unable to comply fully with the requirement. As well as allowing ships to continue to trade, such an approach would further help incentivize the uptake by ships of near-zero and zero-GHG fuels, as shipping companies investing in ships which use these fuels could transfer the "excess" GFI to other ships in their fleet or in other companies' fleets which might be unable to comply fully with the required GFI.

18 When pooling the GFI with ships in other companies' fleets, this would be done through a private commercial arrangement, such arrangements being common, for example, in the P&I insurance of ships. The approach used for verification and certification of compliance by ships in an approved "energy pooling compliance mechanism" would be similar to that used under the ISM Code.

19 The voluntary "energy pooling compliance mechanism", as set out in the annex to this document, will provide the same flexibility as other proposals to enable compliance should fuels of the required GHG intensity not always be available. However, it would avoid the need for a complex system where "compliance units" and "remedial units" are traded and reported to, or purchased from, a central IMO registry. This would avoid the considerable administrative burden for the Organization, flag States and ships entailed by an overly complex system. However, the suggested draft regulations, annexed to this document, would require Administrations that allow the use of an energy pooling compliance mechanism to communicate this to the Organization for appropriate action, and the co-sponsors note, if deemed appropriate, that suggested draft regulation 41.7 provides scope for a module in GISIS to be developed.

20 The co-sponsors further suggest that, compared to previous proposals, the "energy pooling compliance mechanism", as set out in the annex to this document, will make adoption and global implementation of a GFS more likely to be practically feasible by 2027 as called for by the 2023 IMO GHG Strategy.

#### **Possible extension of the application of the GFS, as with other provisions for fuel standards under MARPOL Annex VI, to ships of 400 GT and above**

21 The co-sponsors note that previous, more complex, proposals for a GFS set a tonnage threshold at 5,000 GT and above, although other provisions with fuel standards under MARPOL Annex VI apply to ships of 400 GT and above. Presumably this is because these proposals require the use of the IMO Fuel Oil Data Collection System (DCS) so that data about the GHG intensity of fuel can be reported and verified annually to demonstrate compliance, and the requirement to use the DCS is currently limited to ships of 5,000 GT and above.

22 However, the use of a 5,000 GT threshold would create a two-tier market for the production and supply of marine fuel, especially after 2030 when the permitted GHG intensity of fuel is to be aggressively reduced. Owing to the significant difference in cost between existing fuels and those fuels with a lower GHG intensity as required by the fuel standard, this could also lead to unfair competition and perverse incentives, for example to construct "paragraph" ships that would not be required to comply with the GFS.

23 This simpler proposal, as with IMO 2020, requires compliance by the ship with an absolute fuel standard and, unlike other more complex GFS proposals, does not require data from the DCS to be verified to demonstrate compliance, so avoiding the additional administrative burden for flag States which this would entail. Should the Committee so decide, this approach could therefore allow the requirement to comply with the GFS to apply to ships of 400 GT and above. This would allow more GHG emissions from international shipping to come under the scope of the regulation enabling the levels of ambition in the 2023 IMO GHG Strategy to be more readily achieved across the wider international shipping fleet. However, as this would be a decision for Member States, text concerning the tonnage threshold for the GFS, as set out in the annex to this document, has been placed in square brackets.

### **Feasibility, effectiveness and impacts on States**

24 In accordance with the Work plan for the development of mid- and long-term GHG reduction measures, the decision at MEPC 80 on measures to be developed as a priority was based on an assessment of the proposed measures, in particular their feasibility, their effectiveness to deliver the long-term levels of ambitions of the GHG Strategy and their potential impacts on States. The co-sponsors suggest that these criteria remain valid when, as identified as the purpose of Phase III of the Work plan, there is a need to amend existing legal instruments and prepare the amendments as appropriate.

