



INTERSESSIONAL MEETING OF THE
GREENHOUSE GAS WORKING GROUP
Third session
Agenda item 3

GHG-WG 3/3/2
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Review of proposed MBMs

Consolidated proposal of Efficiency Incentive Scheme” (EIS) based on the Leveraged Incentive Scheme (LIS) and the Vessel Efficiency System (VES)

Submitted by Japan and the World Shipping Council

SUMMARY

Executive summary: The Leveraged Incentive Scheme (LIS) proposed by Japan and the Vessel Efficiency System (VES) proposed by World Shipping Council (WSC) have much in common in their objectives and reduction mechanism: they focus on in-sector reduction and do not set global capping on the total amount of CO₂ emission from international shipping.

Japan and WSC, in view of such commonality and in response to one of the Terms of Reference of the GHG-WG3 to “group” the proposed MBM, have developed the consolidated MBM proposal called “Efficiency Incentive Scheme” (EIS).

This document, drawing upon the existing proposals of LIS and VES, introduces the objectives and institutional outline of the EIS.

Strategic direction: 7.3

High-level action: 7.3.2

Planned output: 7.3.2.1

Action to be taken: Paragraph 15

Related documents: MEPC 59/4/34, MEPC 60/4/37, MEPC 60/4/39

Introduction

1 MEPC 61 agreed that GHG-WG 3 would discuss possible grouping of the proposed MBMs in accordance with the reduction mechanism that they use (e.g., in-sector or out-of-sector) and other relevant features.

2 Prior to holding GHG-WG 3, in order to facilitate discussion at the WG, Japan and World Shipping Council (WSC) discussed the common elements between the Leveraged Incentive Scheme (referred to as “LIS”, hereafter) as proposed by Japan in MEPC 59/4/34 and MEPC 60/4/37, and the Vessel Efficiency System (referred to as “VES”, hereafter) as proposed by the World Shipping Council in MEPC 60/4/39, and explored the possibilities of consolidating the two proposals. Japan and WSC subsequently agreed to develop and present the consolidated proposal, referred to here as the “Efficiency Incentive Scheme” or EIS. This document explains the primary objectives of the proposal and briefly outlines the most important features of the system.

Review of the LIS and the VES Proposals

3 The LIS proposed by Japan would establish an International GHG Fund, but unlike the current proposal by Denmark et al, the LIS would not set a figurative cap on the total amount of CO₂ emission from international shipping. Under the LIS, a part of the GHG monetary contributions that are collected according to the amount of consumed bunker fuel would be refunded to ships that are ranked as “good performance ships”, which would generate a strong economic incentive to accelerate the improvements in the energy efficiency of ships. The criteria for the refund to “good performance ships” are two-fold: the estimated potential of the hardware based on EEDI and the actual performance of operation based on EEOI.

4 The VES proposed by WSC would also create a fund resulting from the payment of fees by that segment of the existing fleet that fails to reach a given efficiency standard using the EEDI. Like the LIS, the VES would not set an emissions cap, but is designed to motivate definitive improvements in the fleet, thereby reducing carbon emissions from the maritime sector. Under the VES, ships that satisfy a given EEDI value would be exempted from the VES fees, thereby creating a strong economic incentive to accelerate the improvement in the energy efficiency of the world’s fleet.

Conceptual Basis for an Efficiency-Based Approach

5 As mentioned in paragraph 2 of ANNEX 7 to MEPC 61/24, GHG-WG 3 is instructed to group the proposed MBMs in accordance with the reduction mechanism they use (e.g., in-sector/out-of-sector, etc.) and other relevant features such as “type” of MBM (GHG contributions, ETS or Efficiency credits trading, etc)”, and “with or without capping”.

6 In examining the reduction mechanism used by MBMs, we should explain how the proposed measure would reduce CO₂ emissions generated by the maritime sector. The amount of CO₂ emissions generated by transportation is generally determined by multiplying the level of activity by the level of energy efficiency.

7 This means that there are two ways of reducing carbon emissions from shipping: 1) reduce the industry’s activity level by reducing the amount of transportation services provided to the global economy, or 2) improve the efficiency of the marine transport sector.

8 It is generally agreed by most parties that it is both undesirable and impractical to try to control or limit the level of shipping activity itself, because the level of activity (transport demand) is determined by world economic growth of both developed and developing countries (i.e. by factors extrinsic to the international shipping sector). Restricting transportation services to the economy’s inputs and outputs is not an appropriate approach. Therefore, reduction of transportation activity level should not be considered as a desirable option for CO₂ emissions reduction.

