

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

ISWG-GHG 16/2/3
25 January 2024
Original: ENGLISH
Pre-session public release:

**FURTHER CONSIDERATION OF THE DEVELOPMENT OF CANDIDATE MID-TERM
MEASURE(S) IN THE CONTEXT OF PHASE III OF THE WORK PLAN FOR THE
DEVELOPMENT OF MID- AND LONG-TERM MEASURES**

**Possible draft amendments to MARPOL Annex VI to establish a Fund and Reward
(Feebate) mechanism as a maritime GHG emissions pricing mechanism**

Submitted by Bahamas, Liberia and ICS

SUMMARY

Executive summary: As approval of a maritime GHG emissions pricing mechanism will be required at MEPC 83 next year, it is imperative that the Group and the Committee commence detailed work on the development of text of the necessary amendments to MARPOL Annex VI. The co-sponsors set out further details of a Fund and Reward (Feebate) mechanism, establishing a Zero Emission Shipping Fund (ZESF). Funds collected from mandatory contributions by ships per tonne of CO₂e emitted will be utilized to provide rewards to ships using eligible zero/near-zero GHG fuels through a "feebate" mechanism narrowing the cost gap with conventional fuels, as well as providing, via a separate IMO (GHG) Maritime Sustainability Fund (IMSF), billions of US dollars of funding to support maritime GHG reduction efforts of developing countries, especially LDCs and SIDS. A package of possible draft amendments to MARPOL Annex VI is provided to inform a decision at MEPC 81 about measures to be finalized and to expedite approval of the necessary provisions.

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 80

Related documents: Resolutions MEPC.376(80) and MEPC.377(80); MEPC 76/7/7, MEPC 76/7/11; MEPC 80/17, MEPC 80/INF.39; ISWG-GHG 12/3/8, ISWG-GHG 12/3/17; ISWG-GHG 13/4/6, ISWG-GHG 13/4/9; ISWG-GHG 14/3, ISWG-GHG 14/3/1; ISWG-GHG 15/3/8; ISWG-GHG 16/2/1 and ISWG-GHG 16/2/2

Introduction

1 As called for in resolution MEPC.377(80), the *2023 IMO Strategy on Reduction of GHG emissions from Ships* (2023 IMO GHG Strategy), this document sets out a comprehensive proposal for a maritime GHG emissions pricing mechanism. This uses a Fund and Reward (Feebate) mechanism, with a mandatory flat rate contribution made by the ship per tonne of CO₂ equivalent (CO₂e) emitted to what is now called the "Zero Emission Shipping Fund" (ZESF) to be administered by IMO. Taking account of the 2023 IMO GHG Strategy, and further to document ISWG-GHG 14/3 (ICS), the annexes to this document set out a modified package of possible draft amendments to MARPOL Annex VI and supporting draft guidelines to achieve uniform and effective implementation and enforcement.

2 To reduce the cost gap between zero and near-zero GHG fuels and conventional fuel oil, and incentivize their accelerated production and uptake, the proposed ZESF will provide rewards to ships for the CO₂e emissions prevented by the use of zero and near-zero GHG fuels, whilst also providing billions of US dollars of funding to a separate "IMO (GHG) Maritime Sustainability Fund (IMSF)" to support the maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS, to ensure an equitable transition which will be truly global and the achievement of net-zero GHG emissions from international shipping by, or close to, 2050.

3 In addition to supporting efforts to achieve the goals of the 2023 IMO GHG Strategy, the principal advantages of the Fund and Reward (Feebate) mechanism, 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 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) and an automated contribution and reward system (see working prototype submitted by ICS as document ISWG-GHG 16/2/1); and
- .3 the mechanism will provide certainty about the quantum of the annual contribution to be made by ships to the IMO fund (the ZESF), and certainty about the amount of funds (US billions of dollars per year) that will be generated and the economic impacts on States.

4 This document explains and considers:

- .1 the implications of the 2023 IMO GHG Strategy, and why development of a maritime GHG emissions pricing mechanism, as proposed by the co-sponsors, which will meaningfully incentivize the production and uptake of zero/near-zero GHG fuels is urgently needed to ensure achievement of the new level of ambition for 5% to 10% of the energy used by international shipping to come from zero/near-zero GHG fuels. technologies and/or energy source by 2030, on a pathway to net zero, so that the other GHG reduction goals agreed by MEPC 80 will remain feasible and plausible;
- .2 the background to this modified proposal for a Fund and Reward (Feebate) mechanism, and the previous support from a wide cross section of Member States for an economic measure using a flat rate contribution

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- system, including the use of rewards to ships using zero or near-zero GHG fuels which (complemented by a separate Global GHG Fuel Standard) suggests this could form the basis for consensus, and that the Group should recommend such an approach to MEPC 81;
- .3 an overview of the modified proposal for a Fund and Reward (Feebate) mechanism as a maritime GHG emissions pricing mechanism;
 - .4 the advantages of a Fund and Reward (Feebate) mechanism including: how the reward element will multiply the effect of the contribution quantum on reducing the cost gap, avoiding disproportionately negative impacts on States; the minimal administrative burden on Administrations; and certainty about the contribution quantum and the amount of funds that will be generated;
 - .5 key new aspects of the modified proposal including: use of the term "Zero Emission Shipping Fund" (ZESF); establishing a separate IMO (GHG) Maritime Sustainability Fund (IMSF) to support developing countries; the contribution and reward rate: suggested treatment of life cycle emissions; support for seafarer training and promotion of a just transition; and measures to ensure that smaller ships using zero/near-zero GHG fuels can be eligible for rewards even if they fall below the possible initial [5,000] gross tonnage threshold for the regulations; and
 - .6 a comprehensive regulatory package including possible draft amendments to MARPOL Annex VI, as set out in the annexes to this document.

5 This document concludes that this comprehensive proposal for a Fund and Reward (Feebate) mechanism with flat rate contributions per tonne of CO₂e emissions being made by the ship to a Zero Emission Shipping Fund (ZESF), complete with the necessary regulatory architecture, needs to be taken forward as soon as possible if the goals contained in the 2023 IMO GHG Strategy adopted last July at MEPC 80 are to remain achievable and plausible.

6 In view of the pressing urgency, given that the measure needs to be approved at MEPC 83 next year, the document invites the Group to recommend to MEPC 81 that the Group should be instructed by the Committee to develop draft amendments to MARPOL Annex VI to implement a Fund and Reward (Feebate) mechanism for submission to MEPC 82, using the possible draft texts set out in the annexes to this document.

7 The co-sponsors have submitted this document to help move the discussion forward. The issues are complex and the views expressed on many of the details of this proposal, including the regulatory text set out in the annexes to this document, will inevitably evolve as discussion within the Group and the Committee continues.

Implications of the 2023 IMO GHG Strategy

8 The 2023 IMO GHG Strategy identifies the development and finalization of a basket of mid-term measure(s) including an economic element, namely a maritime GHG emissions pricing mechanism, for adoption by 2025 and entry into force by 2027. As well as setting out a net-zero goal by, or close to, 2050, and ambitious indicative checkpoints for the reduction of international shipping's absolute GHG emissions by 2030 and 2040, the 2023 IMO GHG Strategy sets out an important new 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".

9 The co-sponsors fully support these new GHG reduction goals and, provided that the Committee demonstrates the political will necessary to develop and adopt the radical measures required by 2025, as agreed by governments unanimously with adoption of the 2023 IMO GHG Strategy, these IMO objectives should be achievable. But the massive enormity of this challenge cannot be overestimated. The goals agreed by MEPC 80 are extremely ambitious as, 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.

10 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 very challenging indeed and is only likely to be delivered if a "take-off" point for the use of zero/near-zero GHG fuels, such as ammonia and hydrogen, synthetic methanol and synthetic LNG, as well as GHG-reduction technologies such as carbon capture, can be achieved by the end of this decade. (A "take-off" point means the point in time when the production and uptake of zero/near-zero GHG fuels and technologies can be seen to rapidly accelerate beyond the use by just a small and very limited number of ships.)