#### ***Feasibility***

25 To assist the Group's understanding of the proposed GFS measure (as well as that of the Steering Committee for the comprehensive impact assessment (CIA) of the basket of candidate mid-term measures) and demonstrate its feasibility, including rapid approval and adoption, the annex to this document sets out possible draft amendments to MARPOL Annex VI to implement the GFS.

26 The simplified approach suggested by the co-sponsors, at least until 2030, will minimize the need for the Organization to develop large sets of new guidelines so ensuring the measure can be uniformly and smoothly implemented.

27 As explained above, to assist rapid adoption, the simplified approach suggested by the co-sponsors will make the CIA far easier to conduct, as for many States this assessment may be concerned with the additional costs of using compliant fuels in 2030, in combination, at the same time, with a CIA of the separate economic measure. To expedite rapid adoption of the GFS measure, Member States will also have the comfort of the suggested review of fuel costs and availability in 2028 before a final decision is taken to enforce the required GHG intensity standards in 2030.

28 As the use of fuels required to comply with the standard can be recorded on the Bunker Delivery Note,<sup>2</sup> which can be checked by the Administration and Port State Control, there will be no need for an additional system of verification or the establishment of additional databases, thus minimizing the administrative burden on both the ship's Administration and the Organization.

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<sup>2</sup> Subject to amendment of appendix V of MARPOL Annex VI.

***Effectiveness to deliver the long-term ambitions of the 2023 IMO GHG Strategy***

29 The simplified measure suggested by the co-sponsors would send a strong and unambiguous signal to fuel producers about the need to produce the required compliant fuels and could achieve a 5% reduction in the GHG intensity of marine fuels by 2030, equivalent to reducing emissions by about 50 million tonnes of CO<sub>2e</sub> per year from 2030. Moreover, the regulatory architecture would also be in place to mandate further reductions in the GHG intensity of fuels that would be necessary after 2030 to achieve net-zero GHG emissions as soon as possible.

30 The co-sponsors reiterate that the delivery of levels of ambition of the 2023 IMO GHG Strategy will be very much dependent on the production and availability to international shipping of near-zero and zero-GHG fuels in ports throughout the world, including developing countries, as well as technologies such as CCS, which will require the adoption of a separate economic measure in addition to a technical standard.

31 The GFS measure, as set out in the annex to this document, would be relatively simple to implement, which is important both from compliance/enforcement and administrative burden perspectives.

***Potential impacts on States***

32 Pursuant to MEPC.1/Circ.885/Rev.1, an initial impact assessment on States of the proposed GFS was set out in annex to document ISWG-GHG 12/3/4 (Austria et al). The co-sponsors recognize that, as agreed by MEPC 80, a CIA is required to be undertaken on the final basket of measures, subject to further consideration and agreement of those measures by Member States.

33 Taking into account the findings of the ongoing CIA, which is assessing the current proposals for a GFS, the advantage of the simpler approach suggested in this document is that it should be far easier to conduct the CIA of the measure for the year 2030, in combination with an assessment of the impact of a separate economic measure. Moreover, unlike the economic measure, the cost impacts of the technical measure suggested by the co-sponsors would not occur until 2030.

**Possible revised draft amendments to MARPOL Annex VI**

34 As well as the 2023 IMO GHG Strategy adopted by MEPC 80, the co-sponsors have taken into account the discussion at ISWG-GHG 15 (MEPC 80/WP.7) and ISWG-GHG 14 (MEPC 80/WP.6) and, in particular, with regard to the issues raised relating to the operational, administrative, legal, and governance aspects of the proposal. The co-sponsors have prepared possible revised draft amendments to MARPOL Annex VI as set out in the annex to this document to add, inter alia, a new chapter 7 on "Global GHG Fuel Standard" after a proposed new chapter 6 on International Maritime Sustainability Funding and Reward Mechanism.

