INTERNATIONAL MARITIME ORGANIZATION

E

INTERSESSIONAL MEETING OF THE WORKING GROUP ON REDUCTION OF GHG EMISSIONS FROM SHIPS
6th session
Agenda item 2

ISWG-GHG 6/2/4
27 September 2019
ENGLISH ONLY

FURTHER CONSIDERATION OF CONCRETE PROPOSALS TO IMPROVE THE OPERATIONAL ENERGY EFFICIENCY OF EXISTING SHIPS, WITH A VIEW TO DEVELOPING DRAFT AMENDMENTS TO CHAPTER 4 OF MARPOL ANNEX VI AND ASSOCIATED GUIDELINES, AS APPROPRIATE

Proposal for approval by MEPC 75 of mandatory amendments to further strengthen the Ship Energy Efficiency Management Plan (SEEMP)

Submitted by Greece

SUMMARY

Executive summary:	This document presents a concrete proposal for a short-term measure, which consists of a general and a prescriptive part for immediate consideration by ISWG-GHG 6 and finalization until ISWG-GHG 7 aiming at its approval at MEPC 75. This proposal is supported by information provided in document ISWG-GHG 6/2/5, which also includes the initial impact assessment of the proposed measure.
Strategic direction, if applicable:	3
Output:	3.2
Action to be taken:	Paragraph 25
Related documents:	Resolutions MEPC.213(63), MEPC.232(65), MEPC.255(67), MEPC.262(68) and MEPC.304(72); ISWG-GHG 4/2/10; ISWG-GHG 5/4/1, ISWG-GHG 5/4/3, ISWG-GHG 5/4/8, ISWG-GHG 5/4/9 and ISWG-GHG 6/2/5

Introduction

1 MEPC 72 adopted, in April 2018, resolution MEPC.304(72) on *Initial IMO Strategy on reduction of GHG emissions from ships* (the Initial Strategy). Greece supported the adoption of the Initial Strategy as a significant step to reduce GHG emissions from international shipping and to phase them out as soon as possible in this century.

2 MEPC 73 agreed the *Programme of follow-up actions of the Initial IMO Strategy on reduction of GHG emissions from ships up to 2023* (MEPC 73/19/Add.1, annex 9). It included, inter alia, different streams of activity whereby the candidate short-term measures would be classified in Groups A, B or C. Greece considers that short-term measures should be effective and appropriate for all shipping sectors and should be agreed and implemented quickly. To this end, the highest priority should be assigned to the consideration of proposals which present measures that can be addressed under existing IMO instruments (Group A).

3 Greece initiated its active participation in the global efforts of reducing GHG emitted from international shipping through the submission of document ISWG-GHG 5/4/3. This document presents a way to facilitate the introduction of short-term measures that are also appropriate for bulk/tramp shipping and can ensure the accomplishment of the 2030 target, while maintaining the level of CO_2 emissions from ships at a historical low. It also takes care that all existing ships, especially those built before the implementation of the EEDI regulation and those of small size mostly engaged in short sea shipping, will also contribute to these global efforts without being unfairly penalized.

Discussion

4 Greece's initial proposal has been included in the collation of information regarding candidate short-term measures (short-list) under approach No.3 (Improve the energy efficiency of existing ships building on the SEEMP framework) of the collation of information regarding candidate short-, mid- and long-term measures based on documents submitted to ISWG-GHG 5 and MEPC 74 (MEPC 74/WP.6, annex 5). It presents a methodology by which a prescriptive short-term measure supplements the strengthened SEEMP in a way that the 2030 target's accomplishment is ensured. The strengthened SEEMP has been explicitly proposed by Liberia et al. (ISWG-GHG 4/2/10), subsequently updated by ICS et al. (ISWG-GHG 5/4/9) and included under approach No.3 as well.

5 The proposed key points for the selection of appropriate short-term measures were included in paragraphs 3 to 8 of document ISWG-GHG 5/4/3 and a possible methodology for the development of a prescriptive measure was described in paragraph 9. In its submission, Greece echoed the statement of the leading international shipping organizations in paragraph 33 of document ISWG-GHG 5/4/9 to emphasize the critical role of charterers in the operational efficiency of shipping. Greece reiterates with emphasis that charterers should be fully engaged by regulation as it accepts that industry's best practices or standard contracts will not suffice to improve operational efficiency. The appropriate way to remove this barrier in bulk/tramp shipping is by prescribing operational limitations in MARPOL that prevail over commercial agreements and oblige charterers to support shipowners in effectively implementing their efficiency improvement plans. Shipowners of bulk/tramp shipping alone cannot be committed to efficiency improvement goals, as, in practice, they do not control their ship's speed, itinerary and cargo volume.