11 The 2030 level of ambition for 5% to 10% of energy used by international shipping to be generated from zero/near-zero 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 pricing mechanism is adopted by 2025 to meaningfully reduce the significant "cost gap" which currently exists between zero/near-zero fuels and conventional fuels and which also, importantly, de-risks the investment decisions that urgently need be taken by energy producers and the shipping industry.

12 Apart from the need to achieve a "take-off" point with respect to the production and uptake of zero/near-zero GHG fuels, the transition to net zero will only succeed if it is 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, which are safe, are available in sufficient quantities in all ports worldwide, including developing countries, in particular LDCs and SIDS. A mechanism therefore also needs to be established as soon as possible that will generate – with certainty – billions of US dollars of funds to support the maritime GHG reduction efforts of developing countries.

13 The co-sponsors therefore propose that a substantial proportion of the contributions made by ships to the proposed Zero Emission Shipping Fund (ZESF) should be transferred to a separate fund, provisionally called the IMO (GHG) Maritime Sustainability Fund (IMSF), to support the maritime GHG reduction efforts of developing countries. Once a "take-off" point is reached with regard to the uptake of zero/near-zero GHG fuels by ships, and the necessary growth in the generation of zero/near-zero fuels and bunkering infrastructure that is required, at scale, in developing countries' ports to provide these zero/near-zero GHG marine fuels, it is suggested that the proportion of funds to be allocated by the ZESF to the IMSF should be increased.

14 However, the provision of funds for GHG reduction projects and programmes in developing countries can only commence after the regulatory architecture for the flat rate contribution mechanism for the ZESF has been established. Whilst some funds can begin to be transferred to the IMSF as soon as the ZESF becomes fully operational, the immediate priority of the ZESF should be to achieve, through the provision of rewards to ships to reduce the cost gap, a "take-off" point in the production and uptake of zero/near-zero GHG fuels and delivery of the critical 2030 level of ambition for 5% to 10% of the energy used by international shipping to be generated from zero/near-zero fuels and/or energy sources and technologies.

15 Significant progress at MEPC 81 will therefore be vital, and a clear recommendation needs to be made by ISWG-GHG 16 about which type of maritime GHG emissions pricing mechanism should be taken forward for finalization. The co-sponsors suggest that this comprehensive proposal for a Fund and Reward (Feebate) mechanism with flat rate contributions per tonne of CO₂e to be made by ships to a Zero Emission Shipping Fund (ZESF), completed with the necessary regulatory architecture as set out in the annexes to this document, therefore needs to be taken forward for finalization as soon as possible if the levels of ambition and indicative checkpoints contained in the 2023 IMO GHG Strategy are to remain achievable and plausible goals.

Background to modified ICS proposal for Fund and Reward (Feebate) mechanism

16 The Group will recall that to facilitate consensus, document ISWG-GHG 13/4/9 (ICS) suggested combining core elements of proposals submitted under Phase I of the Work plan for development in Phase III, modifying the IMSF&R proposal originally set out in document ISWG-GHG 12/3/9 (Argentina et al.) whilst also taking account of similar proposals contained in documents MEPC 78/7/5 and ISWG-GHG 12/3/17 (both by Japan) for a "feebate" system, and document MEPC 76/7/12 (Marshall Islands and Solomon Islands) which also proposed a flat rate contribution system using a contribution mechanism similar to that proposed for what was then called the International Maritime Research Fund (IMRF) as set out in document MEPC 76/7/7 (Denmark et al.).

17 In document ISWG-GHG 14/3, ICS submitted a detailed proposal, with possible draft regulatory text, for a Fund and Reward (Feebate) mechanism with the purpose of accelerating the production and uptake by international shipping of what the 2023 IMO GHG Strategy now describes as zero and near-zero GHG fuels. In order to provide certainty to Member States about the economic impacts, as well as certainty to energy producers and shipping companies making investment decisions with respect to the use of zero/near-zero GHG fuels, it was proposed that the mechanism should use a relatively simple flat rate ("levy-based") contribution system with ships making mandatory contributions per tonne of (CO₂e) emissions to an IMO fund. Detailed information was provided about feasibility, effectiveness to deliver the long-term levels of ambition of (what was then) the Initial GHG Strategy, and about the potential impact on States. Additional information was provided in document ISWG-GHG 15/3/8 (ICS). This proposal was then elaborated on further in the factsheet ICS submitted to the ad-hoc Expert Workshop on comparative analysis of candidate mid-term GHG reduction measures (GHG-EW 3) (MEPC 80/INF.39, annex, page 34).

18 The ICS proposal was supported by a detailed initial impact assessment which analysed the economic impact on States of a range of contribution quanta and concluded that the economic impacts on States would be unlikely to be disproportionately negative (document ISWG-GHG 12/3/8 (ICS)). This impact assessment has since been updated and is set out in document ISWG-GHG 16/2/2 (ICS).

19 At recent sessions of the Group and the Committee, many delegations have supported a "levy", "reward", "feebate" or "flat rate contribution" approach as an economic measure to regulate GHG emissions from shipping. Several delegations have referred to the wide support of the shipping industry for this type of approach, in terms of simplicity, predictability, easiness to set up and administer, and transparency. Several delegations have expressed the view that in the early phases of implementation the level of the contribution might be relatively low and could be increased in ratchets, every five years, as alternative fuels become available. Several delegations have also mentioned that the structure of the IMRF as set out in document MEPC 76/7/7 could be used to facilitate the development of a "levy", "reward", "feebate" or "flat rate contribution" approach. The co-sponsors of document ISWG-GHG 13/4/8 (Austria et al.) also indicated that they can accept a flat rate ("levy-based")

contribution system provided this is complemented by a technical measure such as a Global (GHG) Fuel Standard. Taken together with other comments made at recent sessions of the Group and the Committee, this suggests there is a route to consensus for such an approach to be developed and finalized in Phase III of the Work plan, and that the Group should recommend such an approach to MEPC 81.

20 Taking account of the 2023 IMO GHG Strategy, in particular the new level of ambition for the uptake of zero or near-zero GHG fuels and/or energy sources by 2030, the following document contains a modified proposal for a Fund and Reward (Feebate) mechanism including, in the annex to this document, modified draft amendments to MARPOL Annex VI which are intended to expedite the rapid development of a maritime GHG pricing mechanism using a flat rate contribution system (as a complement to a Global GHG Fuel Standard) which – with political will – can realistically be adopted by 2025, as required by the 2023 IMO GHG Strategy.

21 This modified proposal also takes account of views expressed by Member States at MEPC 80 (MEPC 80/17 and MEPC 80/WP.12), ISWG-GHG 14 (MEPC 80/WP.6), ISWG-GHG 15 (MEPC 80/WP.7), GHG-EW 3 (MEPC.80/INF.39 and MEPC 80/INF.39/Add.1) and during informal discussions with Administrations since MEPC 80, in particular the Government of Japan which has previously submitted a similar proposal for a Fund and Reward (Feebate) mechanism.

22 The co-sponsors reiterate that while they support a Global GHG Fuel Standard (GFS) as a technical measure (see also proposal for a simplified GFS in document ISWG-GHG 16/2 (ICS and IBIA)), a separate maritime GHG pricing mechanism using a flat rate contribution system, per tonne of CO₂e emitted by ships, will be vital if the objective of achieving net-zero GHG emissions by, or close to, 2050 is to remain feasible and plausible.

23 While a Global GHG Fuel Standard, and the required reduction of the GHG intensity of marine fuels which may be agreed for 2030, could be achieved with the increased uptake by the majority of the fleet of sustainable biofuel blends (and additional ships using LNG), the co-sponsors emphasize that this will not itself be sufficient to achieve a "take-off" point for the uptake of other zero/near-zero GHG fuels which will be a fundamental necessity by 2030 if the transition to net zero is to succeed.

