

INTERSESSIONAL MEETING OF THE
WORKING GROUP ON REDUCTION OF
GHG EMISSIONS FROM SHIPS
17th session
Agenda item 2

ISWG-GHG 17/2/5
9 August 2024
ENGLISH ONLY
Pre-session public release:

**FURTHER CONSIDERATION OF THE DEVELOPMENT OF CANDIDATE
MID-TERM MEASURE(S)**

**Revised draft amendments to MARPOL Annex VI for an integrated
IMO net-zero framework**

Submitted by Bahamas, Liberia and ICS

SUMMARY

Executive summary: To present an integrated "IMO net-zero framework" which is readily implementable, enabling achievement of all the 2023 IMO GHG Strategy's goals, the co-sponsors revised and combined proposals for a simplified goal-based fuel standard and a distinct maritime GHG emissions pricing mechanism. Using the "illustration" agreed at MEPC 81, draft amendments to MARPOL Annex VI are provided. Critically, these include an initial flat rate GHG fee per tonne of CO₂e emitted, e.g. \$18.75 (or \$60 per tonne of conventional fuel oil), with a feebate (reward) element per tonne of CO₂e prevented to incentivise accelerated production and uptake of zero/near-zero GHG fuels, energy sources and innovative technologies, allowing, as a by-product, up to about \$2.5 billion per year to be allocated to an "IMO Net-Zero Shipping Fund" to support developing countries. Without these crucial elements, the Organization will not succeed in achieving the 2023 IMO GHG Strategy's goals, leading to proliferation of piecemeal, unilateral GHG charges being applied to shipping worldwide, with regulatory chaos, economic inefficiency and damage to IMO's authority as shipping's global regulator.

*Strategic direction,
if applicable:* 3

Output: 3.2

Action to be taken: Paragraph 93

Related documents: Resolutions MEPC.391(81), MEPC.377(80); MEPC 81/16, MEPC 81/16/Add.1, MEPC 81/16; ISWG-GHG 16/2, ISWG-GHG 16/2/1, ISWG-GHG 16/2/2 and ISWG-GHG 16/2/3

INTRODUCTION

1 As called for by the 2023 IMO Strategy on Reduction of GHG Emissions from Ships (2023 IMO GHG Strategy), this document sets out a comprehensive proposal comprising both a simplified goal-based GHG fuel standard and a distinct maritime GHG emissions pricing mechanism which is based on annual flat rate contributions (GHG fees) by ships per tonne of CO₂ equivalent (CO₂e) emitted, with feebates (rewards) to ships for the CO₂e emissions prevented by the production and uptake of zero/near-zero (GHG) fuels, energy sources and technologies.

2 Taking account of discussions at ISWG-GHG 16 and MEPC 81, the co-sponsors have revised and combined previous proposals contained, inter alia, in documents ISWG-GHG 16/2 (ICS and IBIA) and ISWG-GHG 16/2/3 (Bahamas, Liberia and ICS). Referencing the "illustrative" template agreed at MEPC 81, annex 1 to this document sets out proposed draft amendments to MARPOL Annex VI, presented as an integrated "IMO net-zero framework". These proposed draft amendments are intended to be as simple as possible and readily implementable, enabling all the goals of the 2023 IMO GHG Strategy to be achieved.

Setting the quantum of the GHG fee

3 The co-sponsors take no view on what the quantum of the GHG fee should be but note that it needs to be set at a level which enables the goals of the 2023 IMO GHG Strategy to be achieved whilst also avoiding disproportionately negative impacts.

4 Nevertheless, to help the Committee find a possible "landing zone" on this important issue, the regulations proposed by the co-sponsors set out a "rationale" for determining the initial quantum of the GHG fee. Based on this rationale – and for illustrative purposes only – this document suggests, for the first five years of implementation, that an initial flat rate GHG fee of about \$18.75 per tonne of CO₂e emitted (equivalent to about \$60 per tonne of conventional liquid fuel oil consumed) might be sufficient to achieve the principal purposes of the maritime GHG emissions pricing mechanism as set out in the proposed regulations. However, subject to a review, the co-sponsors propose that the GHG fee initially agreed in 2025 could subsequently be adjusted, to take effect within five years of entry into force.

A distinct maritime GHG emissions pricing mechanism

5 The co-sponsors note that the majority of States which have previously co-sponsored submissions on this issue to the Group also support mandatory flat rate contributions (GHG fees) being made by ships per tonne of CO₂e emitted via a maritime GHG emissions pricing mechanism that is distinct to the fuel standard, plus, as a by-product of the "mechanism", the establishment of an IMO Fund (which the co-sponsors now propose to call the "IMO Net-Zero Shipping Fund") to support, inter alia, the maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS.

6 The co-sponsors recognise that several Member States have concerns about mandatory flat rate contributions by ships per tonne of CO₂e emitted. The co-sponsors have therefore submitted this document to help address these concerns and take the discussion forward, recognising that the issues are complex and that positions on the detailed design of these measures will further evolve as discussion within the Group and the Committee continues.

Ensuring delivery of the IMO 2023 GHG Strategy's goals

7 The co-sponsors emphasise that the normal approach to developing regulatory amendments to IMO instruments is different to that which may apply to the development of political agreements at bodies such as UNFCCC. When the final amendments to MARPOL Annex VI are adopted, these should reflect the consensus view of Member States as to what is necessary to ensure delivery of the 2023 IMO GHG Strategy's goals. This document therefore sets out some key issues which need to be given full consideration by the Working Group and the Committee before they consider development of regulatory text, including any potential "base text".

8 The co-sponsors reiterate the vital importance of including, within the IMO net-zero framework, a distinct flat rate contribution mechanism per tonne of CO₂e emitted, with a feebate (reward) element, to reduce the cost gap with conventional fuels and incentivize a rapid acceleration in the production and uptake of zero/near-zero GHG fuels, energy sources and innovative technologies, including on-board carbon capture (which will reduce the quantity of zero/near-zero GHG marine fuels required). In addition, as a by-product of the mechanism to reduce the cost gap, substantial revenue (for example, up to \$2.5 billion per year during the first five years of implementation) should be allocated to a Fund established by IMO to support, inter alia, maritime GHG reduction efforts by developing countries, in particular SIDS and LDCs, so that the goals of the 2023 IMO GHG Strategy can remain achievable.

9 Unless these critical elements are included in the regulations adopted, the transition to net zero, by or close to 2050, will be unlikely to succeed. In addition to the implications for the achievement of United Nations climate change goals, this will also lead to a proliferation of piecemeal, unilateral GHG charges being applied to shipping worldwide – regionally and/or nationally – with regulatory chaos, economic inefficiency, the risk of supply shocks and disruption to seaborne trade, and damage to IMO's authority as shipping's global regulator.

KEY ISSUES FOR CONSIDERATION BY THE GROUP

Vital importance of a flat rate contribution by ships per tonne of GHG emitted, with a feebate (reward) element for use of eligible zero/near-zero GHG fuels

10 The draft regulations set out in annex 1 of this document establish a maritime GHG emissions pricing mechanism, as required by the IMO 2023 GHG Strategy, which, in the view of the co-sponsors, means a distinct mechanism in addition to the fuel standard, whereby all ships (above the agreed tonnage threshold) should contribute GHG fees equally on the basis of their actual GHG emissions, consistent with fair competition and the "polluter pays" principle.

11 A flat rate GHG fee (contribution) per tonne of CO₂e emitted, working in combination with a feebate element to provide rewards to ships for the CO₂e emissions prevented by use of zero and near-zero GHG fuels, energy sources and technologies (including on-board carbon capture), is vital for the 2023 IMO GHG Strategy to succeed. This is to reduce the cost gap with conventional fuels and incentivize the accelerated production and uptake of zero/near-zero GHG fuels. As a by-product of being established to reduce the cost gap, the "mechanism" can also generate billions of US dollars of funding for allocation to what the co-sponsors now call the "IMO Net-Zero Shipping Fund" (see below) to support, inter alia, maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS, ensuring an equitable transition to net-zero shipping that will be truly global.

12 In addition to supporting efforts to achieve the goals of the 2023 IMO GHG Strategy, the principal advantages of an integrated IMO net-zero framework which incorporates a maritime GHG emissions pricing mechanism with a feebate (reward) element, as set out in the annexes to this document, are that:

- .1 the reward element will multiply the effect of the contribution quantum on reducing the cost gap, allowing the contribution quantum (which the co-sponsors now call the "GHG fee") to be set at a level which will ensure that disproportionately negative impacts on States will be avoided;
- .2 the mechanism will create minimal additional administrative burden for Administrations as it uses information already reported using the IMO Fuel Oil Data Collection System (DCS), to be submitted directly by shipping companies on behalf of the ship – to which the regulation will apply – via a fully automated contribution and reward system: see working web-based prototype in document ISWG-GHG 16/2/1 (ICS) – [Combined sets - ZESF Prototype 2024 \(figma.com\)](#); and
- .3 the mechanism will provide certainty about the quantum (fixed for a minimum five-year period) of the annual GHG fee to be made by ships via the "mechanism" and thus the economic impacts on States, plus certainty about the guaranteed amount of funds (up to \$2.5 billion per year is suggested) that will initially be allocated for use by the IMO Net-Zero Shipping Fund, and transferred to the Fund as soon as it is established.

13 By narrowing the cost gap with conventional fuels, only a mandatory flat rate GHG fee (contribution), working in combination with a feebate (reward) mechanism, will meaningfully incentivize the production and uptake of zero/near-zero GHG fuels which is urgently needed to ensure achievement of the new level of ambition for 5% to 10% of the energy used by shipping to come from zero/near-zero GHG energy sources by 2030, on a pathway to net zero. This is because:

- .1 A fuel standard on its own, even if incorporating economic elements (such as the trading of some kind of flexible compliance units between ships which under/over-comply with the fuel standard) will not be sufficient to incentivize the rapid acceleration in the production and uptake of zero/near-zero GHG fuels which will be vital for the transition to net zero to succeed; and
- .2 Significant investment in new technologies and fuels is only likely to occur if such investments are substantially de-risked by a mechanism which guarantees the quantum of the reward for using far more expensive zero/near-zero GHG fuels for a minimum five-year period, rather than being determined by the market so that the level of any economic incentive is variable, volatile and uncertain (as would be the case with respect to other more complicated proposals for economic elements which have been made with respect to a fuel standard).

The urgent need to achieve a "take-off" point by 2030

14 A "take-off" point means the point in time when the production and uptake of zero/near-zero GHG fuels, energy sources and technologies can be seen to rapidly accelerate beyond limited use by just a small number of ships. The 2023 IMO GHG Strategy sets out an important level of ambition "to increase 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 massive enormity of this challenge cannot be overestimated. Apart from limited supplies of the sustainable biofuel component of some biofuel blends, the current availability of zero/near-zero GHG marine fuels is virtually zero.

15 The 2030 level of ambition for 5% to 10% of energy used by international shipping to be generated from zero/near-zero GHG fuels, energy sources and technologies, which is intended to deliver a "take-off" point, is less than six years away, and is only likely to be achieved if a maritime GHG emissions pricing mechanism is adopted in 2025 which will meaningfully reduce the significant cost gap which currently exists between zero/near-zero GHG fuels and conventional fuels and which contributes to de-risking those investment decisions that urgently need to be taken by energy producers and the shipping industry.

16 The 2040 checkpoint of an absolute reduction in the sector's total GHG emissions of at least 70%, striving for 80%, compared to 2008, regardless of trade growth, is particularly challenging, and is only likely to be plausible if a "take-off" point for the use of zero/near-zero GHG fuels, such as green ammonia and hydrogen, synthetic methanol and synthetic LNG – as well as GHG reduction technologies such as on-board carbon capture – can be achieved by 2030.

