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REDUCTION OF GHG EMISSIONS FROM SHIPS

Supporting information on treatment of life cycle emissions, biofuel blends and ZNZ technologies, such as carbon capture, with respect to requested decisions on development of draft guidelines for the administration of the maritime GHG emissions pricing mechanism

Submitted by Bahamas, Liberia and ICS

SUMMARY

Executive summary:	The co-sponsors provide detailed comment and information with regard to the treatment of life cycle emissions, biofuel blends and ZNZ technologies such as carbon capture, in support of the decisions which the Committee is requested to make, as set out in document MEPC 83/7/6, with respect to the draft "guidelines for the administration of the maritime GHG emissions pricing mechanism by the IMO GHG Strategy Implementation Fund, and for determining the annual GHG levy/contribution and rewards for the use of eligible ZNZ fuels, energy sources and technologies" as set out by the co-sponsors in the annex to document MEPC 83/7/5.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 23
Related documents:	MEPC 83/7/5, MEPC 83/7/6, MEPC 83/7/7; ISWG-GHG 18/2/5, ISWG-GHG 18/2/7; MEPC 82/17, MEPC 82/WP.9; ISWG-GHG 17/2/2, ISWG-GHG 17/2/5 and ISWG-GHG 17/2/13

Introduction

1 In document ISWG-GHG 18/2/5 (Austria et al.), the co-sponsors of that document (which include the Bahamas, Liberia and ICS) set out a consolidated proposal, inter alia, for a maritime GHG emissions pricing mechanism, with the annex to the document containing draft MARPOL amendments requiring an annual GHG levy/contribution to be made by ships per tonne of CO_2e emitted via an IMO GHG Strategy Implementation Fund.

2 The annex to document MEPC 83/7/5 (Bahamas et al.) sets out suggested draft "guidelines for the administration of the maritime GHG emissions pricing mechanism by the IMO GHG Strategy Implementation Fund, and for determining the annual GHG levy/contribution and rewards for the use of eligible ZNZ fuels, energy sources and technologies". These guidelines would be adopted via an MEPC resolution at MEPC/ES.2 concurrently with the amendments to MARPOL Annex VI.

3 The co-sponsors suggest that the Committee should, given the short amount of time available, focus on finalizing the text of draft amendments to MARPOL Annex VI for approval. The guidelines, such as those suggested in the annex to document MEPC 83/7/5, do not need to be finalized until MEPC/ES.2. Nevertheless, as set out in document MEPC 83/7/6 (Bahamas et al.), the co-sponsors request the Committee to make a number of important decisions with respect to the content of the implementation guidelines. This is intended to support the approval of the MARPOL amendments at MEPC 83 and the finalization of the guidelines at MEPC/ES.2, and to help ensure, when the MARPOL amendments are approved for circulation, that Parties to MARPOL Annex VI have a broad understanding of the final shape of the entire package to help expedite adoption at MEPC/ES.2.

4 Document MEPC 83/7/7 (Bahamas et al.) provides detailed comment in support of the decisions which the Committee is requested to make at MEPC 83, as set out by the co-sponsors in document MEPC 83/7/6.

5 This additional document provides further comment and information in support of the decisions which the Committee is requested to make at MEPC 83 with respect to the treatment of life cycle emissions, biofuel blends and ZNZ technologies such as carbon capture.

Discussion

Taking account of life cycle emissions

6 In the annex to document ISWG-GHG 18/2/5 (Austria et al.) the proposed draft text in paragraph 4 of "Regulation X [Economic mechanism(s) to incentivize the transition to net-zero]" uses the term "required annual GHG levy/contribution" on a "life cycle” basis", with the means of calculation taking into account guidelines to be adopted by the Organization. The annex to document MEPC 83/7/5 sets out suggested draft text for these guidelines.

7 In the view of the co-sponsors, a pragmatic approach is required to achieve a consensus so that the MARPOL Annex VI amendments can be approved at MEPC 83 and adopted at MEPC/ES.2. The GHG intensity of marine fuels, for the purpose of the goal-based fuel standard and for determining required reductions of GHG intensity of marine fuels, should be calculated on a life cycle basis, as should rewards to ships for the CO_2e emissions prevented by the use of ZNZs. However, to achieve a consensus, a more nuanced approach is required with respect to taking account of life cycle emissions when calculating the rate of annual GHG levy/contributions per tonne of CO_2e emitted by ships.