24 The aggressive tightening of the Global Fuel Standard that will be necessary after 2030 to achieve net zero by or around 2050 is only likely to be possible if large numbers of ships are using other zero/near-zero GHG fuels by the early 2030s. This will require a "take off" point in the uptake of these expensive alternative fuels to be achieved by 2030 i.e. achievement of the new IMO goal for 5% to 10% of the energy used by shipping to be generated by zero/near-zero GHG fuels, technologies and/or energy sources by 2030. But this will only be possible if the cost gap with conventional fuels can be meaningfully reduced via a GHG pricing mechanism, bearing in mind also the serious competition which shipping will face from other industrial sectors for access to zero/near-zero GHG fuels.

25 Notwithstanding the Comprehensive Impact Assessment (CIA) of proposed mid-term measures which was initiated by MEPC 80, the co-sponsors are confident that the economic impacts on States of the proposed Fund and Reward (Feebate) mechanism would be acceptable to Member States, as demonstrated by the initial impact assessment of a range of contribution quanta which was submitted by ICS to ISWG-GHG 12 and which has now been updated by Clarksons Research, as set out in document ISWG-GHG 16/2/2 (ICS).

26 Given that approval of a maritime GHG emissions pricing mechanism will be required at MEPC 83, it is imperative that the Group and the Committee commence detailed work on

the development of text of the necessary amendments to MARPOL Annex VI. The co-sponsors therefore suggest that the Group recommends to MEPC 81 that the Group is tasked with developing draft amendments to MARPOL Annex VI for consideration at MEPC 82, using the possible draft text set out in the annexes to this document, together with possible draft text included with those other detailed regulatory proposals which use a flat contribution mechanism to an IMO fund per tonne of CO₂e emitted, such as the proposals previously submitted by Japan and by the Marshall Islands and Solomon Islands, as may be updated or supplemented in any further submissions to ISWG-GHG 16.

Overview of the modified Fund and Reward (Feebate) mechanism

27 A ship will be required to make a mandatory contribution per tonne of CO₂e emitted by the ship in a calendar year to what is now called the Zero Emission Shipping Fund (ZESF), via an automated Fund and Reward (Feebate) mechanism to be administered by the Organization.

28 The substantial funds collected annually by the ZESF will have two main purposes:

- .1 a Fund and Reward (Feebate) programme, to accelerate shipping's transition to zero and near-zero GHG fuels to reach a "take off" point on a pathway to net zero by narrowing the cost gap between zero/near-zero GHG fuels and conventional fuels; and
- .2 to support, inter alia, via what will now be established as a separate IMO (GHG) Maritime Sustainability Fund (IMSF), the maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS, to ensure that the transition to net zero by international shipping is equitable and global, for example, by providing support for the production of zero/near-zero GHG marine fuels and the provision of necessary bunkering infrastructure in ports in developing countries.

29 The following zero and near-zero GHG fuels, energy sources and technologies, would, among others, be eligible for rewards from the ZESF per tonne of CO₂e prevented by their use: sustainable biofuels (including blends), ammonia, hydrogen, synthetic methanol and synthetic LNG; and GHG reduction technologies such as onboard carbon capture. Alternative energy sources could also be considered as eligible for rewards subject to further development of the LCA Guidelines. The reward rate per tonne of CO₂e prevented would be the same for all zero/near-zero GHG fuels and technologies, with rewards per tonne of fuel consumed based on the CO₂e conversion factors and energy densities of fuels as determined by the LCA Guidelines (resolution MEPC.376(80), as may be amended).

30 The regulatory architecture of the contribution and reward (feebate) system, which uses a flat rate contribution mechanism, continues to be based on that initially proposed for what was then called the IMRF which achieved significant support from a wide range of Member States at MEPC 78, in addition to the co-sponsors of document MEPC 76/7/7 (Denmark et al.), and which also forms the basis of proposals by the Marshall Islands and Solomon Islands for a flat rate contribution system using a mechanism similar to that proposed for the IMRF.

31 Contributions by ships to the ZESF, and rewards to ships for the CO₂e emissions prevented by the use of zero/near-zero GHG fuels, would be calculated using fuel consumption data already reported to Administrations and IMO using the existing Ship Fuel Oil Data Collection System (DCS). The contribution and reward system would be fully automated and a working prototype of a website-based system has been submitted by ICS to this session as document ISWG-GHG 16/2/1.

32 The additional administrative burden on Administrations (and the Organization) would be minimal compared to alternative proposals for a GHG pricing mechanism. All that would be required of Administrations would be to issue the ship with a Statement of Compliance confirming, based on information provided to the ship by the ZESF, that required contributions by the ship have been made during the previous calendar year, which would be used as the primary means of demonstrating compliance to port State control.

The advantages of a Fund and Reward (Feebate) mechanism

Reward element will multiply the effect of the contribution quantum on reducing the cost gap, avoiding disproportionately negative impacts on States

33 The co-sponsors take no position on what the quantum of the contribution to be made by ships to the ZESF should be, provided that it will be sufficient to achieve its objectives, be politically acceptable to Member States, and is confirmed by the Comprehensive Impact Assessment (CIA) as avoiding disproportionately negative impacts on States, as suggested by the updated impact assessment of the Fund and Reward (Feebate) proposal contained in document ISWG-GHG 16/2/2 (ICS), which analyses the economic impacts on States of contribution quanta set between \$6.25 and \$100 per tonne of CO₂e emitted.

34 To achieve the goals set by the 2023 IMO GHG Strategy, including the level of ambition for 5% to 10% of energy used by international shipping to be generated from zero/near-zero sources, and accelerate the production and uptake of zero and near-zero GHG fuels, it is suggested that the majority of the funds collected from ships, during the initial five years of implementation, will be used to reward those ships which use zero/near-zero GHG fuels, energy sources and technologies which are eligible for rewards, per tonne of CO₂e emissions prevented by their use compared to combusting conventional liquid fuel oil.

35 It is suggested that rewards should be based on the CO₂e emissions prevented by the use of eligible zero/near-zero GHG fuels or technologies, compared to using conventional liquid fuel oil, as this can be easily calculated taking account of the LCA Guidelines (see annex 3 of this document), also ensuring that the mechanism is "fuel neutral" whilst taking account of the different energy densities of alternative fuels.

36 Building on the ideas previously set out in documents ISWG-GHG 15/3, ISWG 14/3/1, ISWG-GHG 13/4/6 and ISWG-GHG 12/3/17 (all from Japan), ships and energy producers would be incentivized (by having their investments de-risked) to invest in the uptake of zero/near-zero GHG fuels and technologies by the considerable narrowing of the cost gap that would be achieved by the feebate mechanism.

37 Depending on the agreed CO₂e conversion factors of new fuels, as determined by the LCA Guidelines, ships using zero/near-zero GHG fuels would be required to make a smaller contribution per tonne of fuel consumed than ships using conventional fuel oil, with some fuels being 'zero-rated' and requiring no contribution to be made to the ZESF.

38 However, regardless of the quantum of the contribution by ships to the ZESF which may be agreed, its impact on narrowing the cost gap will be substantially multiplied by the reward element of the feebate system. If the cost gap between a zero GHG fuel and conventional fuel oil was determined to be equivalent to (say) about \$600 per tonne of fuel, it would not be necessary, using the feebate mechanism, to set the contribution quantum at a rate equivalent to \$600 per tonne of fuel oil (i.e. almost \$200 per tonne of CO₂e) in order to close the price gap.

39 Even if, as set out by the 2023 IMO GHG Strategy, up to 10% of the energy used by shipping in 2030 is generated from zero/near-zero GHG fuels, energy sources and technologies, which might therefore be eligible for rewards, the contribution quantum required by other ships to fund this amount of rewards would, depending on the reward rate agreed per tonne of CO₂e prevented, be considerably less than the cost gap.