17 A fuel standard on its own might possibly be sufficient to achieve the relatively modest reduction in the required GHG intensity (GFI) of marine fuels which the co-sponsors suggest should be agreed for 2030 (see below). However, this would largely be achieved by use of biofuel blends and increased use of LNG. Without a distinct GHG pricing mechanism to reduce the cost gap, the "take off" point required by the IMO 2023 GHG Strategy, of 5-10% of the energy used by shipping to come from zero/near-zero GHG energy sources, is unlikely to be achieved by 2030. This will make it virtually impossible for most ships to achieve the aggressive further reductions in Required GFI which will be needed in the 2030s if the 2040 and 2050 IMO GHG reduction goals are to remain achievable. A distinct maritime GHG emissions pricing mechanism, with a feebate element, therefore, needs to be established immediately to generate – with certainty – billions of US dollars of revenue to help de-risking of investments by reducing the cost gap between zero/near-zero GHG fuels and conventional fuel oil.

Vital importance of IMO Net-Zero Shipping Fund to support maritime GHG reduction efforts by developing countries

18 Apart from the need to achieve a "take-off" point, the medium and longer term transition to net zero will only succeed if it is equitable and truly global and, noting the very ambitious IMO 2040 goal for absolute GHG emissions reductions, a means needs to be found of ensuring, by 2040, that zero/near-zero GHG marine fuels are available in sufficient quantities in all ports worldwide, including developing countries, in particular LDCs and SIDS.

19 To make this possible and to help provide the billions of dollars needed to support investment in the generation of green marine fuels and bunkering infrastructure in developing countries' ports, the establishment of what the co-sponsors now call the IMO Net-Zero Shipping Fund will also be a vital part of the IMO net-zero framework – as set out in draft regulation 42 in annex 1 of this document.

20 As proposed by the co-sponsors, draft regulation 39 – *Purpose of the mechanism and disbursement of revenue* requires that up to 20% of the revenue generated annually to incentivize the uptake of zero/near-zero GHG fuels via a feebate programme can (as a by-product of the GHG emissions pricing mechanism) be allocated to the IMO Net-Zero Shipping Fund, provided that IMO's obligations to fund the feebate programme have been met. Depending on the agreed quantum for the GHG fee and the revenue required for the feebate programme, the amount allocated to the Fund could be up to US\$2.5 billion per year, which

should be sufficient to achieve the Fund's purposes as set out in proposed regulation 39 (see below). Unless the total feebates required to reward CO₂e emissions prevented by the uptake of zero/near-zero GHG energy sources exceed, in any year, the upper end of the level of ambition for 5% to 10% of the energy used by shipping to come from zero/near-zero GHG energy sources by 2030, the proposed regulations are designed to guarantee that the annual revenue to be allocated to the Fund will be substantial – i.e. 20% of the total annual revenue generated to support the feebate programme throughout the first five years of implementation.

21 In addition to setting out that the principal purpose of the "mechanism" will be to generate revenue to support the feebate programme, draft regulation 39, in annex 1 of this document, also sets out the principal purposes of the IMO Net-Zero Shipping Fund as follows, which are limited to directly contributing to the decarbonization of international shipping or adaptation of the maritime sector to climate change:

- .1 capacity-building in developing countries, especially SIDS and LDCs, including deployment of zero or near-zero GHG maritime fuel production facilities and new bunkering infrastructure that may be required in ports to expedite transition;
- .2 funding, inter alia, for the IMO GHG-TC Trust Fund to support other maritime GHG reduction projects in developing countries, especially SIDS and LDCs;
- .3 funding for applied research and development (R&D) programmes of alternative fuels and innovative technologies; and
- .4 funding for seafarer training in developing countries and promotion of a just transition.

22 As the Fund can only provide support to projects and programmes once revenue has been generated as a by-product of the maritime GHG emissions pricing mechanism, the co-sponsors suggest that the immediate priority should be to establish the "mechanism" for calculating and collecting GHG fees from ships. The details concerning the governance and management of the Fund can then be addressed through "terms of reference" with adequate time for due consideration after the IMO net-zero framework is adopted in 2025 but before 2028 when revenue generated by the "mechanism" will start to be allocated to the Fund (assuming entry into force in 2027). Proposed regulation 42, as set out in annex 1 of this document, requires that within 12 months of entry into force "the Organization shall establish an IMO Net-Zero Shipping Funds to support the projects and programmes, that meet the principal purposes of the Fund set out in the regulations (see above), "as may be decided by a supervisory committee comprising representatives of Parties to this chapter, balanced in terms of geographical representation".

23 As explained below, the co-sponsors propose that the mechanism for collecting GHG fees and disbursing feebates should be distinct to the Fund for supporting, inter alia, maritime GHG reduction efforts in developing countries, and that feebates (rewards) would be disbursed automatically via the "mechanism" almost immediately after the GHG fees have been collected each calendar year. By specifying in the regulations that the proportion of total revenues to be allocated to the Fund will be less than would be the case if the feebates were met directly via the Fund, rather than via the "mechanism" (which, as explained below, might cost up to \$12.5 billion a year), a transfer of revenue to an IMO Fund in the order of up to about \$2.5 billion each year should be less problematic for any government with concerns about a potentially larger sum being transferred to a Fund which is operated by a UN agency. It is re-emphasised that these funds will be sourced from the international shipping sector rather than from governments' funds.

24 To make this approach acceptable to developing countries, including LDCs and SIDS, as mentioned above, the proposed regulations seek to guarantee, so far as possible, that a significant proportion of the GHG fees generated as a by-product of the "mechanism" (for example 20% or up to around \$2.5 billion per year) will be allocated to the IMO Net-Zero Shipping Fund. Proposed draft regulation 44 – *Review of this chapter*, in annex 1 to this document, also sets out a clear intention that this guaranteed allocation of revenue to the Fund can be adjusted, if decided by the Committee, to take effect within five years of entry into force.

Treatment of life cycle emissions

25 The suggested MARPOL amendments, in annex 1 of this document, set out the GHG fee (contribution) by ships per tonne of CO₂e emitted, and the reward rate per tonne of CO₂e prevented through the use by ships of eligible zero/near-zero GHG fuels, technologies and energy sources, expressed in US\$ per tonne of CO₂e.

26 The 2023 IMO GHG Strategy requires the mid-term measures to "take account" of well-to-wake (WtW) emissions, although the co-sponsors acknowledge the concern of many Member States about charging ships for emissions which they view as the responsibility of other sectors, which are addressed by the nationally determined contributions (NDCs) of Parties to the UNFCCC Paris Agreement and which may already be subject to "carbon pricing". To accommodate this concern, whilst the maritime GHG emissions pricing mechanism should take account of WtW emissions, the co-sponsors suggest that what is most important is that the way in which GHG fees (contributions) to be made by ships are calculated should be compatible, as required by the IMO 2023 GHG Strategy, "with reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors".

27 To achieve agreement on this issue, the co-sponsors suggest that the regulation setting out the GHG fee (contribution) per tonne of CO₂e emitted should not be explicit as to how life cycle emissions should be accounted for, and that the actual GHG fees for different fuel types per tonne of fuel consumed (as distinct from CO₂e emitted) should be set out in separate guidelines, adopted by an MEPC resolution. As set out in annex 2 of this document, these Guidelines should clarify that the GHG fees for different fuel types, per tonne of fuel consumed, will be based on the lower of the tank-to-wake (TtW) or WtW CO₂e conversion factors (but not less than zero) as determined by the LCA Guidelines, and that feebates (rewards) for the CO₂e emissions prevented by the use of eligible zero/near-zero GHG fuels, energy sources and technologies will be calculated on a WtW basis (as no charges will be involved).*

28 With regard to calculating the GHG intensity of marine fuels under the goal-based fuel standard, this can be based on a WtW approach and, in annex 1 of this document, reference is made to GFI being calculated on a WtW basis in proposed Regulation 34 – *Functional requirements*. But this will only be acceptable provided that no charges will apply to upstream emissions that result from under-compliance with the Required GFI by a ship. This can be achieved by the proposed "GHG Surcharge Fee" for CO₂e emissions that result from under-compliance with the fuel standard which, as part of an integrated measure, will be linked to the GHG fee under the distinct maritime GHG emissions pricing mechanism (see paragraph 36 below). As explained above, this means that the GHG Surcharge Fee will be based on the lower of the TtW or WtW CO₂e conversion factors of the under-compliant fuels consumed, as determined by the LCA Guidelines.

* If the reward rate per tonne of CO₂e prevented by use of eligible zero/near-zero GHG energy sources, rather than consumption of conventional liquid fuel oil, was set, for example, at \$100 on a WTW basis this would actually reduce the cost gap with the latter by about \$460 per tonne of eligible fuel consumed. This is because it would close the cost gap by \$100 x 4.0 (4.0 being the WTW CO₂e conversion factor for conventional liquid fuel oil rather than the TTW conversion factor of about 3.2) while the cost gap would be further reduced by \$60 per tonne of fuel consumed owing to eligible zero/near-zero GHG fuels also being exempt from GHG fees if these were set, for example, at around \$18.75 per tonne of CO₂e emitted.

Avoidance of double charging for GHG emissions

29 As explained above, establishment by the Organization of a distinct maritime GHG emissions pricing mechanism, with flat rate GHG fees (contributions) by ships based on CO₂e emitted, is of utmost importance to discourage the proliferation of piecemeal, unilateral charges for GHG emissions being applied to ships worldwide, on a regional and/or national basis, with the risk of double charging, undermining the maintenance of a global regulatory framework for shipping.

30 To avoid double charging for CO₂e emissions, both in measures adopted by the Organization and other existing regional or national measures, the mandatory GHG fee made by a ship via the maritime GHG emissions pricing mechanism established for international shipping should not be duplicative, and emissions or fuel consumption that forms the basis of such a GHG fee or charges for GHG emissions should be accounted for only once. A provision to the effect has been included in paragraph 5 of the proposed Guidelines for determining GHG fees for different eligible fuels set out in annex 2 of this document.

31 Following the adoption of the amendments to MARPOL Annex VI in 2025, further guidance for Member States on the prevention of double charging will need to be developed by the Committee, prior to entry into force in 2027.

KEY POINTS WITH REGARD TO GOAL-BASED FUEL STANDARD, INCLUDING PROPOSED "GHG SURCHARGE FEE"

Preference for an absolute fuel standard

32 In terms of the maximum permitted GHG intensity of marine fuels up until 2030, the co-sponsors advocate an absolute fuel standard for GHG intensity – similar to the approach adopted for the IMO 2020 sulphur regulations. Compliance can be enforced by Bunker Delivery Notes checked by the flag State Administration and port State control, instead of requiring the GHG intensity of marine fuels used by ships to be reported and verified by flag States over an annual period.

33 The problem with use of an annual reporting period, during which the GFI of different fuels consumed by ships may vary, is that it may be very difficult for shipping companies, especially in bulk trades, or in trades between developing countries, to persuade charterers to pay for more expensive fuels that have a lower GFI, unless the Required GFI of the fuel itself is in effect mandatory, as would be the case with an absolute fuel standard for GHG intensity. This is why use of an absolute fuel standard for GHG intensity was supported by the International Bunker Industry Association (IBIA) in document ISWG-GHG 16/2.

34 The co-sponsors suggest that initial use of an absolute fuel standard for GHG intensity would be more practical and appropriate during the initial years of implementation, up until when compliance by most ships will be achieved using biofuel blends which, if IMO were to agree to an absolute fuel standard, could all be supplied to ships globally below the maximum permitted GHG intensity. As well as making implementation easier for shipping companies, energy producers and the bunker supply industry, initial use of an absolute fuel standard for GHG intensity will also reduce the immediate administrative burden for flag State administrations, not least in developing countries, with respect to enforcement.