Consequently, improving the efficiency of the sector itself is the most direct and tangible pathway to long-term reductions or carbon emissions from the maritime sector.

9 Those MBMs currently before the Committee that focus on generating out-of-sector carbon reductions or “offsets” as the primary mechanism for improvement have the potential to generate significant sums of money in aggregate, but the funds generated are intended to fund offsets or other activities in non-marine activities versus the funding of in-sector improvements. Because the “cap” is only figurative, emissions would grow within the sector as the market demands. Consequently, the notion that emissions within the sector are “capped” is illusory. The “cap” in such systems is, for all practical purposes, a mechanism used to generate additional revenues. Such an MBM may be successful in generating considerable sums of money, but actual improvement in the world’s carbon pool is dependent upon mechanisms that mitigate or “reduce” out of sector emissions. Whether the projects in fact generate additional reductions is often subject to considerable uncertainty. In an odd twist of public policy, these proposals would generate and send massive amounts of money to other sectors, even though: 1) the vast majority of those sectors are not subject to caps themselves; 2) the maritime sector is already the most carbon-efficient form of transportation; and 3) 90% of the carbon emissions generated by transportation come from other transportation sources, such as aviation, road, and rail, which as a general matter, are not subject to any cap.

10 Many of the MBMs under consideration in the Committee would require payments from vessels that fully achieve even the most ambitious carbon efficiency improvement objectives. An IMO regime addressing carbon emissions should be designed to result in vessels being more energy efficient, not simply more expensive to operate.

11 We believe that a more pragmatic and logical solution is to create a market-based mechanism that drives further efficiency improvement in the sector itself. The approach outlined in the EIS provides a return on investment in the sector through improved fuel economy that ultimately supports global economic activity by further improving the tremendous economies of scale and low-carbon efficiencies available in ocean transportation. To accomplish this, Japan and the WSC have combined in the “EIS” the most attractive features of both the LIS and VES proposals.

Consolidated proposal named as “Efficiency Incentive Scheme” (EIS)

12 Japan and WSC analyzed the objectives and mechanisms employed by both the LIS and VES proposals and concluded that their institutional aspects have enough similarity to be merged. As a result, Japan and WSC have developed a revised and consolidated proposal, the “Efficiency Incentive Scheme” or EIS for consideration by the Committee.

How would the EIS work compared to the original LIS and VES proposals?

13 The new EIS Proposal retains the scaled fee system outlined in the VES, but drawing on the concept of “excellent ship” introduced in the LIS, the new proposal would expand this concept to create an additional incentive to design and build new ships that are better than the required standards proposed to be established in MARPOL Annex VI.

14 Furthermore, the EIS proposal does not include a rebate mechanism using the EEOI as originally proposed in the LIS. This element is omitted in response to comments over the last year that the proposed rebate system introduces complexity.

An outline of the proposed Efficiency Incentive Scheme (EIS) is attached as an ANNEX to this document.

Action Requested of the working group

15 The working group is invited to note the common objectives shared between both the LIS and VES proposals, consider the revised and consolidated Efficiency Incentive Scheme (EIS) and take action as appropriate.

ANNEX

Outline of the Efficiency Incentive Scheme (EIS)

Objective of the EIS

The objective of the EIS is to achieve in-sector carbon reductions by inducing energy efficiency improvement of ships.

Type and general character of EIS as MBM

The EIS is a MBM that is institutionally similar to the International GHG Fund, but different in that fees are assessed only to those ships failing to meet a specific efficiency standard. Fees are assessed in proportion to the amount of the bunker fuel consumed (or purchased) and the degree to which the vessel's efficiency falls short of a specific standard. Monies collected go to an independent international fund (the International GHG Fund) established under a new legal instrument, which is developed in IMO. The new legal instrument would set the rights and obligations of the Parties and establishes the International GHG Fund under a "Fund Administrator." The EIS does not include global capping on the total amount of CO₂ emission from international shipping.

Mechanism for energy efficiency improvement

The EIS is designed to create financial incentives for improving the energy efficiency of both new and existing ships.

1. For new ships

"New ships" under the EIS would be those ships of which newbuilding contracts are made on or after the date of entry into force of the new legal instrument to implement the EIS.

The EIS assumes that there would be mandatory EEDI requirements, as contained in Circular letter No. 3128 and MEPC 62/6/3, in force: there would be the minimum requirements of EEDI for all new ships¹, e.g., 10% below the reference line in Phase 1.