40 For example, assuming total energy consumption by the global fleet is equivalent to about 300 million tonnes of fuel oil per year during the first five years of implementation, 10% of this amount (as referred to by the upper end of the 2030 IMO level of ambition for 10% of the energy used by shipping to be generated from zero/near-zero fuels etc.) would be equivalent to about 30 million tonnes of fuel oil per year (emitting about 100 million tonnes of CO₂e). If the reward rate for use of zero/near-zero GHG fuels was set at, say, \$100 per tonne of CO₂e prevented, and 10% of the total fuel consumed by international shipping was eligible for rewards, the total cost of funding these rewards for the 100 million tonnes of CO₂e emissions prevented would be just under \$10 billion per year. (In practice, it is probable that the annual cost of funding the rewards programme will be somewhat less than \$10 billion per year, as achieving the lower end of the 2030 IMO level of ambition for 5% of the energy used by shipping to be generated from zero/near-zero fuels etc. would cost about \$5 billion per year, and the total annual cost of the reward programme would be likely to be less than this during the initial years of implementation before 2030.)

41 Taking account of the possible [5,000] GT and above tonnage threshold for application of the requirements (and that some ships will be using fuels with a lower carbon intensity with a lower contribution rate per tonne of fuel consumed than conventional fuel oil), the total annual contributions to the IMO fund made by international shipping might be equivalent to the emissions produced by about 250 million tonnes of conventional fuel oil. If, say, \$10 billion per year was required to ensure that the IMO fund could meet its obligations to reward the maximum amount of zero/near-zero GHG fuels that might be eligible for rewards, this would only require a contribution quantum equivalent to about \$40 per tonne of fuel oil (\$12.5 per tonne of CO₂e).

42 It is very important to note, in the example above, that the total contribution quantum would be somewhat higher than the amount indicated, depending on the amount of funds collected by the ZESF annually that the Organization initially decided to allocate for purposes other than rewards, such as support for the maritime GHG reduction efforts of developing countries via the IMSF (or if the reward rate for the use of zero/near zero GHG fuels was set at a level higher than \$100 per tonne of CO₂e prevented). Nevertheless, subject to confirmation by the Comprehensive Impact Assessment (CIA) initiated by MEPC 80, and as suggested by the updated impact assessment provided in document ISWG-GHG 16/2/2 (ICS), this demonstrates that – with political will – it should be possible to set the contribution quantum at a level which is sufficient to achieve the purposes of the mechanism whilst being politically acceptable and avoiding disproportionately negative impact on States.

Minimal administrative burden for enforcement

43 A key consideration for the adoption of provisions of the Organization is uniform and effective implementation and enforcement, and the co-sponsors consider that the Fund and Reward (Feebate) mechanism provides an important balance between facilitating a rapidly accelerated transition to net zero and minimizing administrative burdens for Administrations, the Organization and shipping companies (the majority of which are SMEs).

44 To support the implementation of the proposed ZESF, the contribution system will utilize the existing IMO Ship Fuel Oil Data Collection System (DCS) for fuel oil consumption of ships, which will greatly minimize the administrative burden on Member States.

45 The ZESF will carry out all the functions necessary to calculate the contributions to be made by ships, and the rewards to be received by ships using eligible zero/near-zero GHG fuels, energy sources and technologies, collecting these contributions and disbursing rewards using a fully automated system, and providing evidence that the required contributions have been made which will be presented by the ship to its flag State.

46 All that would be required of Administrations would be to issue the ship with a Statement of Compliance, confirming that the fuel consumption data provided by the ship to the ZESF matches the data previously reported by the ship for the DCS, which would be used as the primary means of demonstrating compliance to port State control. No contributions from ships will be collected by governments or maritime Administrations and all contributions by ships will be made directly to the IMSF.

47 As set out in document ISWG-GHG 16/2/1, ICS has developed a working prototype for a fully automated (internet-based) system to collect contributions by ships to the ZESF, and calculate and disperse rewards to ships using eligible zero/near-zero GHG fuels and technologies, to demonstrate how this would involve minimal administrative burdens for Member States and would be feasible for the Organization to establish. An internet link to the prototype contribution and reward system can be found in document ISWG-GHG 16/2/1 (ICS). The total cost of developing the fully working system is estimated by ICS to be around one million US dollars.

48 Because the ZESF system would be automated, the administrative burden on the Secretariat would be relatively small, and the costs of operating the system would be recovered from the ZESF. Once operational, no "policy" decisions by the Secretariat would be needed with respect to how funds that are collected should be used, as this would be set out clearly in the regulations.

Certainty about the contribution quantum and the amount of funds that will be generated

49 Another significant advantage of the Fund and Reward (Feebate) mechanism is that once the quantum of the flat rate contribution is agreed there would be relative certainty as to the total amount of funds (billions of dollars per year) that would be generated annually for the ZESF to increase the global availability of zero/near-zero GHG fuels.

50 By helping to narrow the significant cost gap between zero/near-zero GHG fuels and conventional fuels, this will give a strong signal to energy producers and fuel suppliers that should serve to increase the availability of these alternative fuels for shipping and also, importantly, to de-risk the investment in the production and uptake of these zero/near-zero GHG fuels and technologies.

51 As currently drafted, in annex 1 of this document, the quantum of the contribution would be fixed for a five-year period, rather than the cost of emissions being variable and volatile or linked to factors beyond the control of ships such as the availability of fuels with a lower GHG intensity (as would be the case with alternative proposals for a maritime GHG emissions pricing mechanism made during Phase II of the Work plan) and the economic impacts on States should be much easier for the final CIA of the measure to determine.

Key new aspects of modified proposal

Zero Emission Shipping Fund (ZESF)

52 The fund to which contributions by ships will be made by per tonne of CO₂e emitted is now called the Zero Emission Shipping Fund (ZESF). This more accurately describes its purpose, i.e. to support the decarbonization of international shipping as required by the 2023 IMO GHG Strategy, using contributions collected from the shipping industry via a maritime GHG emissions pricing mechanism which has been established specifically for this sole purpose.

Establishing a separate IMO fund (IMSF) to support developing countries

53 To make it clear that a significant proportion of funds from contributions by ships to the ZESF should be used to support GHG reduction efforts by developing countries, especially LDCs and SIDS, it is proposed that a separate IMO (GHG) Maritime Sustainability Fund (IMSF) should be established using funds from the ZESF, with priorities with respect to projects and programmes to be supported by the IMSF to be determined by a "supervisory committee" comprising representatives of Parties to the regulations implementing the maritime GHG emissions pricing mechanism.

54 As the priority will be to establish the contribution and reward mechanism of the ZESF, without which funds will not be available for the support of developing countries, it is suggested that terms of reference for the governance and operation of the IMSF can be finalized following adoption of the ZESF and IMSF regulations, noting that annex 3 of document ISWG-GHG 14/3 (ICS) sets out details of potential terms of reference to the IMSF (previously called the IMSB Charter) which the co-sponsors intend to refine for submission to a future session.

55 Taking account of recent discussion within the Group and the Committee, it is also suggested that one of the purposes of the IMSF (in addition, inter alia, to supporting deployment of zero or near-zero GHG maritime fuel production facilities and new bunkering infrastructure) should be funding for seafarer training in developing countries and promotion of a just transition.

Contribution quantum and reward rate

56 For legal clarity, it is now suggested that the quantum of the contribution by ships to the ZESF per tonne of CO₂e emitted, and the reward rate per tonne of CO₂e emissions prevented by the use of zero or near-zero GHG fuels, energy sources and technologies should be stipulated in the regulations, rather than in Guidelines.

57 As this means that amendment of the regulations would be required to make any adjustments to the contribution quantum and/or the reward rate – which it is anticipated would be required within five years following entry into force – it is now proposed that there should be provision made for a mandatory review of the regulations to commence two years following their initial entry into force to allow time for the process to be completed, noting that a minimum 22 month period is required for approval, adoption and acceptance before amendments to MARPOL Annex VI can enter into force.

58 However, whilst the contribution and reward rate per tonne of CO₂e emitted or prevented would be set out in MARPOL Annex VI, it is still suggested that details concerning the contribution and reward rates of different fuel types (per tonne of fuel consumed) should be set out in separate guidelines to be adopted by the MEPC (draft guidelines are set out in annex 3 of this document) which will take account of the latest version of the LCA Guidelines and the agreed CO₂e conversion factors and energy densities of different fuels.