35 It is therefore suggested that an absolute fuel standard for GHG intensity should be adopted in 2025. Consideration by the Committee of the use of more complex annual reporting and verification periods should be deferred until after the measure has been adopted, with a view to implementation after 2030 when aggressive reductions in GFI will be required and a larger number of ships will be using zero/near-zero GHG fuels.

GHG Surcharge Fee

36 Should the Committee decide to pursue a more complex approach for the fuel standard and for flexible compliance, the co-sponsors propose that ships should have the option to pay an annual "GHG Surcharge Fee" (GSF) for the CO₂e emitted due to under-compliance with the fuel standard, as it is the prevention of CO₂e emissions which is of key importance. As explained below, the fixed price of the GHG Surcharge Fee can be linked to the fixed price of CO₂e emissions agreed for the maritime GHG emissions pricing mechanism. The term "surcharge" is already a familiar term in commercial shipping.

37 As well as integrating the technical and economic elements of the IMO net-zero framework, the fixed price of the GHG Surcharge Fee will provide certainty and be simpler to administer and implement than an overly complex system under which ships would be required to trade "flexible compliance units", the price of which would be volatile, variable and determined by the market.

38 As set out in annex 1 of the document, under proposed regulation 36 – *Alternative compliance by a ship*, whilst ships would have the option of paying the GHG Surcharge Fee for under-compliance with the fuel standard, they would not be rewarded financially for over-compliance with the Required GFI. This is because it would be inappropriate to reward use of fuels which, although they might "over-comply" with the fuel standard agreed for up until 2030, would in most cases not be those zero/near-zero GHG fuels whose accelerated production and uptake urgently needs to be incentivized to meet the goals in the IMO 2023 GHG Strategy which have been agreed for 2040 and 2050. Whilst any "excess" reductions in Required GFI achieved by the use of fuels which "over-comply" with the fuel standard might be "carried over" to help compliance by a ship during the following calendar year, and companies with ships which "over-comply" may also benefit from private arrangements under a pooled compliance mechanism (see below), there is no need for the regulations to directly provide rewards to ships for over-compliance with the fuel standard. This is because far greater incentives for use of zero/near-zero GHG fuels will be provided by feebates (rewards) as part of the distinct maritime GHG emissions pricing mechanism, to which the proposed GHG Surcharge Fees can be linked.

39 As explained below, as part of an IMO net-zero framework which integrates technical and economic elements, the co-sponsors propose that the calculation and collection of this GHG Surcharge Fee will take place via the (fully automated) maritime GHG emissions pricing mechanism, using verified data for use with the DCS, submitted to the mechanism by the ship at the same time as other data on fuel consumption/CO₂e emissions. The GHG fee and any GHG Surcharge Fee for under-compliance with the fuel standard can be calculated and collected at the same time and enforced using the same Statement of Compliance (SoC) issued by the Administration at the end of the process. As well as maintaining records of all GHG fees transmitted by ships, including any additional GHG Surcharge Fees (each ship will have an account with the "mechanism" linked to its IMO number), the automated "mechanism" will hold records for every ship of the fuel consumption/CO₂e emissions data used to calculate these GHG fees, including any CO₂e emitted due to under-compliance with the fuel standard.

40 The provision of a fixed GHG Surcharge Fee for under-compliance – as opposed to a fuel standard with complex trading elements – therefore has the significant advantage of removing any need for the Organization to establish a separate GFI registry in addition to the GHG emissions pricing mechanism for which a working web-based prototype of a fully automated "mechanism" has already been developed, as set out in document ISWG-GHG 16/2/1 (ICS). A provision for a separate GFI registry (as suggested in the "illustrative" template developed at MEPC 81) has therefore not been included by the co-sponsors in annex 1 of this document.

41 The fixed rate of the GHG Surcharge Fees could be used for addressing under-compliance with either an absolute fuel standard for GHG intensity (as preferred by the co-sponsors) or, if so decided, a more complex enforcement mechanism using an annual reporting and verification period.

42 As explained above, use of a GHG Surcharge Fee will allow the Required GFI of a particular fuel to be calculated on a WtW basis, as no charges would apply to upstream emissions that result from under-compliance with the Required GFI by a ship. As the GHG Surcharge Fee would be linked to the GHG fee mandated by the distinct maritime GHG emissions pricing mechanism, this would (as set out in the proposed Guidelines in annex 2 of this document) be based on the lower of the TtW or WtW CO₂e conversion factors for under-compliant fuels, as determined by the LCA Guidelines.

Energy pooling compliance mechanism for ships

43 Under draft regulation 37 – *Energy pooling compliance mechanism for ships*, as set out in annex 1 of this document, if compliant fuels are not available, and as an alternative to paying the proposed GHG Surcharge Fee, ships would also have the option of using a simple pooled compliance system – the operation of which is explained in document ISWG-GHG 16/2 (ICS and IBIA).

44 In summary, the proposed regulation would permit shipping companies, with all sizes of fleet, to share their ability to comply with the fuel standard 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. 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.

45 The "energy pooling compliance mechanism" 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. A pooled compliance mechanism will also make adoption and global implementation of a fuel standard more likely to be practically feasible by 2027, as called for by the 2023 IMO GHG Strategy.

Required GFI reductions

46 With regard to the proposed regulations mandating reductions in required GFI, as set out in annex 1 of this document, the co-sponsors suggest that GFI requirements should be set for 2028, 2030 and 2040, with a review to be completed by 1 January 2028 to determine the cost and availability of marine fuels to comply with the standard set for 2030 and whether it will be possible for ships to comply.

47 The text proposed by the co-sponsors also seeks to accommodate those Member States that wish Required GFI numbers to be agreed for the years between 2030 and 2040. However, while GFI required for 2040 can be agreed now to provide a clear signal to the industry and energy producers, it is suggested that development of GHG reduction trajectories to determine GFI requirements for 2030 to 2040 should be deferred until after adoption of the measure. This is because the aggressive GFI reductions which will be needed during the 2030s may have a significant economic impact on Member States and are thus likely to be controversial requiring careful consideration. It will be difficult for the Committee to complete this work with the degree of consideration required before 2025, in addition to finalising the drafting of the regulations, the Comprehensive Impact Assessment (CIA), and the next version of the LCA Guidelines. Moreover, the calculation of GHG trajectories for the years 2030 to 2040 and what might be required from GFI reductions in those years will depend on what is finally agreed with respect to the level of incentives provided by the maritime GHG emissions pricing mechanism, including the quantum of the GHG fee and the feebate (reward) per tonne of CO_{2e} prevented. By providing more time for the Committee to agree Required GFI numbers for the years between 2030 to 2040, the Committee can thus avoid the mistakes that occurred when the CII framework was adopted without sufficient time to fully consider the complexity of the issues.

48 The co-sponsors are very cautious about stipulating annual reductions in GFI, especially for the 2030s when such annual GFI reductions might be large, with potential unintended consequences for the operation of the global shipping market and the bunker supply industry in the latter part of each calendar year, when potentially large amounts of marine fuel will be about to become under-compliant. Five-year intervals between significant reductions in Required GFI would be more appropriate, allowing time for sufficient preparation by the shipping and bunker supply industries to prepare for implementation.

49 Regardless of what is agreed with respect to flexible or alternative compliance mechanisms, the co-sponsors emphasise the need to include a provision regarding the use of Fuel Oil Non Availability Reports (FONAR), as provided for in suggested draft regulation 35.6, in annex 1 of this document, but only to be used as a last resort so that ships can leave port if compliant fuels are not available. There is no evidence to suggest that the current provisions under MARPOL Annex VI have been mis-used with respect to the IMO 2020 sulphur regulations.

USE OF OTHER GHG REDUCTION TECHNOLOGIES, INCLUDING CARBON CAPTURE

50 In addition to incentivizing the production and uptake of zero/near-zero GHG fuels, the IMO net-zero framework also needs to encourage and incentivize the use of other innovative GHG reduction technologies, including on-board carbon capture (which will reduce the quantity of zero/near-zero GHG marine fuels required) pending the development of methodologies to determine the GHG emissions prevented by their use after the amendments to MARPOL Annex VI have been adopted in 2025.

51 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 on-board carbon capture, pursuant to regulation 4 of MARPOL Annex VI on "Equivalent". A provision for this has been included in annex 1 of this document, in paragraph 5 of proposed regulation 35 – *Goal-based marine fuel standard for GHG intensity*. Likewise, the CO₂e emitted/prevented by use of technologies, including CCS, should be taken into account by the GHG fees (contributions) and feebates (rewards) agreed by the Committee as part of the maritime GHG emissions pricing mechanism, as referred to in the proposed Guidelines for determining GHG fees and feebates, in annex 2 of this document.

OTHER KEY ASPECTS OF MODIFIED PROPOSAL REFERENCING THE "ILLUSTRATION" AGREED BY MEPC 81

52 Annex 1 to this document sets out suggested draft amendments to MARPOL Annex VI, including a new Chapter V concerning an "IMO net-zero emissions framework". This shows how the regulations proposed by the co-sponsors would fit, so far as possible, with the headings for regulations used in the "illustration" agreed at MEPC 81. The following sections of this document highlight some of the other key aspects of the text proposed by the co-sponsors.

New focus on maritime GHG emissions charging "mechanism"

53 The text throughout annex 1 of this document now refers to a "maritime GHG emissions pricing mechanism", consistent with the terminology approved at MEPC 81. This focus on a "mechanism" is to address a legitimate political concern raised by several Member States that the primary purpose of the regulations should not be to generate revenue for a Fund, rather than the revenue and the opportunity to support, inter alia, developing countries via a Fund being a by-product of the "mechanism".

54 Under the co-sponsors' proposal, the revenue is now generated to achieve the overriding purpose of the mechanism, which is to reduce the "cost gap" via the feebate system to help achieve the IMO GHG reduction goals – see draft regulation 39 concerning *Purpose of the mechanism and disbursement of revenue* in annex 1 to this document. However, as mentioned above, an IMO Fund – now called the IMO Net-Zero Shipping Fund – is still an important part of the package, as set out in draft regulations 39.2 and 42 in annex 1 of this document.

55 While it is proposed that all ships (above the tonnage threshold) will be charged a GHG fee (contribution) per tonne of CO₂e emitted, there is no mention of a "levy" in the proposed regulations. Instead of referring to a "contribution" to a fund, which is not the main purpose of the "mechanism", the proposed regulatory text now refers to a "GHG fee" per tonne of CO₂e emitted, which is paid by the ship to the Organization via the automated maritime GHG emissions pricing mechanism, instead of being paid directly to a fund.

56 The proposed "mechanism" is the automated contribution and feebate system, which, with changes of terminology, can be based on the web-based prototype submitted as document ISWG-GHG 16/2/1 (ICS).

57 Under the proposal by the co-sponsors, there is only the "mechanism" plus a single IMO Net-Zero Shipping Fund. Instead of being paid to the Fund, most of the GHG fees collected will be held by the "mechanism" (administered by IMO) for a short time only, before being distributed as feebates (rewards) to companies whose ships use eligible zero/near-zero GHG fuels. In many cases (see below) the feebate, being smaller than the GHG fee, will be deducted by the "mechanism" from the annual GHG fee to be paid by the ship, rather than actually being paid to the ship (or the company which operates it).