35 The possible revised draft amendments set out in the annex of this document include provisions for the new chapter 7 to MARPOL Annex VI as follows:

- .1 regulation 39 – Application;
- .2 regulation 40 – GHG Fuel Intensity;
- .3 regulation 41 – Energy pooling compliance mechanism; and
- .4 regulation 42 – Review of this chapter.

36 In addition to the possible revised draft amendments set out in the annex to this document, consequential draft amendments to other chapters of MARPOL Annex VI are envisaged to address, inter alia, Port State Control of these new operational requirements.

#### **Action requested of the Working Group**

37 The Group is invited to consider the revised simplified version of the GFS suggested by the co-sponsors, including suggested provisions for an "energy pooling compliance mechanism", and the possible revised draft amendments to MARPOL Annex VI, as set out in the annex to this document, and to recommend this approach for finalizing the technical element of the basket of mid-term measure(s) to deliver on the levels of ambition agreed within the 2023 IMO GHG Strategy.

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## ANNEX

### POSSIBLE REVISED DRAFT AMENDMENTS TO MARPOL ANNEX VI (Global GHG Fuel Standard)

(N.B. Draft regulation numbers follow those in draft chapter 6 – International Maritime Sustainability Funding and Reward Mechanism, as set out in document ISWG-GHG 14/3 (ICS))

A new chapter 7 is added as follows:

#### Chapter 7 – Global GHG Fuel Standard

##### Regulation 39

###### *Application*

1 This chapter shall apply to ships of [400] [5,000] gross tonnage and above which fall into one or more of the categories in regulations 2.2.5, 2.2.7, 2.2.9, 2.2.11, 2.2.14 to 2.2.16, 2.2.22, and 2.26 to 2.2.29 of this Annex.

2 The provisions of this chapter shall not apply to:

- .1 ships solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly; and
- .2 ships not propelled by mechanical means, and platforms including FPSOs and FSUs and drilling rigs, regardless of their propulsion.

##### Regulation 40

###### *GHG Fuel Intensity*

1 From 1 January 2030 the GHG Fuel Intensity (Required GFI) of energy used on board the ship shall not exceed [[95%] of the GFI reference value<sup>1</sup>] (gCO<sub>2e</sub>/MJ).<sup>2,3,4</sup>

2 From 1 January 2040 the GHG Fuel Intensity (Required GFI) of energy used on board the ship shall not exceed [[70%] of the GFI reference value] (gCO<sub>2e</sub>/MJ).

3 The standard set forth in paragraph 1 of this regulation shall be subject to a review to be completed by 1 January 2028 to determine the cost and availability of marine fuels to comply with the standard set forth in that paragraph and confirmation by the Parties that it is possible for ships to comply.

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<sup>1</sup> GFI reference value to be calculated on approval of the draft amendments and corresponds to the fleet average greenhouse gas (gCO<sub>2e</sub>/MJ) intensity of the energy used on-board by ships in [2019] determined on the basis of fuel oil consumption data collected and reported pursuant to regulation 27 of MARPOL Annex VI and using guidelines to be developed by the Organization.

<sup>2</sup> GFI given in terms of the mass of GHG emissions per unit of energy used on board the ship based on the *Guidelines on life cycle GHG intensity of marine fuels (LCA Guidelines)* (resolution MEPC.376(80)).

<sup>3</sup> As per the requirements of regulation 14.1 of MARPOL Annex VI, the GHG Fuel Intensity (GFI) of fuel supplied to the ship to be recorded on a Bunker Delivery Note, with consequential amendments required to the provisions of regulations 18.4 and 18.5 of MARPOL Annex VI.

<sup>4</sup> Pursuant to regulation 4 of MARPOL Annex VI, compliance with the GHG Fuel Intensity (GFI) could be achieved through an equivalent means such as carbon capture and storage and other technologies.

4 The standard set forth in paragraph 2 of this regulation shall be subject to a review to be completed by 1 January [203X].