59 With regard to setting the reward rate per tonne of CO₂e emissions prevented by the use of zero or near-zero GHG fuels, it is now proposed that the reward rate should be determined by the Committee once the CIA is more advanced, rather than, as previously suggested, directly linking this to the average price of conventional fuel oil during the period preceding the adoption of the measure. However, to avoid market distortion it will still be important to ensure that the reward rate is set at a level which narrows the cost gap with conventional fuels but does not close the cost gap completely.

60 An additional provision has now been included in the suggested regulations so that smaller ships which may fall below the application of the possible initial threshold of [5,000] gross tonnage and above may also be eligible for rewards for the use of zero/near-zero GHG fuels and technologies, provided that arrangements are also made for such ships to make contributions to the ZESF. Access by smaller ships to rewards is important as, aside from the need to maintain fair competition, smaller ships are probably more likely than larger ships to be able to use certain zero/near zero GHG fuels, technologies and energy sources in the early years of implementation of the measure, thus helping achievement of the 2030 level of ambition for 5% to 10% of the energy used by international shipping to be generated from zero/near-zero GHG fuels, technologies and/or energy sources.

Treatment of life cycle emissions

61 The possible draft regulations now incorporate references to CO₂e emissions, rather than CO₂ emissions, to be consistent with the 2023 IMO GHG Strategy. The suggested MARPOL amendments, in annex 1 of this document, set out the contribution by ships to the ZESF per tonne of CO₂e emitted and the reward rate per tonne of CO₂e prevented by the use by ships of eligible zero/near-zero GHG fuels etc.

62 To take account of the life cycle emissions of zero/near-zero-GHG fuels, so that a lower contribution rate will be applicable in order to incentivize the uptake of such fuels, including the sustainable biofuel component of blends, it is suggested that the regulations should not be explicit on how life cycle emissions should be accounted for. Instead, it is suggested that actual contribution rates for different fuel types, per tonne of fuel consumed, should be set out in separate guidelines, adopted by an MEPC resolution, which take into account the LCA Guidelines as may be amended. For those eligible zero/near-zero GHG fuels identified in the guidelines, a reduced contribution rate per tonne of fuel consumed would be specified to take account of life cycle emissions (draft guidelines are set out in annex 3 of this document).

63 Whilst life cycle emissions should be taken into account when setting the contribution rate for different fuels, the co-sponsors consider, as a matter of principle, that it would be inappropriate for ships to be 'charged' for life cycle emissions for which other sectors are responsible, which are addressed by the NDCs of Parties to the UNFCCC Paris Agreement and which may already be subject to 'carbon pricing'. Not stipulating that contributions should be made by ships based on life cycle emissions would still be compatible, as required by the 2023 IMO 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".

64 It should be noted that whether or not life cycle emissions are taken into account to determine the contribution per tonne of CO₂e emitted by conventional liquid fuel oil (which most ships will continue to use when the measure is initially implemented) should have no impact on the total amount of funds that will be generated for the ZESF (or the economic impact on States).

65 To explain, if the LCA Guidelines determine that the conversion factor for CO₂e emissions from combusting conventional liquid fuel oil (based on diesel/gas oil) is 3.2, and the CIA determines that a contribution quantum equivalent, for example, to \$100 per tonne of fuel oil would not have any disproportionately negative impacts of States and might therefore be politically acceptable, then the contribution rate in the regulation could be set at about \$31 per tonne of CO₂e emitted. If, notwithstanding concerns about "charging" ships for life cycle emissions, it was nevertheless decided that life cycle emissions for conventional liquid fuel oil should be taken into account when setting the contribution rate, and the CO₂e conversion factor on a life cycle basis was determined by the LCA Guidelines to be 4.0, then the contribution rate (so that it would still be equivalent to \$100 per tonne of fuel oil consumed) would instead be set at about \$25 per tonne of CO₂e. Regardless of whether or not life cycle emissions are taken into account, and whether the conversion factor used was of 3.2 or 4.0, both rates in this case would still be equivalent to \$100 per tonne of fuel oil consumed and so would generate the same amount of funds for the ZESF and its purposes, including support for developing countries.

66 With regard to the reward rate for the CO₂e emissions prevented by use of eligible zero/near-zero GHG fuels, there may be a case for calculating these on a life cycle basis, so that, for example, "green" versions of an eligible fuel receive a larger reward. However, as with the contribution rate, it is suggested that the reward rate for different fuel types, per tonne of fuel consumed, should be set out in guidelines adopted by an MEPC resolution (see annex 3 of this document), taking account of the LCA Guidelines, as may be amended.

Tonnage threshold

67 As explained in document ISWG-GHG 16/2 (ICS and IBIA), because the simplified Global Fuel Standard (GFS) proposed, as set out in that document as a separate technical measure, does not require use of the Ship Fuel Oil Data Collection System (DCS), this makes it possible – should the Committee so decide – to extend the application of the GFS to ships of 400 gross tonnage and above, consistent with other provisions for fuel standards under MARPOL Annex VI.

68 In principle, the co-sponsors consider that any maritime GHG pricing mechanism adopted should also apply to ships below 5,000 gross tonnage. This is due to the potential for this to lead to unfair competition and perverse incentives, for example to construct "paragraph" ships that would not be required to make contributions to the ZESF.

69 In the possible draft regulation set out in annex 1 to this document, the co-sponsors have therefore now placed the 5,000 gross tonnage threshold in 'square brackets', given that this issue could take on more importance depending on the quantum of the contribution by ships which may finally be agreed. However, regardless of what may finally be decided with regard to the tonnage threshold, it will be important to ensure (as explained in paragraph 60 above, and as provided for in the possible draft amendments set out in annex 1 of this document) that smaller ships using eligible zero/near-zero GHG fuels, energy sources and technologies will be able to receive rewards, provided that they also make contributions to the ZESF.

Comprehensive regulatory package including possible draft amendments to MARPOL Annex VI

70 As indicated above, the co-sponsors have taken into account the 2023 IMO GHG Strategy and recent discussions within the Group and the Committee, in particular with regard to the issues raised relating to the operational, administrative, legal, and governance aspects of the proposal. For example, some Member States have questioned

whether MARPOL Annex VI is an appropriate instrument for enacting international regulations that raise funds from ships. The co-sponsors note previous analysis and studies on this matter including that provided in document MEPC 76/7/11 (Belgium et al.) which concludes as follows:

"21 Nowhere in the Convention is a limit placed upon the types of measures that can be agreed by the members of IMO. Therefore, the only legal limit upon what measures can be agreed at IMO is the agreement of the members themselves. States came together to form the Organization in order to gain the benefits of working together across the international maritime sector. If the members of the Organization now agree that in order to reduce the impact of the maritime sector on the climate, IMO should implement a mid-term measure, of whatever form, there is nothing in the Convention preventing this. The tacit amendment procedure to MARPOL allows for a speedy adoption and entry into force of any measure which is necessary in order to achieve the goals of the Initial Strategy and halt the climate crisis."

71 The co-sponsors support this conclusion, and 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 – possible draft amendments to MARPOL Annex VI to add, inter alia, a new chapter 6 "Establishment of Fund and Reward (Feebate) Mechanism";
- .2 Annex 2 – draft Annex to an MEPC resolution setting out draft "Guidelines for the establishment and governance of the Zero Emission Shipping Fund, oversight of the IMO (GHG) Maritime Sustainability Fund, and collection of contributions and disbursement of rewards (feebates) under chapter 6 of MARPOL Annex VI"; and
- .3 Annex 3 – draft Annex to an MEPC resolution setting out draft guidelines on the "Contribution to and Reward from the Zero Emission Shipping Fund".