58 Under this proposal by the co-sponsors, after feebates have been disbursed via the "mechanism" to ships using eligible zero/near-zero GHG fuels, only the surplus (by-product) from the total GHG fees collected annually is allocated to the IMO Net-Zero Shipping Fund (to support a just transition and maritime GHG reduction efforts by developing countries etc.). As most of the revenue collected via the maritime GHG emissions pricing mechanism will be used as feebates (rewards), which will be disbursed via the "mechanism" very soon after GHG fees are collected, this process can be centrally managed and overseen without the need for any "policy" decisions by the automated "mechanism" itself, which will be administered by the Organization. No policy decisions about use of revenue collected and administered by the "mechanism" (as opposed to the Fund) will be required because this will clearly be set out in the regulations, and oversight and governance of the operation of the "mechanism" (as opposed to the Fund) can be limited to audits to ensure that revenue collected is appropriately managed before it is disbursed. As mentioned above, it is suggested that guidelines on the detailed operation, management and governance of the Fund can be developed after the regulations are adopted in 2025.

Integration of technical and economic elements

59 To accommodate views expressed by several Member States, it is proposed to integrate the regulations concerning the (technical) fuel standard and the (economic) pricing mechanism into a single Chapter of MARPOL Annex VI, and it is not envisaged that the new Chapter 5 to MARPOL Annex VI would be divided into sections 5.1 and 5.2 as identified in the MEPC 81 "illustration".

60 As mentioned above, the text proposed for regulation 36 – *Alternative compliance by a ship* – introduces a simple fixed "GHG Surcharge Fee" for under-compliance with the fuel standard, the price of which will be fixed, for a five-year period, and linked to the mandatory GHG fee per tonne of CO₂e emitted, as set out in proposed regulation 40 – *Calculation and collection of GHG fees*. As this GHG Surcharge Fee will be transmitted by the ship via the (fully automated) maritime GHG emissions pricing mechanism, this removes the need for the Organization to establish a separate GFI registry (as suggested by the "illustrative" template developed at MEPC 81).

Mechanism for calculation and collection of GHG fees and calculation and disbursement of feebates

Application of regulations to the ship

61 It is recognised that in practice it will be shipping companies which pay GHG fees (contributions), via the maritime GHG emissions pricing mechanism, on behalf of the ships they operate which will each have an account with the "mechanism", administered by the Organization, linked to the ship's IMO number. However, to be consistent with other provisions in MARPOL it is important that the regulations are addressed to "the ship" which will make it easier for the collection process to work and be consistent with the need for a Statement of Compliance related to the GHG fee to be issued to the ship by flag State administrations and carried on board the ship for enforcement purposes.

Rationale for setting quantum of GHG fee, linking this to the 2030 level of ambition

62 In annex 1 of this document, proposed regulation 40 concerns the *Calculation and collection of GHG fees*, with proposed regulation 40.4 specifying the quantum of the GHG fee (contribution) to be made via the maritime GHG pricing mechanism, expressed in US\$ per tonne of CO₂e emitted.

63 As mentioned above, the co-sponsors take no view on what the quantum of the GHG fee should be, provided it achieves the objectives of the measure. Nonetheless, the proposed regulations now include a "rationale" for initially setting the quantum of the GHG fee

(contribution) at a level that might be politically acceptable. For example and illustrative purposes, \$18.75 per tonne of CO₂e emitted, which is equivalent to about \$60 per tonne of conventional fuel oil consumed, assuming a CO₂e conversion factor of 3.2, and – subject to confirmation by the CIA – would be unlikely to have disproportionately negative impacts on delivered cargo prices, according to the analysis submitted as document ISWG-GHG 16/2/2 (ICS).

64 The rationale is underpinned by proposed regulation 39 – *Purpose of the mechanism and disbursement of revenue*. This refers, in line with the level of ambition in the IMO 2023 GHG Strategy, to ensuring that at least 5% to 10% of the energy used by shipping comes from zero or near-zero GHG sources as soon as possible, and sets out that GHG fees shall be collected for the provision of annual feebates (rewards) to reduce the cost gap between zero and near-zero GHG fuels and conventional fuel and that, as a by-product of the "mechanism", funds can also be allocated to the IMO Net-Zero Shipping Fund.

65 This actual rationale is provided by linking the quantum of the GHG fee (as set by proposed regulation 40.4) to the amount of annual revenue that will be required to achieve the immediate objective of the measure, i.e. the upper end of the level of ambition in the IMO 2023 GHG Strategy for up to 10% of international shipping's emissions to come from zero/near-zero GHG energy sources. Proposed regulation 40.3 reads as follows:

"For a minimum period of five years after entry into force of this chapter, the total GHG fees to be collected annually via the mechanism shall be sufficient to:

- .1 provide feebates for the prevention of up to 100 million tonnes of CO₂e emissions due to the use by ships of zero and near-zero GHG energy sources, at the feebate rate specified by regulation 41.1 of this Annex [for example, \$100 per tonne of CO₂e prevented, calculated on a WtW basis, by use of eligible zero/near-zero energy sources]; and
- .2 provide the sum to be allocated annually to the IMO Net-Zero Shipping Fund, in accordance with regulation 39.2 of this Annex, [i.e. 20% of the revenue required to fund feebates for the prevention of up to 100 million tonnes of CO₂e emissions per year] unless feebates need to be provided for the prevention of more than 100 million tonnes of CO₂e emissions in any calendar year."

66 Using this rationale, the quantum of the GHG fee (i.e. in this illustrative example, \$18.75 per tonne of CO₂e emitted, equivalent to \$60 per tonne of conventional fuel oil consumed) is determined as follows:

- .1 100 million tonnes of CO₂e per year, in line with the upper end of the 2030 "energy target", represents 10% of total annual emissions from international shipping if these are taken, for the purposes of the regulation, to be 1 billion tonnes of CO₂e per year (in line with the estimates in the Fourth IMO GHG Study);
- .2 reducing total CO₂e emissions from international shipping by 100 million tonnes is calculated on a TtW basis. However, if use of eligible zero/near-zero energy sources is rewarded on a WtW basis, the revenue which needs to be generated to prevent up to 100 million tonnes of CO₂e emissions per year on a TtW basis should be sufficient to reward the prevention of up to 125 million tonnes of CO₂e emissions per year on a WtW basis compared to consuming conventional liquid fuel oil. This assumes a WtW CO₂e conversion factor for one tonne of conventional liquid fuel oil consumed of 4.0 compared to 3.2 on a TtW basis (1.25 multiplied by 3.2 equals 4.0);

- .3 if the reward rate specified in proposed regulation 41.1 was set at, for example, \$100 per tonne of CO₂e emissions prevented by use of eligible zero/near-zero GHG energy sources calculated on a WTW basis, annual revenue required to provide rewards for the CO₂e emissions prevented would need to be about \$12.5 billion per year (125 million tonnes of CO₂e on a WTW basis multiplied by \$100). Assuming, based on a 5,000 GT threshold, that GHG fees were collected for 800 million tonnes of CO₂e emitted per year on a TTW basis (rather than for 1 billion tonnes per year) generating \$12.5 billion per year would require the GHG fee to be set at about \$15.625 per tonne of CO₂e emitted (800 million multiplied by \$15.625 equals \$12.5 billion); and
- .4 if it was also agreed that a sum equivalent to 20% of the total revenue to be collected for the purpose of funding feebates each year should be allocated to the IMO Net-Zero Shipping Fund, this would require the GHG fee to be set at \$18.75 per tonne of CO₂e (20% of \$15.625 equals \$3.125, which in total equals \$18.75), with some \$2.5 billion per year (20% of \$12.5 billion) being allocated to the Fund.

67 As mentioned above, the GHG fee per tonne of fuel consumed, for different fuel types, will be based on the CO₂e conversion factors as determined by the LCA Guidelines, and will be set out in the draft Guidelines on GHG fees included with annex 2 of this document.

Collection of GHG fees

68 The process for collecting GHG fees via the "mechanism" is broadly unchanged from that previously proposed in document ISWG-GHG 16/2/3 (Bahamas et al.) which was derived from the IMRB/IMSF proposal set out in document MEPC 76/7/7 (Denmark et al.) for which there was previously widespread support in the Committee. But further detail has been added to the proposed regulation, taken from what was previously presented as draft guidelines, so that the Working Group can see the whole process in one place. Text is also included in proposed regulation 38 – *Maritime GHG emissions pricing mechanism*, to ensure that payment of GHG fees will not be subject to any administrative or other charges, for example, UK VAT.

69 How the collection process will operate in practice is also demonstrated by the prototype of the fully automated contribution mechanism, a link to which can be found in document ISWG-GHG 16/2/1 (ICS) – see [Combined sets - ZESF Prototype 2024 \(figma.com\)](#). It should be noted that the terms used in the fully automated prototype of the collection and reward system have not yet been changed to align with the new suggested regulatory text, whereby GHG fees (contributions) and feebates (rewards) are made/dispensed via the "mechanism" rather than via the Fund, although this has no implications for the collection and reward process suggested by the co-sponsors.

70 To minimise administrative burdens for governments, the co-sponsors propose that the company, on behalf of the ship, will submit the ship's annual fuel consumption data directly to the automated "mechanism" by the end of March each calendar year. This is the same date required for submission of fuel consumption data to the ship's flag State administration for use with the IMO DCS, i.e. before the administration issues the ship with the Statement of Compliance (SoC) required by the DCS regulation. However, the date when payment by the ship of the GHG fee is required (including any GHG Surcharge Fee for under-compliance with the fuel standard – see above) corresponds with the date, at the end of May, when the SoC for the DCS must be issued by the administration, so that any discrepancies after the data has been verified should have been dealt with at this point.

71 As soon as the fuel consumption data is inputted by a shipping company, on behalf of the ship, the automated GHG emissions pricing mechanism will calculate and collect the annual GHG fee due from each ship, based on its annual CO₂e emissions and, when payment has been received, the "mechanism" will issue the ship with an Annual Account Statement (confirming payment has been received) which it can then forward to its administration with a request for a SoC relating to the GHG fee. All that the administration has to do, at the end of the process – after the SoC related to the DCS has been issued – is check that the fuel consumption/CO₂e emissions data used by the IMO "mechanism" to calculate the ship's annual GHG fee is the same as that verified by the administration (or RO) for use with the DCS, before issuing a SoC to the ship to confirm that the required GHG fee has been transmitted to the IMO "mechanism".

72 The co-sponsors suggest it is important that the GHG fee collection process and the issue of the SoC related to the GHG fee is completed as quickly as possible. This is because the GHG fee, which may need to be recovered by the shipping company from a third party, such as a charterer, may relate to fuel consumption and CO₂e emitted more than 12 months in advance of the GHG fee being paid via the "mechanism".

73 Figure 1 below illustrates how the process of collecting GHG fees could work.

**Timelines for compliance under “maritime GHG emissions pricing mechanism”
(GHG fee)**

Dates show latest time in calendar year when the action should be undertaken

<u>Fuel Oil Data Collection System (DCS)</u>	<u>GHG Fee</u>
31 March Ship to submit DCS data to Administration/RO	31 March Ship to submit DCS fuel data to IMO via automated “mechanism”
Verification of DCS fuel data by Administration/RO	30 April IMO to provide Provisional Statement to ship via “mechanism” with calculation of GHG fee (including any GHG Surcharge Fee) plus any feebate
31 May Administration/RO to issue ship with DCS SoC	31 May Ship to pay GHG fee to IMO via “mechanism”
	30 June Annual Account Statement sent to ship by IMO via automated “mechanism” confirming correct GHG fee received Ship to “promptly” provide Annual Account Statement to Administration/RO
	31 July Administration/RO to issue ship with GHG fee SoC after checking that data on Annual Account Statement matches verified DCS data

**Timelines for compliance under “maritime GHG emissions pricing mechanism”
(Feebate)**

Dates show latest time in calendar year when the action should be undertaken

<u>Fuel Oil Data Collection System (DCS)</u>	<u>GHG Fee</u>
31 March Ship to submit DCS data to Administration/RO	31 March Ship to submit DCS fuel data to IMO via automated “mechanism”
Verification of DCS fuel data by Administration/RO	30 April IMO to provide Provisional Statement to ship via “mechanism” (If feebate less than GHG fee process as above) If feebate more than GHG fee, ship to “promptly” forward Provisional Statement to Administration:
31 May Administration/RO to issue ship with DCS SoC	<ul style="list-style-type: none"> • Administration to issue Feebate Eligibility Confirmation Statement after checking data on Provisional Statement matches verified DCS data on consumption of eligible fuels • Ship to forward Feebate Eligibility Confirmation Statement to IMO via “mechanism” • IMO to pay feebate to ship account via automated “mechanism” and send Annual Account Statement to ship
	31 July Administration/RO to issue GHG fee SoC

Figure 1: Timelines for compliance

GHG fees by instalment

74 The ability of ships to make contributions in advance via instalments, which will make implementation easier for many shipping companies, and charterers that may be responsible for the cost of the fuel and the associated GHG fees, is a feature of the proposed “mechanism” and a provision for this has been included in proposed regulation 40.2. A demonstration of how this could work in practice is shown under the “Pay as you go” function that forms part of the prototype of the automated contribution mechanism included with document ISWG-GHG 16/2/1 (ICS).