The contribution would be based on the amount of consumed or purchased bunker fuel:

$$\text{Contribution (\$)} = \text{contribution rate (\$Y / fuel ton)} * \text{the amount of fuel (fuel ton)}$$

The contribution rate (Y) would be in proportion to how close the EEDI of a new ship is to the Required EEDI line (10% below the Reference Line in case of Phase 1). This means that the contribution rate would decrease as the EEDI of a new ship becomes better than the Required EEDI line. At certain pre-set value of deviation (e.g., [5] % more efficient than the Required EEDI line), the contribution rate would become zero, i.e., reaching the exemption point of paying the contribution. This concept is illustrated in Figure 1.

¹ While it is written here for simplicity as "all new ships", the EEDI requirements as contained in Circular letter No.3128, and MEPC 62/6/3, include certain exemptions in terms of ship types and sizes. The same exemptions would apply to EIS as well.

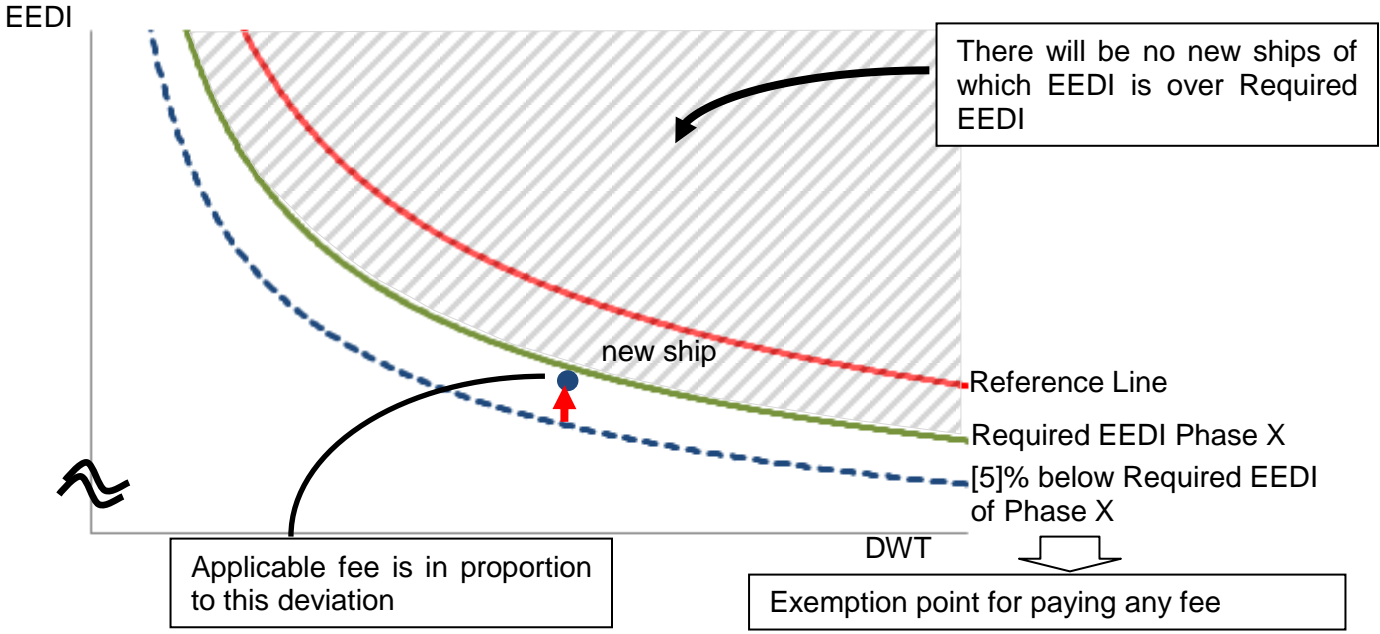


Fig. 1 The concept to spur the improvement in energy efficiency for new ships

2. For Existing ships

“Existing ships” under the EIS would be all ships other than new ships as defined above. Existing ships in the EIS would be treated as originally proposed in the Vessel Efficiency System (VES) as outlined in MEPC 60/4/39.

The amount of a given fee is determined by how far (or close) the EEDI of an existing ship is compared against a certain pre-set value of EEDI, i.e., exemption point for payment of the applicable fee. Such pre-set exemption point would be less stringent from the one established for new ships, in view of limited options for technical measures that can be applied to existing ships and the aging degradation of ship performance. The concept is illustrated in Figure 2. Existing ships would have opportunity of renewing their EEDI values by the installation of energy-saving devices or other technical modifications to the vessel.