72 The possible draft amendments set out in annex 1 of this document include provisions for a new chapter 6 to MARPOL Annex VI as follows:

- .1 Regulation 32 – Application;
- .2 Regulation 33 – Zero Emission Shipping Fund (ZESF);
- .3 Regulation 34 – IMO (GHG) Maritime Sustainability Fund (IMSF);
- .4 Regulation 35 – Contribution by ships to the Zero Emission Shipping Fund;
- .5 Regulation 36 – Rewards (feebates) disbursed by the Zero Emission Shipping Fund
- .5 Regulation 37 – Dates for implementation;
- .6 Regulation 38 – Review of this chapter; and
- .7 Appendix – Form of the Statement of Compliance.

73 In addition, consequential possible draft amendments to the following regulations of MARPOL Annex VI are proposed to include the ZESF within the Statement of Compliance:

- .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

74 The co-sponsors emphasize 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 maritime GHG emissions pricing mechanism is urgently required for international shipping. A measure is required which will meaningfully narrow the cost gap between zero/near-zero GHG fuels and conventional fuel oil to achieve a "take-off" point in their production and uptake, as required by the important new level of ambition for 5% to 10% of energy used by international shipping to be generated from zero/near-zero GHG fuels, technologies and/or energy sources by 2030, given that the current availability of such marine fuels is virtually zero.

75 The Fund and Reward (Feebate) mechanism is currently the only fully developed proposal on the table for a maritime GHG pricing mechanism, supported by a possible draft regulatory framework, which can realistically be finalized for adoption by 2025, and which is likely to help ensure that delivery of the new levels of ambition is achievable and provide guaranteed levels of funding, comprising billions of US dollars annually, to support the maritime GHG reduction efforts of developing countries.

76 As shown by the updated impact assessment submitted in document ISWG-GHG 16/2/2 (ICS), the co-sponsors are confident that a contribution quantum can be agreed that will have no disproportionately negative economic impacts on States, whilst any cost impacts will be far outweighed by the far greater cost of the Organization failing to take the necessary action now.

77 A Global Fuel Standard (GFS) on its own (even if it includes an economic element) 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. Moreover, a GFS 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 the maritime GHG reduction efforts of developing countries.

78 The truly enormous challenge set by the 2023 IMO GHG Strategy, agreed unanimously by Member States at MEPC 80, and the short time between now and 2030, means that immediate action is required and that the Committee cannot delay taking the urgent decisions that are needed about the new regulations which must be adopted by 2025 if it wishes to avoid the achievement of the new levels of ambition ending in failure. Significant progress at MEPC 81 will therefore be vital, and a clear recommendation needs to be made by ISWG-GHG 16 about which type of maritime GHG emissions pricing mechanism should be taken forward for finalization.

79 The co-sponsors therefore reiterate that this comprehensive proposal for a Fund and Reward (Feebate) mechanism with flat rate contributions per tonne of CO₂e emissions being made by ships to a Zero Emission Shipping Fund (ZESF), complete with the necessary regulatory architecture as set out in this document, therefore needs to be taken forward as soon as possible if the levels of ambition and indicative checkpoints contained in the 2023 IMO GHG Strategy are to remain achievable and plausible.

Action requested of the Working Group

80 The Group is invited to consider the proposal including the annexes set out in this document and recommend to MEPC 81 that:

- .1 a Fund and Reward (Feebate) mechanism should be taken forward as a maritime GHG emissions pricing mechanism, as required by the 2023 IMO GHG Strategy, to be prioritized for development and adoption as a separate economic measure by 2025, as part of a basket of mid-term measures that also includes a Global (GHG) Fuel Standard as a separate technical measure;
- .2 the maritime GHG emissions pricing mechanism should be based on a flat rate contribution system by ships to an IMO fund, per tonne of CO₂e emitted, that will, inter alia, provide rewards to ships that use eligible zero/near-zero GHG fuels, as well as providing support to the maritime GHG reduction efforts of developing countries, especially SIDS and LDCs, funding for seafarer training in developing countries and promotion of a just transition; and
- .3 the Group should be instructed to develop draft amendments to MARPOL Annex VI to implement a Fund and Reward (Feebate) mechanism for submission to MEPC 82, using the possible draft text set out in the annexes to this document, together with possible draft text included with other detailed regulatory proposals which use a flat contribution mechanism per tonne of CO₂e emitted, as may be updated and/or supplemented in any further submissions to ISWG-GHG 16.

ANNEX 1

POSSIBLE DRAFT AMENDMENTS TO MARPOL ANNEX VI (Establishment of Fund and Reward (Feebate) Mechanism, Zero Emission Shipping Fund, and IMO (GHG) Maritime Sustainability Fund)

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 the Zero Emission Shipping Fund (ZESF)

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

Statement of Compliance – Zero Emission Shipping Fund (ZESF)

9 Upon receipt of the Annual Account Statement pursuant to regulation 35.5 of this Annex, the Administration, or any organization duly authorized by it, shall determine whether the contribution has been made to the ZESF in accordance with regulation 35.1 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 ZESF no later than six 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 ZESF may be issued by the appropriate Administration of any Party to this Annex, if satisfied that the contribution required under regulation 35.1 of this Annex has been made to the ZESF 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.

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 Zero Emission Shipping Fund (ZESF)

A new title and paragraph 5 are added as follows:

Statement of Compliance – Zero Emission Shipping Fund (ZESF)

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.

Regulation 9

The title of the regulation is amended (deletion shown as ~~strikethrough~~, 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 the Zero Emission Shipping Fund (ZESF)

A new title and paragraph 13 are added as follows:

Statement of Compliance – Zero Emission Shipping Fund (ZESF)

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 six months of the following calendar year. All Statements of Compliance shall be kept on board for at least five years.

Regulation 10

Port State control on operational requirements

A new paragraph 7 is added as follows:

7 In relation to chapter 6 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 ZESF on board, in accordance with article 5 of the present Convention.

A new chapter 6 is added as follows:

Chapter 6 – Fund and Reward (Feebate) Mechanism

Regulation 32

Application

- 1 This chapter shall apply to all ships of [5,000] 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.

Regulation 33

Zero Emission Shipping Fund

1 The Organization shall establish a Zero Emission Shipping Fund (ZESF) for the purpose of administering the collection of contributions by ships, as required by regulation 35

of this Annex, and the funding of the fund and reward (feebate) mechanism, to be administered by the Organization, taking into account Guidelines adopted by the Organization.¹

- 2 The funds contributed by ships to the ZESF shall be used for the following purposes:
- .1 to expedite the production and uptake of zero and near-zero GHG fuels, energy sources and technologies through the provision of annual rewards (feebates) to ships for the CO₂e emissions prevented;
 - .2 funding for an IMO (GHG) Maritime Sustainability Fund (IMSF) to support maritime GHG reduction projects and programmes in developing countries as may be decided by a supervisory committee, to be established by the Marine Environment Protection Committee, comprising representatives of Parties to this chapter. 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;
 - .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; and
 - .3 administration of the ZESF and the IMSF, including the establishment and administration of a contribution and reward (feebate) mechanism ensuring this entails no costs to the Organization.

3 The contributions made to the ZESF shall only be used for the purposes specified in paragraph 2 of this regulation.

4 For five years after entry into force of this chapter, and provided that the total contributions from ships to the ZESF in any calendar year shall be adequate to meet the purposes set out in paragraphs 2.1 and 2.3 of this regulation, up to [...] % of the total contributions made to the ZESF in any calendar year shall be used to provide funding for the IMSF.

5 If the total contributions made by ships to the ZESF in any calendar year are less than that required to meet the funding of rewards (feebates), the percentage of the total contributions collected by the ZESF in any calendar year which are designated for the purposes set out in paragraph 2.2 of this regulation may be reduced.

6 Following the review of this chapter, as required by regulation 38 of this chapter, the maximum percentage of the total contributions made annually to the ZESF which may be used to provide funding for the IMSF, as set out in paragraph 4, may be adjusted.

¹ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to resolution is set out in annex 2 to this document.

Regulation 34

IMO (GHG) Maritime Sustainability Fund

1 The Organization shall establish an IMO (GHG) Maritime Sustainability Fund (IMSF) in accordance with terms of reference established by the Organization as required in paragraph 2, to support the projects and programmes set out in regulation 33.2.2 of this Annex as may be decided by a supervisory committee comprising representatives of Parties to this chapter.