8 The *2023 IMO Strategy on reduction of GHG emissions from ships* (2023 IMO GHG Strategy), in paragraph 4.7, outlined the requirement that the maritime GHG emissions pricing mechanism (as a part of the basket of mid-term measures) "should take into account the well-to-wake GHG emissions of marine fuels as addressed in the LCA Guidelines developed by the Organization with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors". However, several Member States have clearly indicated that the concept of charging ships for upstream GHG emissions which are the responsibility of other sectors is extremely problematic because well-to-tank (WtT) emissions are already addressed by the nationally

determined contributions (NDCs) made by Member States in their capacity as Parties to the UNFCCC Paris Agreement. Moreover, in many Member States, upstream GHG emissions by energy producers, for example, are already subject to national GHG pricing measures.

9 To achieve agreement on this complex and delicate issue at MEPC 83, the co-sponsors therefore propose, as set out in the annex to document MEPC 83/7/5, that IMO guidelines should clarify that the annual GHG levy/contribution for different fuel types, per tonne of fuel consumed, will be based on the lower of the TtW and WtW CO_2e conversion factors (but not less than zero) as determined by the 2024 LCA Guidelines, and that rewards for the CO_2e emissions prevented by the use of eligible ZNZ fuels, energy sources and technologies will be calculated on a WtW basis (as no charges will be involved).

10 However, a final decision on this complex issue about how to take account of life cycle emissions can be deferred until MEPC/ES.2 at which the MARPOL amendments and guidelines will be adopted, so that the Committee has time to carefully consider the implications of the CO_2e conversion factors, as determined by the next iteration of the 2024 LCA Guidelines on the overall objective of reducing GHG emissions "within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors".

11 Whilst outside the scope of this document (which concerns the calculation of annual GHG levy/contributions by the proposed IMO GHG Strategy Implementation Fund), with regard to calculating the GHG intensity of marine fuels under the goal-based marine fuel standard, the co-sponsors can accept this being based on a WtW approach. But this may only be acceptable to several Member States provided that no charges will apply to upstream emissions that result from under-compliance with the required annual GFI by a ship.

12 As set out in document MEPC 82/WP.9, annex 1, page 21, option 2, paragraph 1*bis* [Alternative compliance approaches] provides for surcharges to be paid as an alternative means of compliance with the technical fuel standard. As explained in document ISWG-GHG 17/2/5 (Bahamas et al.), the avoidance of charges for upstream emissions, which are problematic for many States, can therefore be achieved by the proposed "surcharge fee" for CO_2e emissions that result from under-compliance with the fuel standard. This is because the calculation of the GFI surcharge would be linked, as part of an integrated measure, to the annual GHG levy/contribution under the distinct maritime GHG emissions pricing mechanism. Consistent with the pragmatic way forward for dealing with upstream emissions proposed in paragraph 9 above, this means that a surcharge for under-compliance with required annual GFI could also be based on the lower of the TtW and WtW CO_2e conversion factors of the under-compliant fuels consumed, as determined by the 2024 LCA Guidelines.

Treatment of biofuel blends when calculating annual GHG levy contributions and rewards

13 A key purpose of the proposed annual GHG levy/contribution, working in combination with a rewards programme, is to incentivize a rapid acceleration in the production and uptake of eligible ZNZ marine fuels by reducing the price gap with conventional marine fuels to help achieve, inter alia, the levels of ambition for net-zero GHG emissions by or close to 2050 and for between 5-10% of the energy used by international shipping to come from ZNZ sources by 2030 (as well as achieving the indicative checkpoints agreed for 2030 and 2040).

14 Consistent with the principle of fuel neutrality, the co-sponsors of this document assert that (certificated) sustainable marine biofuels should be regarded as ZNZ fuels for the purpose of calculating the annual GHG levy/contribution, as well as being eligible for rewards for the CO_2e emissions prevented by their use on a life cycle basis, as determined by the [202X] LCA Guidelines.

15 Although 100% biofuel fuels are sometimes used by ships in very limited quantities, the majority of ships which currently use biofuels, or which are likely to be incentivized to use or increase the use of biofuels in the immediate future, are using biofuel blends, such as B24, which comprise 24% sustainable biofuel blended with conventional liquid fuel oil. In order to incentivize the increased use of sustainable biofuel, it is therefore important that the biogenic **component** of a biofuel blend is treated as a ZNZ for the purpose of calculating the proposed GHG levy/contribution and receiving rewards for CO_2e emissions prevented by their use.