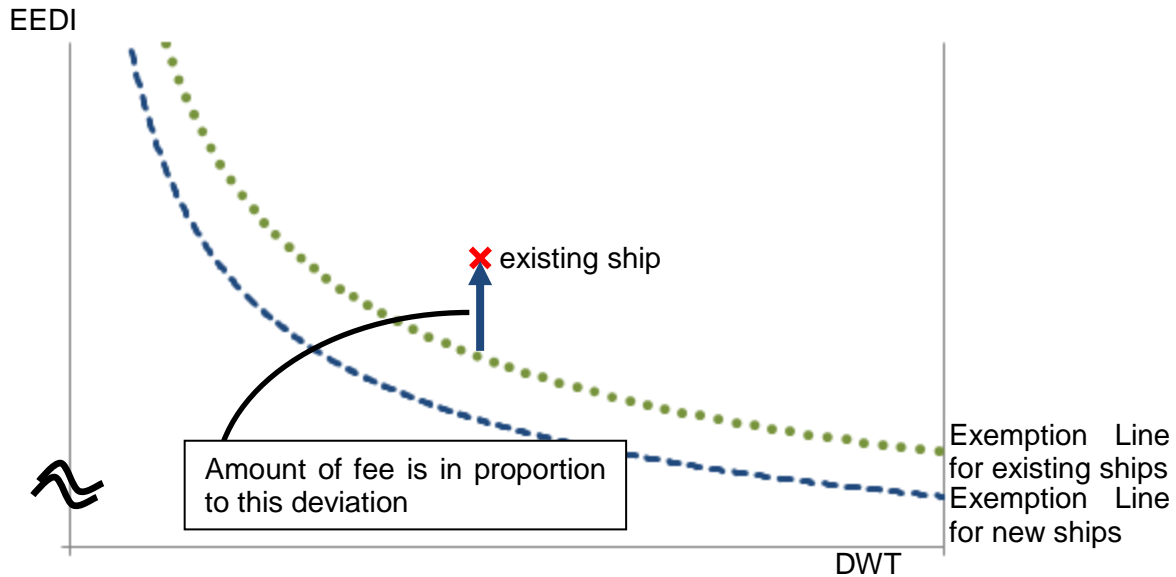


Fig. 2 The concept to stimulate improvement in energy efficiency of existing ships

Assignment of EEDI for all ships and verification

The EIS would essentially utilize the EEDI for both new and existing ships as was the case in the original proposal of VES by WSC. The calculation and verification of the EEDI for new ships would be carried out in accordance with the guidelines developed by IMO in the context of the mandatory EEDI requirements, namely, the EEDI Calculation Guidelines (as contained in Annex 2 to MEPC 61/5/3) and the EEDI Survey and Certification Guidelines (as contained in Annex 3 to MEPC61/WP.10).

The calculation and verification of the EEDI for existing ships under the EIS would basically follow the same procedure as new ships. However, there should be some device, in order to enable the assignment of EEDI for existing ships with reasonable level of accuracy, to cope with technical difficulties inherent in EEDI calculation for existing ships such as the lack of available and verifiable data. For example, the correct figures for Specific Fuel Consumption for main and auxiliary engines may not be obtained; therefore, standard tables of SFC according to the engine types and years of manufacturing may have to be developed. If no data for sea trial is kept, then the estimated speed may be subject to an “uncertainty” correction factor to give conservative estimates, while allowing the possibility that such existing ships go through renewed sea trials, if they wish, to obtain better EEDI values.

How the elements of LIS have been incorporated

The LIS included an EEOI-based refund for both new ships and existing ships to induce full utilization of operational measures. With the priority being given to the simplicity of the scheme, such EEOI-based refund mechanism is not included in the EIS proposal².

Collection and Distribution of the revenue

The method of collecting the contributions from ships would follow that of the LIS, i.e., the direct transfer to the IMO International GHG Fund without passing through the bunker fuel suppliers located in the territories of the Parties as well as Non-Parties (MEPC 59/4/34 and MEPC 60/4/37). Each ship would have its own electronic account with the IMO number serving to identify each account in the IMO International GHG Fund. The revenue from GHG contributions will be allocated for: 1) further in-sector emission reductions through research and development projects to develop even higher efficiency in the fleet, and for 2) funding other projects consistent with guidance set forth in the Agreement. The allocation of the revenue would be determined by the Parties to the International GHG Fund. General principles concerning the use of the revenue may be stipulated inside the new legal instrument establishing the EIS and International GHG Fund, while the amount of funds to be allocated to each use would be decided by the Parties each year or biennium following entry into force or operation of the EIS.

The allocation of revenues to be used outside the marine sector, should take into account the share of emissions generated by international shipping relative to total global CO₂ emissions.

² The parties to such an agreement may choose to consider at a future date whether some additional mechanism that further improves efficiency may be practical depending upon experience gained in the EIS.