2 The Organization shall establish terms of reference² for the establishment, governance and management of the IMSF, taking into account Guidelines adopted by the Organization.³

3 The Marine Environment Protection Committee shall oversee the activities and governance of the IMSF in accordance with the rules and regulations of the Organization, taking into account Guidelines adopted by the Organization.⁴

Regulation 35

Contribution by ships to the Zero Emission Shipping Fund

1 Subject to regulation 37 of this Annex, within four months after the end of each calendar year, each ship of [400] [5,000] gross tonnage and above to which this chapter applies shall make a contribution to the ZESF. For a minimum period of 5 years after entry into force of this chapter, the contribution for each ship to which this regulation applies shall be fixed at a rate and value of [...] \$ per tonne of CO₂e emitted, 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.⁵

2 For ships emitting zero CO₂e emissions, taking into account Guidelines adopted by the Organization⁶, the contribution required under paragraph 1 of this regulation shall be zero.

3 Within three months after the end of each calendar year, each ship shall provide the ZESF 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.

4 No later than one month after receiving the contribution from each ship, as required under paragraph 1 of this regulation, the ZESF shall provide an Annual Account Statement to each ship confirming that the total contribution to be made to the ZESF for that ship for the previous calendar year, including the portion thereof as provided for in paragraphs 6 and 7 of this regulation, has been made.

² A draft document for the establishment and governance of the IMSF (then called the IMSB) is set out in annex 4 of document ISWG-GHG 14/3.

³ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution is set out in annex 2 to this document.

⁴ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution is set out in annex 2 to this document.

⁵ By MEPC resolution adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution is set out in annex 3 to this document.

⁶ Guidelines to be developed on eligible zero/near-zero GHG fuels, based on the LCA guidelines.

5 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.

6 In the event of the transfer of a ship from one Administration to another, the contribution 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.

7 In the event of a change from one Company to another, the contribution 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.

8 In the event of change from one Administration to another and from one Company to another concurrently, paragraph 6 of this regulation shall apply.

Regulation 36

Rewards (feebates) disbursed by the Zero Emission Shipping Fund

1 Each ship using an eligible zero or near-zero GHG fuel, technology and/or energy source shall receive a reward (feebate) from the ZESF based on a reward rate of [...] \$ per tonne of CO₂e emissions prevented each calendar year, with the equivalent reward rate per tonne of fuel consumed to be determined by the Organization, taking into account Guidelines adopted by the Organization.⁷

2 Within three months after the end of each calendar year, each ship wishing to receive a reward (feebate) for CO₂e emissions prevented during the previous calendar year shall provide the ZESF 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.⁸

3 No later than one month after receiving the data specified in paragraph 2 of this regulation, the ZESF shall provide a Provisional Statement for each ship, which sets out the total rewards to be made for CO₂e emissions prevented during the previous calendar year by the use of an eligible fuel, technology and/or energy source including the portion thereof as provided for in paragraphs 5 and 6 of this regulation.

4 No later than one month after receiving confirmation from the Company operating the ship that the Provisional Statement is correct, the ZESF will disburse the reward (feebate).

5 In the event of the transfer of a ship from one Administration to another, the reward (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.

6 In the event of a change from one Company to another, the contribution 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.

⁷ By MEPC resolution and annex adopted at the time of adoption of these amendments. Draft Annex to the MEPC resolution set out in annex 3 to this document.

⁸ 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 rewards

7 With the approval of the Administration, a ship below [5,000] gross tonnage may be eligible for rewards provided that contributions are made by the ship to the ZESF as required by regulation 35 of this Annex and that the Administration provides the Organization with fuel oil consumption data for that ship 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.

Regulation 37

Dates for implementation

1 Implementation of the requirements stipulated under regulation 35 of this Annex shall commence on a date after the ZESF has been established in accordance with the requirements of regulation 33 of this Annex and that the ZESF is ready to commence operations.

2 Implementation of the requirements stipulated under regulation 36 of this Annex shall commence on a date 12 months after implementation of the requirements stipulated under regulation 35 of this Annex.

3 The Organization shall review and confirm that the requirements under regulations 33 and 34 of this Annex have been met no later than 12 months after entry into force of chapter 6 of this Annex. The Parties, based on the review undertaken by the Organization, shall decide whether the ZESF shall commence operations. If the Parties to this chapter decide that the ZESF is not ready to commence operations then a further review shall be undertaken within six months.

Regulation 38

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.

2 Upon completion of the ZESF's or IMSF's work programmes, and with the approval of the Organization, the ZESF and/or, as appropriate, the IMSF shall cease operations. Upon such a determination, chapter 6 of this Annex and its requirements shall be dissolved, unless the Parties determine otherwise.

APPENDIX [XII]

Form of the Statement of Compliance – Zero Emission Shipping Fund

STATEMENT OF COMPLIANCE – ZERO EMISSION SHIPPING FUND

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 ship¹

Name of ship

Distinctive number or letters.

IMO Number²

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 35.5 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)

¹ Alternatively, the particulars of the ship may be placed horizontally in boxes.

² 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 Establishment of Fund and Reward (Feebate) Mechanism, Zero Emission Shipping Fund, and IMO (GHG) Maritime Sustainability Fund])

[To be completed....]

ANNEX

[20XX] Guidelines for the establishment and governance of the Zero Emission Shipping Fund, oversight of the IMO (GHG) Maritime Sustainability Fund, and collection of contributions and disbursement of rewards (feebates) under chapter 6 of MARPOL Annex VI

Introduction

1 The purpose of these guidelines is to direct the Organization's governance and the operation of the Zero Emission Shipping Fund (ZESF) to be established under chapter 6 of MARPOL Annex VI.

Zero Emission Shipping Fund

Purpose of the ZESF

2 The principal purpose of the ZESF is to administer the collection of contributions by ships to provide financial support to the fund and reward (feebate) mechanism and to the IMO (GHG) Maritime Sustainability Fund (IMSF).

3 The 2023 IMO GHG Strategy (MEPC.377(80)) identifies that the Organization recognizes that developing countries, in particular LDCs and SIDS, have special needs with regard to capacity-building and technical cooperation.

4 In addition to funding rewards (feebates) to ships for CO₂e emissions prevented by the use of eligible zero or near-zero GHG fuels, the ZESF is to provide funding for the IMO (GHG) Maritime Sustainability Fund (IMSF) to support maritime GHG reduction efforts of developing countries, in particular LDCs and SIDS, including deployment of alternative maritime fuel production facilities and bunkering infrastructure in ports for the supply of zero and near-zero GHG fuels for use by international shipping.

Management of ZESF

5 The Zero Emission Shipping Fund (ZESF) should be established, managed and operated without cost to the Organization, and once the ZESF is operational, costs can be recovered from the ZESF.

Oversight of the ZESF by the Marine Environment Protection Committee

6 The Committee should establish arrangements, inter alia, for the approval of the annual budget and expenditure of the ZESF, and oversight of the ZESF's management functions.

7 The specific responsibilities of the Committee should include, but not be limited, to:

- .1 providing general oversight on the strategic direction and annual budget of the ZESF;
- .2 ensuring that the ZESF performs its duties and responsibilities consistent with the requirements of chapter 6 of MARPOL Annex VI;
- .3 ensuring that sufficient funds are available in any calendar year to fund the rewards for which ships using zero and near-zero GHG fuels are eligible, adjusting the funds designated annually for use by the IMO GHG Maritime Sustainability Fund (IMSF) as may be required in subsequent calendar years;
- .4 approving the overall annual operating budget for the ZESF;
- .5 undertaking independent financial audits of the ZESF concerning the management and administration of its funds and related investments to ensure that the ZESF fully meets its fiduciary responsibilities, including the accounting of funds expended; and
- .6 advising upon any recommendations made by the supervisory committee of the IMSF to modify and adjust the IMSF strategy and budget, as appropriate.