Refinements to process for calculating and disbursing feebates

75 In annex 1 to this document, proposed regulation 41 – *Feebates disbursed via the maritime GHG emissions pricing mechanism*, the need for Administrations to issue a Feebate Eligibility Confirmation Statement has been added to the process for claiming and receiving a feebate (reward) for the CO₂e emissions prevented by use of eligible zero/near-zero GHG fuels. This is to ensure that the flag State has confirmed that the consumption of eligible fuels is based on verified DCS data before the automated "mechanism" disperses the reward to the shipping company.

76 However, the Administration will only be required to issue a Feebate Eligibility Confirmation Statement if the "mechanism" calculates that the feebate (reward) to be received by the ship is greater than the GHG fee which is due. In most cases, at least during the initial years of implementation when most ships eligible for rewards will be dual fuel ships, the feebate will be less than the annual GHG fee and the feebate will simply be deducted by the "mechanism" from the annual GHG fee which is due from the ship. As no money, in these cases, will be transferred to the ship's account with the "mechanism", no Feebate Eligibility Confirmation Statement will be required. As with other ships, at the end of the process the administration will check that data on the Annual Account Statement issued by the "mechanism", concerning the consumption of eligible zero/near-zero GHG fuels which results in a reduction in the annual GHG fee, matches the verified fuel consumption data provided for the use with the DCS, before issuing a SoC related to payment of the GHG fee.

77 Figure 1 above also illustrates how the process of calculating and disbursing feebates could work.

Expressing the GHG fee (contribution) and feebate (reward) rate for CO₂e prevented, and the concept of "net GHG fee"

78 With regard to setting out the GHG fee (contribution) per tonne of CO₂e emitted, it will be important for the regulations to express this clearly in US\$ per tonne of CO₂e. This will be more transparent and make it easier for shipowners to explain the extra cost to their customers as a mandatory requirement. As the cost of marine bunkers is almost always expressed in US\$, it also makes sense to express the GHG fee in US\$ (rather than, for example, SDR) to avoid adding another level of complication and uncertainty, especially for smaller companies in developing countries.

79 Likewise, with regard to feebates (rewards) for the use of zero/near-zero GHG fuels, it will be much simpler, more transparent and easier for the IMO "mechanism" to calculate the rewards to ships if the regulations set out the feebate (reward) rate in US\$ per tonne of CO₂e prevented by using these fuels rather than consuming conventional Liquid Fuel Oil, as it is the reduction of CO₂e emissions which is the purpose of the regulation.

80 As mentioned above, the co-sponsors note that consideration needs to be given to feebates (rewards) for CO₂e emissions prevented by use of other energy sources and technologies. GHG emissions prevented by ships using other technologies, including carbon capture, should be rewarded when IMO has developed a methodology for calculating emissions prevented which can be reported and verified in conjunction with the DCS. But addressing this possibility with a complex formula for expressing the feebate rate in the regulations now will unnecessarily complicate implementation of the regulation. The co-sponsors therefore suggest that rewards for other energy sources and technologies, including carbon capture, should be addressed in IMO Guidelines – see draft Guidelines for determining GHG fees and feebates as set out in annex 2 of this document.

81 It is very important that the GHG fee (contribution) for CO₂e emitted and the feebates (rewards) for CO₂e prevented are both expressed in the same simple and clear way (US\$ per tonne of CO₂e). This is because, as discussed above, in the early years of implementation, most of those ships using fuels which may be eligible for rewards will be dual fuel ships which will also use conventional fuels, so that the total feebate received in a calendar year will usually be less than the total contributions made, and the "mechanism" will simply deduct any feebate from the annual GHG fee which is due, rather than making a payment to the ship's account.

82 To make administration of the IMO "mechanism" simpler, any annual feebate (reward), in many cases, can be deducted from the annual GHG fee (contribution) and expressed as a "net GHG fee" in both the Provisional Statement and the Annual Account Statement issued for the ship by the mechanism. In the early years of implementation, only a very small number of ships will be likely to receive a "net feebate" via the IMO mechanism. The fully automated prototype (see document ISWG-GHG 16/2/1) demonstrates how this would work.

83 Expressing the GHG fee and the feebate rate in the same clear way (US\$ per tonne of CO₂e) will also make it easier for commercial contracts to specify how the feebate should be passed on to an entity, such as the charterer, who may be paying the cost of more expensive zero/near-zero GHG fuels (including the biofuel component of sustainable biofuel blends).

Dates for implementation

84 A provision setting out the specific dates for implementation for the "IMO net-zero framework" is not included in the MEPC 81 "illustration". However, this proposed regulation is considered important to ensure that the collection of GHG fees is started as soon as possible and that there is sufficient time for revenues to be accrued before revenue is disbursed.

DRAFT IMO NET-ZERO FRAMEWORK

85 To expedite development of amendments to MARPOL Annex VI that can be approved and adopted in 2025, as required by the 2023 IMO GHG Strategy, the co-sponsors have prepared a comprehensive regulatory proposal, set out in the annexes to this document as follows:

- .1 Annex 1 – draft amendments to MARPOL Annex VI to add, inter alia, a new Chapter 5 "Regulations on the IMO net-zero framework"; and
- .2 Annex 2 – draft annex to an MEPC resolution setting out draft "Guidelines for determining the GHG fees and feebates under the maritime GHG emissions pricing mechanism".

86 The draft amendments set out in annex 1 of this document include provisions for a new Chapter 5 to MARPOL Annex VI as follows:

- .1 Regulation 32 – Application;
- .2 Regulation 33 – Goal;
- .3 Regulation 34 – Functional requirements;
- .4 Regulation 35 – Goal based marine fuel standard for GHG intensity;

- .5 Regulation 36 – Alternative compliance by a ship;
- .6 Regulation 37 – Energy pooling compliance mechanism for ships;
- .7 Regulation 38 – Maritime GHG emissions pricing mechanism;
- .8 Regulation 39 – Purpose of the mechanism;
- .9 Regulation 40 – Calculation and collection of fees;
- .10 Regulation 41 – Feebates disbursed via the maritime GHG emissions pricing mechanism;
- .11 Regulation 42 – IMO Net-Zero Shipping Fund;
- .12 Regulation 43 – Dates for implementation;
- .13 Regulation 44 – Review of this chapter; and
- .14 Appendix [XII] – Form of the Statement of Compliance - Maritime GHG emissions pricing mechanism.

87 In addition, consequential draft amendments to the following regulations of MARPOL Annex VI are proposed to include a requirement for a Statement of Compliance for the Maritime GHG emissions pricing mechanism as follows:

- .1 Regulation 6 – Issue or endorsement of Certificates and Statements of Compliance;
- .2 Regulation 8 – Form of Certificates and Statements of Compliance;
- .3 Regulation 9 – Duration and validity of Certificates and Statements of Compliance; and
- .4 Regulation 10 – Port State control on operational requirements.

Conclusion

88 This comprehensive proposal for an integrated IMO net-zero framework, completed with the necessary regulatory architecture as set out in the annexes to this document, is designed to incorporate both a simplified goal-based marine fuel standard for GHG intensity and a distinct maritime GHG emissions pricing mechanism with a flat rate GHG fee (contribution) per tonne of CO_{2e} emissions, and a feebate (reward) element per tonne of CO_{2e} prevented to incentivize accelerated production and uptake of zero/near-zero GHG fuels. As a by-product of the "mechanism" up to about \$2.5 billion per year, during the initial years of implementation, will be allocated to an IMO Net-Zero Shipping Fund to support, inter alia, the maritime GHG reduction efforts of developing countries, in particular SIDs and LDCs.

89 Without these crucial elements, the Organization will not succeed in achieving the 2023 GHG Strategy's goals, leading to proliferation of piecemeal, unilateral GHG charges being applied to shipping worldwide, with regulatory chaos, economic inefficiency and damage to IMO's authority as shipping's global regulator.

90 The co-sponsors emphasise that if Member States are committed to adopting measures that will deliver the very high levels of ambition which they have unanimously agreed, as set out in the 2023 IMO GHG Strategy, a distinct maritime GHG emissions pricing mechanism is urgently required for international shipping.

91 A "mechanism" is required which will meaningfully narrow the cost gap with conventional fuels to achieve a "take-off" point in the production and uptake of zero/near-zero GHG fuels, as required by the important level of ambition for 5% to 10% of energy used by shipping to be generated from zero/near-zero GHG fuels, technologies and/or energy sources by 2030, on a pathway to net zero, given that the current availability of such marine fuels is virtually zero.

92 A fuel standard on its own (even if it includes an "economic element" as an alternative to compliance) will not be sufficient to achieve a "take-off" point by 2030 so that zero/near-zero GHG fuels will be produced, at scale, and made available to ships at ports globally, including in developing countries, so that the 2040 indicative checkpoint for a 70% to 80% cut in international shipping's absolute GHG emissions, regardless of trade growth, is feasible and that achievement of net-zero GHG emissions, by or around 2050, remains plausible. Furthermore, a fuel standard on its own (even if it includes an economic element) will not provide guaranteed levels of funding, comprising billions of US dollars annually, to support, inter alia, a just transition and the maritime GHG reduction efforts of developing countries, so that the transition to net-zero by international shipping will be truly global.

Action requested of the Working Group

93 The Working Group is invited to consider the comprehensive proposal in this document, and the draft regulatory text included in the annexes and take action as appropriate. The Working Group is also invited to fully consider those key issues highlighted in this document which need to be given full consideration by the Working Group and the Committee before they consider development of regulatory text, including any suggested "base text" which may be submitted.

ANNEX 1

NB: Headings in square brackets reflect the suggested headings for regulations set out in the "Illustration of a draft possible outline of the 'IMO net-zero framework'" agreed by MEPC 81

REVISED DRAFT AMENDMENTS TO MARPOL ANNEX VI "IMO net-zero framework"

[Chapter 2 – Survey, certification and means of control]

[.3 Certificates and Statements of Compliance (regulation 6)]

Regulation 6

The title of the regulation is amended (deletion shown as ~~strikethrough~~, addition shown underlined) as follows:

Issue or endorsement of Certificates and Statements of Compliance related to fuel oil consumption reporting, ~~and~~ operational carbon intensity rating, and maritime GHG emissions pricing mechanism

A new title and paragraphs 9 and 10 are added as follows:

Statement of Compliance – Maritime GHG Emissions Pricing Mechanism

9 Pursuant to regulation 40.10 of this Annex, upon receipt of the Annual Account Statement the Administration, or any organization duly authorized by it, shall determine whether the annual GHG fee has been made via the maritime GHG emission pricing mechanism in accordance with regulation 40.1 of this Annex by verifying whether the information provided in the Annual Account Statement is consistent with the ship's fuel oil consumption data pursuant to regulation 27.3 of this Annex and, if so, issue a Statement of Compliance related to the maritime GHG emission pricing mechanism no later than [seven] months from the beginning of the calendar year. In every case, the Administration assumes full responsibility for this Statement of Compliance.