16 As explained in document MEPC 83/7/7, if, for example, the GHG levy/contribution rate was set by the MARPOL regulation at, say, USD 18.75 per tonne of CO_{2e} emitted (equivalent to about USD 60 per tonne of for diesel/gas oil consumed if the agreed CO_2e conversion is 3.2), and a sustainable 24% biofuel blend (B24) was determined by the [202X] LCA Guidelines to have a CO_2e conversion factor of, say, 2.432 (i.e. 76% of 3.2, the 24% sustainable biogenic component having a GHG levy/contribution rate of zero), then the proposed IMO guidelines should specify that the cost of the GHG levy/contribution for this biofuel blend will be equivalent to only USD 45.60 per tonne of 24% biofuel-diesel/gas oil blend, rather than USD 60 applicable (in this example) per tonne of conventional marine diesel/gas oil consumed (2.432/3.2 = 76%, 76% of USD 60 = USD 45.60). In addition, a ship using a sustainable biofuel blend would also be eligible to receive a reward for the CO_2e emissions prevented by the use of the 24% sustainable biogenic component of the biofuel.

17 The proposed draft guidelines set out in the annex to document MEPC 83/7/7 reflect this approach, as does the updated prototype of the automated Web-based contribution and reward system to be administered by the proposed IMO GHG Strategy Implementation Fund, a link to which is contained in document ISWG-GHG 18/2/7 (ICS) and which can also be found here.

Use of carbon capture and other ZNZ technologies

18 In the annex to document ISWG-GHG 18/2/5, the consolidated proposed draft text in paragraph 2 of "Regulation X [Distribution of revenue]" reads as follows:

> "From [August] 2028 and within [eight] months after the end of each subsequent calendar year until the uptake of eligible [ZNZ fuels] [ZNZs] in international shipping reaches [30%] and, at the latest, by 2040, each ship using eligible [ZNZ fuels] [ZNZs], considered on a lifecycle basis, shall receive, upon request, an annual financial reward ("annual reward")."

19 The co-sponsors reiterate that they are fuel/technology neutral with respect to the types of zero/near-zero GHG fuels, energy sources and technologies, including carbon capture, to be incentivized by annual GHG levy/contributions working in combination with annual rewards for the CO_2e emissions prevented by their use.

20 Subject to the development by the Organization of appropriate guidelines, compliance with the GHG intensity requirement of the fuel standard should also be achievable using technologies, such as onboard carbon capture, pursuant to regulation 4 of MARPOL Annex VI on "equivalents".

21 The co-sponsors of this document assert that draft MARPOL regulation referred to in paragraph 18 above should refer to rewards for the use of eligible "**ZNZs**", as opposed to "ZNZ fuels" only, with ZNZs to be defined under regulation 2 of chapter 1 of MARPOL Annex VI as "zero/near-zero GHG fuels, energy sources and technologies". As well as being consistent with the terms used in the 2023 IMO GHG Strategy, it is important that the regulations allow technologies such as onboard carbon capture, and other technologies too, to be potentially

eligible for rewards, so as to incentivize their uptake at some point in the future when the methodology for calculating the CO_2e emissions prevented by their use has been agreed. If international shipping is to achieve net-zero emissions by or close to 2050, it is vital that incentives for the use of onboard carbon capture and other ZNZ technologies should not be ruled out prematurely.

22 The co-sponsors recognize that the issues involved are complex and they do not suggest that the MARPOL regulations to be approved at MEPC 83 should necessarily result in the immediate provision of annual rewards for use of carbon capture and other ZNZ technologies when the regulations enter into force. It is nevertheless important that the proposed IMO guidelines ensure that the possibility of providing rewards for use of carbon capture and other ZNZ technologies can be considered by the Committee, as appropriate, at a later date, without requiring the MARPOL regulations to be amended.

Action requested of the Committee

23 The Committee is invited to consider the information set out in this document in conjunction with document MEPC 83/7/6 as well as the annex to document MEPC 83/7/5 containing the draft "guidelines for the administration of the maritime GHG emissions pricing mechanism by the IMO GHG Strategy Implementation Fund and for determining the annual GHG levy/contribution and rewards for use of eligible ZNZ fuels, energy sources and technologies", and to take action as appropriate.