Collection of contributions from ships to ZESF

8 The ZESF should establish an account for each ship to which chapter 6 of MARPOL Annex VI applies, in accordance with the IMO ship identification scheme (resolution A.1078(28)) to which contributions can be submitted by the Company responsible for that ship as defined by paragraph 2.8 of regulation 2 of MARPOL Annex VI.

9 No later than one month after receiving the data as specified in regulation 35.3 of MARPOL Annex VI, the ZESF should provide a Provisional Statement for each ship which sets out the total contribution to be made to the ZESF for the previous calendar year, as required under regulation 35.1 of MARPOL Annex VI.

10 No later than one month after receiving the contribution from each ship, as required under regulation 35.1 of MARPOL Annex VI, the ZESF shall provide an Annual Account Statement to each ship confirming that the total contribution to be made to the ZESF for that ship for the previous calendar year has been made, in accordance with regulation 35.5 of MARPOL Annex VI.

11 The mechanism for the ZESF to collect contributions should allow the Company, as defined by paragraph 2.8 of regulation 2 of MARPOL Annex VI, that is responsible for making contributions on behalf of the ship, to make a single annual contribution calculated from the data reported to the ZESF in accordance with regulation 35.3 of MARPOL Annex VI. In addition, the mechanism should 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.

Funding of rewards (feebates) by the ZESF

12 Funding of rewards by the ZESF should be as follows:

- .1 for ships using eligible zero or near-zero GHG fuels and technologies as defined by Guidelines adopted by the Organization, that are delivered to and intended for combustion purposes for propulsion or operation on board a ship;

- .2 determined using data on consumption of eligible zero or near-zero GHG fuels submitted by the ship to the Administration pursuant to the requirements of regulation 27 of MARPOL Annex VI (IMO Data Collection System, as amended); and
- .3 at a reward rate agreed by the MEPC of [...] USD per tonne of CO_{2e} emissions prevented compared to using marine diesel/gas oil, calculated in terms of CO_{2e} that would be emitted by combusting diesel/gas oil which generated the same amount of energy.

13 Funding of rewards to ships should not commence until the second calendar year following entry into force of chapter 6 of MARPOL Annex VI.

14 The necessary funding for rewards by the ZESF should be reviewed by the Committee within five years following the adoption of chapter 6 of MARPOL Annex VI.

Reward rate for CO_{2e} emissions prevented by use of eligible fuels

15 The reward rate for CO_{2e} emissions prevented will be reviewed within five years of the adoption of chapter 6 of MARPOL Annex VI. However, the equivalent reward rate per tonne of fuel consumed may be adjusted to take account of any adjustments to conversion factors contained in the LCA Guidelines (MEPC.376(80)) as may be amended.

Funding to support activities of the IMO (GHG) Maritime Sustainability Fund

16 Funding of support for the purposes set out in regulation 33.2.3 of chapter 6 of MARPOL Annex VI should be decided by the Committee in accordance with regulation 33.4 and, provided IMSF funds are used for the purposes set out in regulation 33.2.2, GHG reduction projects and programmes supported by this funding may be administered by other United Nations agencies.

IMO (GHG) Maritime Sustainability Fund (IMSF)

Management of IMSF

17 The IMSF should be established, managed and operated without cost to the Organization, and once the ZESF is operational, costs can be recovered from the ZESF.

IMSF Term of Reference

18 The IMSF terms of reference, referred to in regulation 34.2 should set out, inter alia, the primary objectives of the IMSF, critical principles and operating parameters, without prejudice to existing national laws and regulations.

Oversight of the IMSF by the Marine Environment Protection Committee

19 The Committee should establish arrangements, inter alia, for the approval of the annual budget and expenditure of the IMSF, oversight of the IMSF's management functions and work in accordance with the IMSF terms of reference, and approval of the appointment of the IMSF's senior officers.

- 20 The specific responsibilities of the Committee should include, but not be limited, to:
- .1 providing general oversight and advice to the IMSF and its supervisory committee on the strategic direction and annual budget of the IMSF;
 - .2 ensuring that the IMSF performs its duties and responsibilities consistent with the objectives set forth in the IMSF terms of reference;
 - .3 approving the overall annual operating budget for the IMSF after considering recommendations and other relevant information provided by the IMSF and its supervisory committee;
 - .4 undertaking independent financial audits of the IMSF concerning the management and administration of its funds and related investments to ensure that the IMSF fully meets its fiduciary responsibilities, including the accounting of funds expended for GHG reduction projects and programmes, grants, and other funding provided by the IMSF using ZESF funds; and
 - .5 advising upon recommendations made by the IMSF supervisory committee to modify and adjust the IMSF strategy and budget, as appropriate.

ANNEX 3

RESOLUTION MEPC.XXX(XX)

(Adopted on [same date as adoption of draft amendments for Establishment of Fund and Reward (Feebate) Mechanism, Zero Emission Shipping Fund, and IMO (GHG Maritime Sustainability Fund])

[To be completed....]

ANNEX

CONTRIBUTION TO AND REWARD FROM THE ZERO EMISSION SHIPPING FUND

[NB: This text will need to be adjusted to reflect the exact description of these fuel types, including variants of these fuel types (including, for example, synthetic versions of these fuels and different types of biofuels), CO₂e conversion factors and, as appropriate, life cycle emissions, as set out in the latest iteration of the LCA Guidelines. ICS takes no view on what the quantum of the contribution should be. The rates of contribution shown for liquid fuel oil (based on diesel/gas oil) and the examples of zero/near-zero GHG fuels¹ and technologies that may be eligible for rewards, are based on existing IMO guidelines and are for illustrative purposes only². The list of eligible fuels, energy sources and technologies that may be eligible for rewards will need to be expanded and this proposal is intended to be fuel and technology neutral.]

Contribution to the Zero Emission Shipping Fund

1 Pursuant to regulation 35.1 of MARPOL Annex VI, the contribution made to the Zero Emission Shipping Fund for each ship shall be calculated as follows:

Rate of contribution: \$[100] 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):³ equivalent to \$[320] 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 per cent.

For LPG:⁴ equivalent to \$[...] per tonne of LPG 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 LNG: equivalent to \$[...] 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

¹ Other technologies and energy sources as may be decided by the Committee

² EEDI Guidelines using CO₂ (not CO₂e) conversion factors, although for liquid fuel oil these are likely to be similar.

³ For the purpose of calculating the contribution to the ZESF, the CO₂e emission of all types of liquid fuel oil are treated as being equal to Diesel/Gas Oil.

⁴ The CO₂e emissions of butane LPG is regarded as equal to propane.

For Bio-diesel: equivalent to \$[...] 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 \$[...] 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 \$[...] 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 \$[...] 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

2 In the case of a ship equipped with a dual-fuel main or auxiliary engine, the ship shall provide the ZESF 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.

3 Notwithstanding the requirement under regulation 35.1 of MARPOL Annex VI for a ship to make a contribution to the ZESF, the entity ultimately responsible for paying for the cost of the fuel oil should ultimately 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 contribution to the ZESF for that ship should be the responsibility of the charterer.

4 To avoid double counting of CO₂e emissions, both in measures adopted by the Organization and other regional or national measures, the mandatory contribution by a ship to the funding mechanism established for international shipping should not be duplicative, and emissions or fuel consumption for the basis of such a contribution should be accounted for only once.

Reward from the Zero Emission Shipping Fund

5 Pursuant to regulation 36.1 of MARPOL Annex VI, the reward from the Zero Emission Shipping Fund for each ship using eligible zero or near-zero GHG fuels⁵ shall be calculated as follows:

Rate of Reward: \$[...] per tonne of CO₂e emissions prevented

For bio-diesel: equivalent to \$[...] 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 \$[...] 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 \$[...] 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 \$[...] 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 \$[...] [Methodology for calculating CO₂e emissions prevented to be developed.]

⁵ Eligible zero/near-zero GHG fuels to be decided by the Committee. Also other technologies and energy sources as may be decided by the Committee.