10 With respect to a ship not registered in a Party to this Annex, the Statement of Compliance related to the maritime GHG emission pricing mechanism may be issued by the appropriate Administration of any Party to this Annex, if satisfied that the GHG fee required under regulation 40.1 of this Annex has been made via the maritime GHG emission pricing mechanism for the previous calendar year for that ship. A Statement of Compliance so issued shall have the same force and receive the same recognition as a Statement of Compliance issued under paragraph 9 of this regulation.

[.4 Forms of certificates and Statements of Compliance (regulation 8)]

Regulation 8

The title of the regulation is amended (deletion shown as ~~strikethrough~~, addition shown underlined) as follows:

Form of Certificates and Statements of Compliance related to fuel oil consumption reporting, ~~and~~ operational carbon intensity rating and the maritime GHG emissions pricing mechanism

A new title and paragraph 5 are added as follows:

Statement of Compliance – Maritime GHG Emissions Pricing Mechanism

5 The Statement of Compliance pursuant to regulations 6.9 and 6.10 of this Annex shall be drawn up in a form corresponding to the model given in appendix [XII] to this Annex and shall at least be written in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

A new title and paragraph 6 are added as follows:

Feebate Eligibility Confirmation Statement – Maritime GHG Emissions Pricing Mechanism

6 Pursuant to regulation 41.4 of this Annex, the Feebate Eligibility Confirmation Statement shall be drawn up in a form corresponding to the model given in appendix [XIII] to this Annex and shall at least be written in English, French or Spanish. If an official language of the issuing country is also used, this shall prevail in case of a dispute or discrepancy.

[.5 Duration and validity of Certificates and Statements of Compliance (regulation 9)]

Regulation 9

The title of the regulation is amended (deletion shown as ~~striketrough~~, addition shown underlined) as follows:

Duration and validity of Certificates and Statements of Compliance related to fuel oil consumption reporting, ~~and operational carbon intensity rating, and maritime GHG emissions pricing mechanism~~

A new title and paragraph 13 are added as follows:

Statement of Compliance – Maritime GHG Emissions Pricing Mechanism

13 The Statement of Compliance issued pursuant to regulations 6.9 and 6.10 of this Annex shall be valid for the calendar year in which it is issued and for the first [seven] months of the following calendar year. All Statements of Compliance shall be kept on board for at least five years.

[.6 Port State control (regulation 10)]

Regulation 10

Port State control on operational requirements

A new paragraph 7 is added as follows:

7 In relation to chapter 5 of this Annex, any port State inspection shall be limited to verifying, when appropriate, that there is a valid Statement of Compliance related to the maritime GHG emissions pricing mechanism on board, in accordance with article 5 of the present Convention.

[Chapter 4 – Regulations on the carbon intensity of international shipping]

[.8 Data Collection System (regulation 27)]

Regulation 27

Data Collection System

[amendments to be added]

[New Chapter 5 – Regulations on the IMO net-zero framework]

[.9 New Chapter 5.1: Goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity]

A new chapter 5 is added as follows:

Chapter 5 – IMO net-zero framework

[.9.1 Application (regulation X)]

Regulation 32

Application

- 1 This chapter shall apply to all ships of [400][5,000]¹ gross tonnage and above.
- 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.

[.9.2 Goal (regulation X)]

Regulation 33

Goal

The goal of this Chapter is to reduce the GHG emissions of international shipping, working towards the levels of ambition set out in the IMO Strategy on reduction of GHG emissions from ships.

¹ In principle, ICS considers the tonnage threshold should be 400 GT, but if agreed on approval of these amendments it is recognised that this would require consequential amendments be made to the DCS (regulation 27 of MARPOL Annex VI) and additional administrative burdens for Member States.

[.9.3 Functional requirements (regulation X)]

Regulation 34

Functional requirements

In order to achieve the goal set out in regulation 33 of this Annex, a ship to which this chapter applies shall:

- .1 reduce its greenhouse gas fuel intensity (GFI), calculated on a Well to Wake basis, in accordance with regulation 35 of this Annex; and
- .2 pay GHG fees and receive feebates in accordance with regulations 40 and 41 of this Annex.

[.9.5 Target/Required GFI (regulation X)]

Regulation 35

Goal-based marine fuel standard for GHG intensity

1 From 1 January 2028, the GHG Fuel Intensity (Required GFI) of energy used on board the ship shall not exceed [98%] of the GFI reference value² (gCO_{2e}/MJ)^{3,4,5}.

2 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 (gCO_{2e}/MJ).

3 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_{2e}/MJ).

4 The standards set forth in paragraphs 2 and 3 of this regulation shall be subject to a review to be completed by 1 January 2028 to determine:

- .1 the cost and availability of marine fuels which comply with the standards set forth in these paragraphs and confirmation by the Parties that it is possible for ships to comply; and
- .2 further reductions in the GHG Fuel Intensity (Required GFI) of energy used on board which the ship shall not exceed from 1 January 2032, and further reductions in GHG Fuel Intensity (Required GFI) that the ship shall not exceed at intervals agreed thereafter, taking account of GHG reduction trajectories for international shipping as agreed by the Organization.

² GFI reference value to be calculated on approval of the draft amendments and corresponds to the fleet average greenhouse gas (gCO_{2e}/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.

³ 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) MEPC.391(81), as amended.

⁴ As per the requirements of regulation 18.5 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, 18.5 and Appendix V of MARPOL Annex VI.

⁵ Regulation 4 MARPOL Annex VI (Equivalents) permits Administrations to allow compliance methods with fuel standards that are "at least as effective in terms of emissions reductions as that required by this Annex".

5 Pursuant to regulation 4 of this Annex, the Organization shall develop guidelines on equivalent means pertaining to other technologies, including carbon capture and storage, used to comply with paragraphs 1, 2 and 3 of this regulation.

6 Pursuant to regulation 18.2.1 of this Annex, a ship not able to purchase compliant fuel oil to meet the requirement set out in paragraphs 1, 2 and 3 of this regulation, shall notify its Administration taking into account guidelines developed by the Organization.⁶

[9.7 Alternative compliance approaches (regulation X)]

[.9.4 Attained GHG fuel intensity (GFI) (regulation X)]

[.9.6 GFI data collection and reporting (regulation X)]

[NB: Regulation 36 below combines text which addresses all three of the above headings into a single regulation.]

Regulation 36

Alternative compliance by a ship

1 From 1 January 2028, for each ship which uses fuel oil which has a GHG Fuel Intensity (Attained GFI) that exceeds the Required GFI stipulated by regulation 35 of this Annex:

- .1 for each tonne of CO₂e emitted due to Attained GFI exceeding Required GFI, the ship shall pay to the Organization, in accordance with the maritime GHG emissions pricing mechanism, a GHG Surcharge Fee (GSF) that shall be determined as follows:

$$\text{GSF} = ((\text{tonnes CO}_2\text{e Attained GFI}) - (\text{tonnes CO}_2\text{e Required GFI})) \cdot ([X\%]^7 \text{ of } [\text{US}\$18.75]^8 \text{ per tonne of CO}_2\text{e})$$

Where, tonnes of CO₂e = Y . M . LCV

Y = GHG intensity of the fuel used (gCO₂e/MJ)

M = mass of fuel used in metric tonnes (MT);

LCV = Lower Calorific Value of fuel used (MJ/g);

- .2 from 1 January 2030, subject to the review required by regulation 35.4 of this Annex, the GHG Surcharge Fee shall be [X%] of the GHG fee specified by regulation 40.4 of this Annex;
- .3 from 1 January 2040, subject to the review required by regulation 35.4 of this Annex, the GHG Surcharge Fee shall be [X%] of the GHG fee specified by regulation 40.4 of this Annex; and

⁶ 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).

⁷ The GHG Surcharge Fee is a product of the CO₂e emissions in excess of the Required GFI and a percentage of the "GHG fee", the "GHG fee" being required to be paid for all CO₂e emissions by the ship.

⁸ "GHG fee" as may be specified in regulation 40.4 of this Annex. US\$18.75 is an illustrative example only.

- .4 pursuant to regulation 27 of this Annex, fuel oil data used to determine the additional tonnes of CO₂e emitted due to Attained GFI exceeding the Required GFI, shall be reported by the ship to the Administration⁹. Pursuant to regulation 40.6 of this Annex, data shall be submitted to the Organization in accordance with the maritime GHG emissions pricing mechanism.

2 From 1 January 2032, and at intervals to be agreed thereafter, the GHG Surcharge Fee which shall be due if the ship is unable to comply with regulation 35 of this Annex shall be based on the GHG Fuel Intensity (Required GFI) determined following the review required by regulation 35.4 of this Annex.

[.10.4 Flexible compliance mechanism(s) (regulation X)]

Regulation 37

Energy pooling compliance mechanism for ships

1 For applicable ships, the Administration may approve the use, by a ship, of an energy pooling mechanism to demonstrate compliance with regulation 35 of this Annex¹⁰. Each ship in the energy pooling compliance mechanism shall be issued with a Pooled Energy Intensity Compliance Certificate (PEICC)¹¹ either by the Administration or any organization duly authorized by it.

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 35 of this Annex, may allocate the verified excess GFI to the energy pooling compliance mechanism, taking into account the guidelines developed by the Organization¹².

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 35 of this Annex, provided that the Attained GFI¹³ of each ship participating in the same energy pooling mechanism shall comply with the required GFI as set out in regulation 35 of this Annex.

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 pooled 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, and included on the PEICC issued by the Administration or any organization duly authorized by it.

⁹ MEPC.348(78) 2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity, as amended by resolution MEPC.389(81).

¹⁰ Energy pooling compliance mechanism guidelines for Administrations to be developed which could be a standalone set of guidelines or incorporated in the SEEMP Guidelines. This can be done after approval of this chapter.

¹¹ Form of the Pooled Energy Intensity Compliance Certificate (PEICC) to be developed. This can be done after approval of this chapter.

¹² Energy pooling compliance mechanism guidelines for ships to be developed which could be a standalone set of guidelines or incorporated in the SEEMP Guidelines. This can be done after approval of this chapter.

¹³ This provision to be expanded on in the guidelines for Administrations MEPC.348(78) 2022 Guidelines for Administration verification of ship fuel oil consumption data and operational carbon intensity, as amended by resolution MEPC.389(81).

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.

[.10 New Chapter 5.2: Economic mechanism(s) to incentivise the transition to net zero]

[.10.1 Application (regulation X) – not included as the co-sponsors do not propose dividing this Chapter into sections 5.1 and 5.2, and the application with respect to both the fuel standard and the GHG emissions pricing mechanism is addressed by regulation 32 above.]

[NB: Regulation 38 below is not covered by the headings in the MEPC 81 template.]

Regulation 38

Maritime GHG emissions pricing mechanism

1 The Organization shall establish a maritime GHG emissions pricing mechanism ("the mechanism") to be administered by the Organization, taking into account Guidelines adopted by the Organization,¹⁴ to collect GHG fees from ships for the CO₂e emitted during the previous calendar year as required by regulation 40 of this Annex.

2 The mechanism shall establish an account for each ship to which this chapter applies, in accordance with the IMO ship identification scheme (resolution A.1078(28)), to which GHG fees can be submitted by the Company responsible for that ship as defined by paragraph 2.8 of regulation 2 of MARPOL Annex VI.