5 Pursuant to regulation 18.2.1 of this Annex, a ship not able to purchase compliant fuel oil<sup>5</sup> to meet the requirement set out in paragraph 1 of this regulation, shall notify its Administration, taking into account guidelines developed by the Organization.<sup>6</sup>

#### **Regulation 41**

##### *Energy pooling compliance mechanism*

1 For applicable ships, the Administration [may] approve the use, by a ship, if requested, of an energy pooling compliance mechanism to demonstrate compliance with regulation 40 of this Annex.<sup>7</sup> Each ship in the energy pooling compliance mechanism shall be issued with a Pooled Energy Intensity Compliance Certificate (PEICC)<sup>8</sup> either by the Administration or any organization duly authorized by it at intervals specified by the Administration, but not exceeding twelve months.

2 Each ship in an approved energy pooling compliance mechanism that has an attained GFI superior to the required GFI, as set out under regulation 40 of this Annex, may allocate the verified excess GFI to the energy pooling compliance mechanism, taking into account the guidelines developed by the Organization.<sup>9,10</sup>

3 The verified excess GFI of a ship participating in an approved energy pooling compliance mechanism can be used by a ship in the same energy pooling compliance mechanism to comply with regulation 40 of this Annex, provided that the attained GFI<sup>11</sup> of each ship participating in the same energy pooling mechanism, as defined in paragraph 4 of this regulation, shall comply with the required GFI as set out in regulation 40 of this Annex.<sup>12</sup>

4 The attained GFI of a ship participating in an approved energy pooling compliance mechanism shall be the arithmetic mean GFI of the ships participating in the pool, over the period the ship is a member of the same energy pooling compliance mechanism.

5 The attained GFI of each ship participating in an approved energy pooling compliance mechanism shall be verified by the ship's Administration or any organization duly authorized by it at intervals specified by the Administration, but not exceeding 12 months, and included on the PEICC issued by the Administration or any organization duly authorized by it.

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<sup>5</sup> A new definition for "fuel oil" was approved by MEPC 80, for adoption at MEPC 81, to take into account the use of alternative fuels: "*Fuel oil* means any fuel delivered to and intended for use on board a ship."

<sup>6</sup> Guidelines to be developed based on the *2019 Guidelines for consistent implementation of the 0.50% sulphur limit under MARPOL Annex VI* (resolution MEPC.320(74)), including pro-forma fuel oil non-availability report (FONAR).

<sup>7</sup> Energy pooling compliance mechanism guidelines for Administrations to be developed, which could be a standalone set of guidelines or incorporated in the *2022 Guidelines for the development of a ship energy efficiency management plan (SEEMP)* (resolution MEPC.346(78)).

<sup>8</sup> Form of the Pooled Energy Intensity Compliance Certificate (PEICC) to be developed.

<sup>9</sup> Energy pooling compliance mechanism guidelines for ships to be developed which could be a standalone set of guidelines or incorporated in the *2022 Guidelines for the development of a ship energy efficiency management plan (SEEMP)* (resolution MEPC.346(78)).

<sup>10</sup> The provision set out in sub-paragraph 41.2 may be more appropriately included in guidelines.

<sup>11</sup> This provision to be expanded on in the guidelines for Administrations.

<sup>12</sup> The provision set out in sub-paragraph 41.3 may be more appropriately included in guidelines.

6 An approved energy pooling compliance mechanism may include ships of more than one Administration provided that the Administration of any ship participating in the pool has approved the energy pooling compliance mechanism and issued the ship with a PEICC.

7 Each Administration that allows the use of an energy pooling compliance mechanism as set forth in paragraph 1 of this regulation shall communicate to the Organization for circulation to the Parties particulars thereof, for their information and appropriate action, if any.

#### **Regulation 42**

##### *Review of this chapter*

By [2033], and at five-year periods thereafter, the Organization shall review the status of this chapter, including the cost and availability of fuel oil to meet the standard set out in regulation 40 of this Annex, and amend the relevant provisions if necessary.

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