

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

ISWG-GHG 16/2/1
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FURTHER CONSIDERATION OF THE DEVELOPMENT OF CANDIDATE MID-TERM MEASURE(S) IN THE CONTEXT OF PHASE III OF THE WORK PLAN FOR THE DEVELOPMENT OF MID- AND LONG-TERM MEASURES

**Prototype of fully automated contribution and reward system for
Zero Emission Shipping Fund**

Submitted by ICS

SUMMARY

Executive summary: In support of the modified Fund and Reward (Feebate) proposal, set out in document ISWG-GHG 16/2/3, whereby ships will make a contribution per tonne of CO₂e emitted to a Zero Emission Shipping Fund (ZESF), ICS has developed a working prototype of a fully automated, internet-based, contribution and reward system. The purpose is to show how a system can easily be established for a maritime GHG emissions pricing mechanism, using a flat rate contribution system, which also includes a reward element for the use of zero/near-zero GHG fuels, without creating undue additional administrative burdens for Administrations or the Organization. This document contains an internet [link](#) to the ZESF prototype, to demonstrate how, using data already provided by ships for the existing IMO Fuel Oil Data Collection System (DCS), the contribution by ships per tonne of CO₂e emitted would be automatically calculated and collected, how rewards for CO₂e emissions prevented by the use of eligible zero/near-zero GHG fuels would be calculated and dispersed, and how the system would provide Administrations with the information required to issue the ship with a Statement of Compliance.

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 16

Related documents: ISWG-GHG 16/2/3; resolution MEPC.377(80)

INTRODUCTION

1 The 2023 IMO Strategy for the reduction of GHG emissions from ships (2023 IMO GHG Strategy) (resolution MEPC.377(80)) identifies the development and finalization of a basket of mid-term measure(s) including an economic element, namely a maritime GHG emissions pricing mechanism to narrow the cost gap between conventional fuel oil and zero/near-zero GHG fuels.

2 Prior to MEPC 80, ICS submitted document ISWG-GHG 14/3 providing possible draft amendments to MARPOL Annex VI to implement a Fund and Reward (Feebate) mechanism. To take account of the 2023 IMO GHG Strategy, ICS has further elaborated upon this proposal in document ISWG-GHG 16/2/3.

3 The ICS proposal, alongside a similar proposal submitted to previous sessions by Japan (as well as related proposals submitted to previous sessions by Austria et al. and by the Marshall Islands and Solomon Islands) requires ships to make mandatory contributions per tonne of CO₂e emitted to an IMO fund, which ICS now refers to in its modified proposal as the “Zero Emission Shipping Fund (ZESF)”.

4 To complement the modified Fund and Reward (feebate) proposal, ICS has now developed a working prototype of a fully automated, internet-based, contribution and reward system. The purpose is to show how a system can easily be established for a maritime GHG emissions pricing mechanism, using a flat rate contribution system, which also includes a reward element for the use of zero/near-zero GHG fuels, whilst minimizing additional administrative burden for Administrations or the Organization.

5 An internet link to allow Member States to explore how the contribution and reward system will work can be found here:

▶ [Combined sets - ZESF Prototype 2024 \(figma.com\)](#)

6 As ICS takes no position on what the contribution by ships to the ZESF should be, for illustrative purposes this prototype allows the user to select a contribution rate set at either US\$6.24 per tonne of CO₂e (equivalent to US\$20 per tonne of liquid fuel oil) or US\$62.40 per tonne of CO₂e (equivalent to US\$200 per tonne of liquid fuel oil). The reward rate per tonne of eligible zero/near-zero GHG fuels used by the prototype is set at US\$100 per tonne of CO₂e prevented. It is expected that both the contribution and reward rates would be determined following the Comprehensive Impact Assessment initiated by MEPC 80.

7 This prototype demonstrates how, using data already provided by ships for the existing IMO Fuel Oil Data Collection System (DCS):

- .1 the contribution by ships per tonne of CO₂e emitted would be automatically calculated and collected by the Zero Emission Shipping Fund;
- .2 how rewards to ships for CO₂e emissions prevented by the use of eligible zero/near-zero GHG fuels would be calculated and dispersed; and
- .3 how the system would provide Administrations with the information required to issue the ship with a Statement of Compliance.

8 ICS emphasizes that the contribution rates and reward rates used by this prototype to calculate contributions and rewards per tonne of fuel consumed for different fuel types are

for illustrative purposes only, using CO₂e conversion factors and energy density figures which will be different to those which are finally agreed by IMO, and based on the LCA Guidelines as amended. This prototype is only intended to provide a general indication of how the feebate system will work and the value of rewards that might be received by ships for the use of zero/near-zero GHG fuels that may be eligible for rewards.

9 It will be seen that shipping companies whose ships which are required to make contributions per tonne of CO₂e emitted can create an account for each ship with the Zero Shipping Emission Fund which is linked to the ship's IMO number. All calculations of contributions and rewards will be conducted automatically by the ZESF, as well as the collection of contributions and the disbursement of rewards, and the generation of documentary evidence to show that the required contributions have been made. No monies would be handled by governments, and using an Annual Account Statement generated by the ZESF, which the ship can transmit to its Administration, the only task of Administrations (or organisations acting on their behalf) will be to issue the ship with a Statement of Compliance.

10 For simplicity, the feebate mechanism calculates net contributions, i.e. contributions for CO₂e emissions minus any rewards that may be due to the ship for using zero/near-zero GHG fuels. If the annual reward due to the ship is greater than the annual contribution required then no contribution will need to be made by the ship which instead will be eligible to receive a "feebate" from the ZESF.

11 As most ships using eligible zero/near zero fuels during the first years of implementation are likely to be dual fuel ships, the system allows for the reporting of dual fuel consumption of both conventional liquid fuel oil and zero/near-zero GHG fuels, calculating contributions by the ship and any entitlement to rewards with respect to both types of fuel used. For biofuels, as these will for the most part be used by ships as blends, the system allows the liquid fuel oil and biofuel components of the biofuel blend to be reported separately, with contributions and rewards for these components also calculated separately.

12 By exploring this prototype, which is meant to be intuitive, it will be seen that the incentive for ships to use zero/near-zero GHG fuels is provided by a reward for the CO₂e emissions prevented by the use eligible fuels working in combination with a lower contribution rate per tonne of fuel consumed, compared with using conventional fuel liquid fuel oil.

13 Another feature of the prototype is a "Pay As You Go System", so that ships have the option of making contributions in advance whenever fuel is purchased, rather than making a single annual contribution to the ZESF as required by the proposed regulations. This is so that the ship can recover the cost of the contribution to the ZESF from other stakeholders, such as charterers, at the time when fuel is purchased.

14 It should be noted that the system set up for this prototype can also be used to calculate rewards for CO₂e emissions prevented by the use of on board carbon capture technology, although, at the moment, only a 'place holder' has been inserted to accommodate this possibility.

15 If based on something similar to this prototype, it is currently estimated that the cost of establishing a fully operational automated contribution and reward system for the ZESF that can carry out all of the necessary financial transactions for tens of thousands of ships in a safe and secure manner would be around US\$1 million.

ACTION REQUESTED OF THE GROUP

16 The Group, using the internet link provided in this document, is invited to consider the prototype of the contribution and reward (feebate) system for the proposed Zero Emission Shipping Fund (ZESF) to be administered by IMO, and take action as appropriate.