3 The Organization shall not charge administration fees for calculating, collecting or processing GHG fees or any other associated costs for administration of the mechanism, which shall be met from annual revenue collected via the mechanism. The calculation, collection, processing and administration of GHG fees shall not constitute a service to the ship by the Organization.¹⁵

[.10.6 Distribution of revenue (regulation X)]

Regulation 39

Purpose of the mechanism and disbursement of revenue

1 The GHG fees collected via the mechanism shall be used for the following purposes:

- .1 ensuring that at least 5% to 10% of the energy used by shipping comes from zero or near-zero GHG sources as soon as possible, on a pathway to net-zero GHG emissions, by incentivizing the accelerated production and uptake of zero and near-zero GHG fuels, energy sources and technologies through the provision of annual feebates to ships for the CO₂e emissions prevented by reducing, in combination with the application of a GHG fee, the cost gap between zero and near-zero GHG fuels and conventional Liquid Fuel Oil; and

¹⁴ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to resolution is set out in the annex to this document.

¹⁵ This provision is to ensure that the GHG fee will not be subject to UK VAT as no service is provided by IMO.

- .2 administration of the maritime GHG emissions pricing mechanism, including establishment and administration of the feebate element pursuant to regulation 41 of this Annex, ensuring this entails no costs to the Organization.

2 For five years after entry into force of this chapter, provided that the total GHG fees collected for CO₂e emissions occurring in any calendar year shall be adequate to meet the purposes set out in paragraph 1 of this regulation, an amount up to [20%¹⁶] of the total GHG fees to be collected in accordance with regulation 40.3.1¹⁷ of this Annex may be allocated to the IMO Net-Zero Shipping Fund, established in accordance with regulation 42 of this Annex, to support, inter alia, maritime GHG reduction projects and programmes in developing countries. These projects and programmes may include:

- .1 capacity-building in developing countries, especially SIDS and LDCs, including deployment of zero or near-zero GHG maritime fuel production facilities and new bunkering infrastructure that may be required in ports to expedite transition and adaptation to climate change;
- .2 funding, inter alia, for the IMO GHG-TC Trust Fund to support other maritime GHG reduction projects in developing countries, especially SIDS and LDCs;
- .3 funding for applied research and development (R&D) programmes of alternative fuels and innovative technologies; and
- .4 funding for seafarer training in developing countries and promotion of a just transition.

3 The GHG fees collected shall only be used for the purposes specified in paragraphs 1 and 2 of this regulation.

4 Any additional GHG fees generated from the provision of GHG Surcharge Fees to ships, in accordance with regulation 36 of this Annex, shall also be allocated to the IMO Net-Zero Shipping Fund.

5 Following the review of this chapter, required by regulation 44 of this Annex, the proportion of the total GHG fees collected annually which may be used to provide funding for the IMO Net-Zero Shipping Fund, as set out in paragraph 2 of this regulation, may be adjusted.

[.10.2 Calculation of economic contribution by ships (regulation X)]

[.10.3 Collection of economic contribution by ships (regulation X)]

[.10.5 Central management/oversight of collected revenue (regulation X)]

[NB: These provisions are addressed by regulations 40 and 41 below.]

¹⁶ Assuming that for the initial five years of implementation, and a 5,000 GT threshold, that about 250 million tonnes per year of conventional fuel oil (800 million tonnes of CO₂e) is subject to GHG fees, read in combination with regulation 40.3 (concerning the need for total GHG fees to be adequate to provide feebates for the prevention of up to 100 million tonnes of CO₂e per year), the GHG fee of [US\$18.75] per tonne of CO₂e suggested in regulation 40.4, and the feebate rate of [US\$100] per tonne of CO₂e prevented on a WTW basis suggested in regulation 41.1, would in practice mean that about US\$ 2.5 billion per year would normally be allocated to the Fund unless more than 10% of the energy used by shipping in any year between 2027 and 2032 came from zero or near-zero GHG sources.

¹⁷ Regulation 40.3 concerns the need for total GHG fees collected each year to be adequate to provide feebates for the prevention of up to 100 million tonnes of CO₂e per year.

Regulation 40

Calculation and collection of GHG fees

1 Subject to regulation 43 of this Annex, within [five] months after the end of each calendar year ships to which this chapter applies shall contribute an annual GHG fee, in accordance with paragraph 4 of this regulation, to be collected by the Organization via the maritime GHG emissions pricing mechanism.

2 The mechanism shall allow the Company, as defined by paragraph 2.8 of regulation 2 of this Annex, that is responsible for GHG fees on behalf of the ship, to make a single annual payment calculated from the data reported to the mechanism in accordance with paragraph 6 of this regulation. In addition, the mechanism shall allow the Company the option to make contributions in advance, on a quarterly basis or as frequently as may be required, based on fuel oil purchased for consumption by the ship.

3 For a minimum period of five years after entry into force of this chapter, the total GHG fees to be collected annually via the mechanism shall be sufficient to:

- .1 provide feebates for the prevention of up to 100¹⁸ million tonnes of CO₂e emissions due to the use by ships of zero and near-zero GHG energy sources, at the feebate rate specified by regulation 41.1 of this Annex; and
- .2 provide the sum to be allocated annually to the IMO Net-Zero Shipping Fund, in accordance with regulation 39.2 of this Annex, unless feebates need to be provided for the prevention of more than 100 million tonnes of CO₂e emissions in any calendar year.

4 To meet the requirements specified under paragraph 3 of this regulation, for a minimum period of five years after entry into force of this chapter, the annual GHG fee for each ship to which this regulation applies shall be fixed at a rate and value of [US\$18.75]¹⁹ per tonne of CO₂e emitted²⁰, with the equivalent rate and value of the contribution per tonne of fuel oil consumed to be determined by the Organization, taking into account Guidelines adopted by the Organization.²¹

¹⁸ 100 million tonnes of CO₂e per year, in line with the upper end of the 2030 'energy target,' represents 10% of total annual emissions from shipping if these are taken, for the purposes of the regulation, to be 1 billion tonnes of CO₂e a year. If the reward rate was set at, for example, US\$100 per tonne of CO₂e prevented by the use of eligible zero/near-zero GHG energy sources, on a WTW basis, the annual revenue required to provide rewards for the CO₂e emissions prevented would be about US\$12.5 billion per year, which, assuming that GHG fees were collected for 800 million tonnes of CO₂e per year, would require a GHG fee to be set at about US\$15.625 per tonne of CO₂e emitted (800 million multiplied by US\$15.625 equals US\$12,5 billion). If it was agreed that 20% of the total revenue collected to fund feebates each year should be allocated to the IMO Net-Zero Shipping Fund, this would require the GHG fee to be set at US\$18.75 per tonne of CO₂e with up to US\$2.5 billion per year being allocated to the Fund.

¹⁹ A GHG fee of US\$18.75 per tonne of CO₂e emitted could be sufficient to meet the objectives of regulation 40.3 if the reward rate was set at US\$100 per tonne of CO₂e on a WTW basis. If the GHG fee was set at this level, the cost gap with conventional Liquid Fuel Oil would be reduced by a further US\$60 per tonne of fuel consumed owing to zero GHG fuels being exempt from the GHG fee.

²⁰ Pursuant to regulation 4 of MARPOL Annex VI, an equivalent means such as carbon capture and storage could be allowed to reduce CO₂e emissions.

²¹ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution is set out in annex to this document.

5 For ships emitting zero CO_{2e} emissions, taking into account Guidelines adopted by the Organization²², the GHG fee required under paragraph 1 of this regulation shall be zero.

6 Within three months after the end of each calendar year, each ship shall provide the Organization, via the mechanism, with fuel oil consumption data as reported to the Administration, or any organization duly authorized by it, in accordance with regulations 27.3, 27.4 or 27.5 of this Annex.

7 No later than one month after receiving fuel oil consumption data from each ship, the Organization shall provide the ship with a Provisional Statement, accessible via the mechanism to the Company responsible for that ship, which sets out the annual CO_{2e} emissions of the ship, the CO_{2e} emissions prevented by the use of a zero and/or near-zero fuel, technology and/or energy source which is eligible for feebates pursuant to regulation 41 of this Annex, and the annual GHG fee which is due to be received by 30 April. If the ship is eligible for a feebate pursuant to regulation 41 of this Annex and the feebate to be received is less than the annual GHG fee, this shall be deducted from total annual GHG fee set out in the Provisional Statement.

8 No later than one month after receiving the annual GHG fee from each ship, as required under paragraph 1 of this regulation, the Organization, via the maritime GHG emissions pricing mechanism, shall provide an Annual Account Statement to each ship confirming that the total GHG fee to be made for that ship for the previous calendar year, including the portion thereof as provided for in paragraphs 11 and 12 of this regulation, has been made.

9 Following receipt of the Annual Account Statement, the ship shall promptly provide the Administration, or any organization duly authorized by it, with the Annual Account Statement.

10 No later than one month after receiving the Annual Account Statement from the ship, the Administration, or any organization duly authorized by it, shall issue a Statement of Compliance in accordance with regulation 6.9 of this Annex.

11 In the event of the transfer of a ship from one Administration to another, the annual GHG fee made by the ship in accordance with paragraph 1 of this regulation shall cover the period of the calendar year corresponding to the losing Administration.

12 In the event of a change from one Company to another, the annual GHG fee made by the ship in accordance with paragraph 1 of this regulation shall cover the portion of the calendar year corresponding to the previous Company.

13 In the event of change from one Administration to another and from one Company to another concurrently, paragraph 11 of this regulation shall apply.

[.10.5 Central management/oversight of collected revenue (regulation X)]

[.10.6 Distribution of revenue (regulation X)]

[NB: While regulations 40 and 41 both address central management/oversight of collected revenue, as well as distribution of revenue, regulation 42 addresses these issues separately for the surplus revenue allocated to the IMO Net-Zero Shipping Fund.]

²² Guidelines to be developed on eligible zero/near-zero GHG fuels, based on the LCA guidelines.

Regulation 41

Feebates disbursed via the maritime GHG emissions pricing mechanism

1 Each ship using an eligible zero or near-zero GHG fuel, technology and/or energy source, as determined by the Organization, shall receive a feebate, disbursed by the Organization via the mechanism, based on a feebate rate of US\$[100] per tonne of CO₂e emissions prevented each calendar year on a WTW basis, with the equivalent feebate rate per tonne of fuel consumed each calendar year to be determined by the Organization, taking into account Guidelines adopted by the Organization.²³

2 Within three months after the end of each calendar year, each ship eligible to receive a feebate for CO₂e emissions prevented during the previous calendar year shall provide the Organization, via the mechanism, with fuel oil consumption data with respect to an eligible zero or near-zero GHG fuel, technology and/or energy source as reported to the Administration, or any organization duly authorized by it, in accordance with regulations 27.3, 27.4 or 27.5 of this Annex.²⁴

3 No later than one month after receiving fuel oil consumption data for the previous calendar year from a ship which reports the use of an eligible zero or near-zero GHG fuel, technology and/or energy source, the Organization shall, via the mechanism, provide a Provisional Statement to the ship, as required by regulation 40.7 of this Annex, which sets out the annual feebate to be received by the ship for the CO₂e emissions prevented during the previous calendar year by the use of an eligible zero or near-zero GHG fuel, technology and/or energy source, including the portion thereof as provided for in paragraphs 8 and 9 of this regulation.

4 If the feebate to be received by the ship in accordance with paragraph 3 of this regulation is more than the GHG fee required by regulation 40.4 of this Annex, on receipt of the Provisional Statement, the ship shall forward this to the Administration, or any organization duly authorized by it, requesting a Feebate Eligibility Confirmation Statement which confirms that the fuel consumption data with respect to eligible zero and near-zero GHG fuels, provided by the ship using the maritime GHG pricing mechanism, is the same as that provided in accordance with regulations 27.3, 27.4 or 27.5 of this Annex. If the feebate to be received by the ship is less than the GHG fee, this will be deducted from total amount due to be transmitted by the ship, via the mechanism, as set out in the Annual Account Statement.

5 No later than one month after receiving a request for a Feebate Eligibility Confirmation Statement from the ship, the Administration, or any organization duly authorized by it, shall issue a Feebate Eligibility Confirmation Statement in accordance with regulation 8.6 of this Annex.

6 Following receipt of the Feebate Eligibility Confirmation Statement from the Administration, or any organization duly authorized by it, the ship shall promptly provide the Organization, via the mechanism, with the Feebate Eligibility Confirmation Statement.

7 No later than one month after receiving the Feebate Eligibility Confirmation Statement for the ship, the Organization, via the mechanism, shall disburse the feebate to the ship.

²³ By MEPC resolution and annex adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution set out in annex to this document.

²⁴ Amendment required to DCS provisions (regulation 27 and appendix IX of MARPOL Annex VI) to include zero/near-zero GHG fuels, technology and/or energy sources eligible for feebates.

8 In the event of the transfer of a ship from one Administration to another, the feebate received by the ship in accordance with paragraph 1 of this regulation shall cover the period of the calendar year corresponding to the losing Administration.

9 In the event of a change from one Company to another, the feebate received by the ship in accordance with paragraph 1 of this regulation shall cover the portion of the calendar year corresponding to the previous Company.

10 In the event of change from one Administration to another and from one Company to another concurrently, paragraph 8 of this regulation shall apply.

11 With the approval of the Administration, a ship below 5,000 gross tonnage may be eligible for a feebate provided that GHG fees are made by the ship as required by regulation 40 of this Annex and that the ship provides the Organization with fuel oil consumption data for that ship, via the mechanism in accordance with regulation 40.6, as reported to the Administration, or any organization duly authorized by it, in accordance with regulations 27.3, 27.4 or 27.5 of this Annex, and that a Statement of Compliance is issued to that ship in accordance with regulation 6.9 of this Annex. Regulation 6.10 of this Annex shall not apply to ships below 5,000 gross tonnage.

[.10.6 Distribution of revenue (regulation X)]

Regulation 42

IMO Net-Zero Shipping Fund

1 Within 12 months of entry into force of this chapter, the Organization shall establish an IMO Net-Zero Shipping Fund in accordance with terms of reference established by the Organization as required in paragraph 2 of this regulation, to support the projects and programmes set out in regulation 39.2 of this Annex as may be decided by a supervisory committee comprising representatives of Parties to this chapter, balanced in terms of geographical representation.

2 The Organization shall establish terms of reference²⁵ for the governance and management of the IMO Net-Zero Shipping Fund, including principles and priorities for the disbursement of revenues, taking into account Guidelines adopted by the Organization.

3 The Marine Environment Protection Committee shall oversee the activities and governance of the IMO Net-Zero Shipping Fund in accordance with the rules and regulations of the Organization, taking into account Guidelines adopted by the Organization.

[NB: Dates for implementation in regulation 43 below is not covered in the MEPC 81 illustration.]

Regulation 43

Dates for implementation

1 Implementation of the requirements stipulated under regulations 36 and 40 of this Annex shall commence on a date after the maritime GHG emissions pricing mechanism has been established in accordance with the requirements of regulation 38 of this Annex.

²⁵ A draft document for the establishment and governance of the IMO Net-Zero Shipping Fund (then called the IMSB) is set out in annex 4 of document ISWG-GHG 14/3.

2 The Organization shall review and confirm that the requirements under regulations 38 and 40 of this Annex have been met no later than 12 months after entry into force of chapter 5 of this Annex. The Parties, based on the review undertaken by the Organization, shall decide whether the maritime GHG emissions pricing mechanism shall commence operations. If the Parties to this chapter decide that the mechanism is not ready to commence operations then a further review shall be undertaken within six months.

[.11 Review of the chapter (regulation X)]

Regulation 44

Review of this chapter

1 After a period of two years, beginning on the date that this chapter enters into force, the Organization shall review the status of this chapter and amend the relevant provisions if necessary, including the maximum proportion of GHG fees collected annually that may be allocated to the IMO Net-Zero Shipping Fund.

2 By [2033], and at five-year periods thereafter, the Organization shall review the status of this chapter and amend the relevant provisions if necessary.

3 Upon completion of the work programmes of the IMO Net-Zero Shipping Fund, and with the approval of the Organization, the IMO Net-Zero Shipping Fund and/or, as appropriate, the maritime GHG emissions pricing mechanism shall cease operations. Upon such a determination, regulations 39, 40, 41 and 42 of this Annex shall be reviewed and may be dissolved, unless the Parties determine otherwise.

APPENDIX [XII]

Form of the Statement of Compliance – Maritime GHG Emissions Pricing Mechanism

STATEMENT OF COMPLIANCE – MARITIME GHG EMISSIONS PRICING MECHANISM

Issued under the provisions of the Protocol of 1997, as amended, to amend the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....
(full designation of the Party)

by
(full designation of the competent person or organization authorized under the provisions of the Convention)

Particulars of ship²⁶

Name of ship

Distinctive number or letters.

IMO Number²⁷

Port of registry

Gross tonnage.

THIS IS TO DECLARE:

1. That the ship has submitted to this Administration an Annual Account Statement required by regulation 40.9 of Annex VI of the Convention, which is consistent with the ship's fuel consumption data pursuant to regulation 27.3 of Annex VI of the Convention, covering ship operations from (01/01/yyyy) through (31/12/yyyy).

This Statement of Compliance is valid until (dd/mm/yyyy)

Issued at:
(place of issue of Statement)

Date (dd/mm/yyyy)
(date of issue) (signature of duly authorized official issuing the Statement)

(seal or stamp of the authority, as appropriate)

²⁶ Alternatively, the particulars of the ship may be placed horizontally in boxes.

²⁷ In accordance with the IMO ship identification number scheme (resolution A.1078(28)).

ANNEX 2

RESOLUTION MEPC.XXX(XX)

(Adopted on [same date as adoption of draft amendments for
IMO net-zero Framework])

[To be completed....]

ANNEX

[2025] GUIDELINES FOR DETERMINING GHG FEES AND FEEBATES UNDER THE MARITIME GHG EMISSIONS PRICING MECHANISM

[NB: The co-sponsors 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 GHG fees in combination with feebates (rewards).

While the proposed regulations specify the GHG fee per tonne of CO₂e emitted, and the reward rate per tonne of CO₂e prevented by the use of eligible zero/near-zero GHG fuels, energy sources and technologies, the GHG fee and the feebate per tonne of fuel consumed will be subject to the CO₂e conversion factors as determined by the LCA Guidelines.

The list of fuel types, set out below for illustrative purposes only, will need to be adjusted/expanded to reflect the exact descriptions in the LCA Guidelines, including variants such as synthetic fuels and different types of biofuels.

Proposed regulations 40.4 and 41.1 are not explicit as to whether GHG fees and feebates should be determined on a lifecycle (WTW) basis. However, to accommodate objections to ships being charged for emissions which are the responsibility of other sectors, it is envisaged that GHG fees for most fuel types will be based on TTW conversion factors whilst feebates (rewards) for the use of eligible zero/near-zero GHG fuels will be based on WTW conversion factors. However, if the WTW emissions of any fuel type are lower than the TTW emissions then the GHG fees will be calculated on a WTW basis, whilst GHG fees for zero GHG fuels will be zero.

The GHG fee shown for "Liquid Fuel Oil is derived from the conversion factor currently used in EEDI Guidelines for "Diesel/Gas Oil" and is for illustrative purposes only. The GHG fees for other fuel types will take account of the energy density ratio of these fuels compared to Diesel/Gas Oil".]

Equivalent rate and value of GHG fee for different fuel types

1 Pursuant to regulation 40.4 of MARPOL Annex VI, and taking account of the LCA Guidelines, the GHG fee to be made for each ship to the Organization via the maritime GHG emissions pricing mechanism will be calculated as follows:

Rate of GHG fee: US\$[18.75] per tonne of CO₂e emitted by the ship

For Liquid Fuel Oil including Diesel/Gas Oil, Light Fuel Oil (LFO) and Heavy Fuel Oil (HFO):¹ equivalent to US\$[60] per tonne of liquid fuel oil consumed by the ship based on a CO₂e conversion factor of [3.2] and an energy density ratio by mass compared to diesel/gas oil of 100%.

¹ For the purpose of calculating the GHG fee, the CO₂e emissions of all types of Liquid Fuel Oil are treated as being equal to Diesel/Gas Oil.

2 For fuel types other than Liquid Fuel Oil², the GHG fee will be based on the lower of the Tank to Wake (TTW) or Well to Wake (WTW) conversion factors, but cannot be less than zero, as determined by the LCA Guidelines as follows:

Rate of GHG fee: US\$[18.75] per tonne of CO₂e emitted by the ship

For LNG: equivalent to US\$[...] per tonne of LNG consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Bio-diesel: equivalent to US\$[...] per tonne of bio-diesel consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Methanol: equivalent to US\$[...] per tonne of methanol consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Methanol: equivalent to US\$[0] per tonne of methanol consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Ammonia: equivalent to US\$[...] per tonne of ammonia consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Ammonia: equivalent to US\$[0] per tonne of ammonia consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Hydrogen: equivalent to US\$[...] per tonne of hydrogen consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Hydrogen: equivalent to US\$[0] per tonne of hydrogen consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

3 In the case of a ship equipped with a dual-fuel main or auxiliary engine, the ship shall provide the Organization via the maritime GHG emissions pricing mechanism with fuel oil consumption data for both types of fuel, as provided to the Administration in accordance with regulation 27.3 of MARPOL Annex VI.

4 Notwithstanding the requirement under regulation 40 of MARPOL Annex VI for a ship to transmit a GHG fee, the entity ultimately responsible for paying for the cost of the fuel oil should be responsible for meeting the cost of the contribution. When a ship is operating under a charter party clause which requires the charterer to pay for the fuel oil purchased for consumption on that ship, the cost of the associated GHG fee for that ship should be the responsibility of the charterer.

² List of fuel types, and their precise descriptions, to be decided by the Committee, taking account of the LCA Guidelines.

5 To avoid double charging for CO₂e emissions, both in measures adopted by the Organization and other regional or national measures, the mandatory GHG fee made by a ship via the maritime GHG emissions pricing mechanism established for international shipping should not be duplicative, and emissions or fuel consumption that forms the basis of such a GHG fee or charges for GHG emissions should be accounted for only once.

Feebate from maritime GHG emissions pricing mechanism

6 Pursuant to regulation 41.1 of MARPOL Annex VI, and taking account of the LCA Guidelines, the feebate for each ship using eligible zero or near-zero GHG fuels, energy sources or technologies³ will be calculated on a Well-to-Wake (WTW) basis as follows:

Rate of feebate: US\$[100] per tonne of CO₂e emissions prevented

For Bio-diesel Blend: equivalent to US\$[...] per tonne of biofuel component of bio-diesel blend consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Methanol: equivalent to US\$[...] per tonne of methanol consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Ammonia: equivalent to US\$[...] per tonne of ammonia consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Green Hydrogen: equivalent to US\$[...] per tonne of hydrogen consumed by the ship, based on a CO₂e conversion factor of [...] and an energy density ratio by mass compared to diesel/gas oil of [...] per cent

For Carbon Capture: equivalent to US\$[...] [Methodology for calculating CO₂e emissions prevented to be developed.]

³ Eligible zero/near-zero GHG fuels, technologies and energy sources and their precise description to be decided by the Committee. Other technologies and energy sources as may be decided by the Committee e.g. possibly Onshore Power Supply, wind, solar nuclear, etc.