6 Greece recalls that during the consideration of document ISWG-GHG 4/2/10, some delegations, while supporting SEEMP's strengthening, suggested the inclusion of objectives (goal-based approach) as a way to demonstrate SEEMP's effectiveness in lowering emissions. The present proposal includes an alternative way, which is appropriate for bulk/tramp shipping in the short-term (prescriptive approach) and supplements the strengthened SEEMP in a way that it can demonstrate its effectiveness in achieving the 2030 target while lowering emissions. In fact, the proposed prescriptive approach consists of appropriately selected prescriptive measures accompanied by a review clause to ensure the accomplishment of the 2030 target while maintaining the operational level of ships at a historical low slow steaming which has been created in the past by the market itself. This approach would also prevent a disproportionally negative impact on States as stipulated by the agreed Initial Strategy.

7 The present document updates Greece's above-mentioned initial proposal and specifies a concrete set of measures applicable to existing ships in line with the key points and the methodology presented in document ISWG-GHG 5/4/3. Greece believes that it qualifies to be included in Group A and to be considered with the highest priority as it requires the amendment of existing IMO instruments only and, by making provision for its swift implementation, it offers early action. This entails that the proposal set out in document ISWG-GHG 5/4/9, which raised significant support among Member States, will also be approved as a part of the same package of Group A short-term measures.

8 Furthermore, Greece supports the additional short-term measures proposed in document ISWG-GHG 5/4/8 (ICS et al.). In particular, emphasis is attributed to the cumulative positive effect of measures to improve port efficiency and the development of carbon factors for all types of marine fuels and their future use in existing ships. These, measures, together with the improvements emanating from strengthening the EEDI standards for new ships, have been taken into account to quantify and finalize the present proposal. Greece strongly believes that during the review of the Initial Strategy, foreseen well before 2030, it will be confirmed that the combined effect of those measures will render the additional operational limitations unnecessary in order to achieve the 2030 target.

9 Greece acknowledges that a pure goal-based method to further strengthen SEEMP may be suitable for some shipping sectors. However, as the responsibility for the ship's operational efficiency should lie with the party that is responsible for the ship's commercial operation, Greece strongly advocates a prescriptive approach for the bulk/tramp sector due to the governing influence of the ship's charterer. A prescriptive short-term measure would supplement the strengthened SEEMP by obliging charterers to adhere to the ship's operational limitations emanating from a MARPOL regulation which prevails over commercial agreements.

Structure of the proposed measure

General part

10 Part I of SEEMP should become part of the ship's Safety Management System (SMS) for all ships that are subject to SOLAS, chapter IX, as it is widely acknowledged that any continuous improvement process, which will be implemented according to the ISM Code, cannot affect States in a disproportionally negative way. The new requirement applies to new and existing ships of any size, i.e. it should be applicable to the ships of all shipping sectors. Documents ISWG-GHG 5/4/9 and ISWG-GHG 4/2/10 provide the necessary insight and details. Most importantly, the shipowner should nominate an appropriate operational efficiency indicator or KPI for the ship, which will be recorded in part I of SEEMP.

11 Greece proposes that annex 1 of document ISWG-GHG 4/2/10 should serve as a basis for the Group to draft a pertinent MARPOL Annex VI, chapter 4, regulation 21 amendment and discuss any concerns related to its impact on States and/or ships. Furthermore, Greece suggests to the Group to take action on the proposals presented in paragraphs 41 (review of resolution A.1118(30)) and 42 (development of reference lines for transport work emissions) of document ISWG-GHG 5/4/9.

Prescriptive part

12 The underlying idea is to maintain, in the short-term, the fuel consumption required for the propulsion of the existing global fleet at the level of a historical low slow steaming while further improving SEEMP's speed optimization. This could be achieved by transforming waiting time into sailing time and/or by using several other optimization methods which already belong to industry's best practices and/or taking advantage of measures emanating from national action plans.

13 Greece acknowledges the practicality of the prescriptive option for existing ships offered by Japan (paragraphs 17 and 18 in document ISWG-GHG 5/4/1) as a means to limit the maximum allowed fuel consumption for the ship's propulsion as initially proposed in document ISWG-GHG 5/4/3. Hence, the approach of limiting the ship's propulsion power at a uniformly reduced level (i.e. by a fixed power reduction factor, which is uniform for the ships of each sector) is envisaged to involve all existing ships of each sector (sectoral approach) in order to contribute to this global effort in a fair way. Offering options to the shipowner to choose is not appropriate, as it will obviously create a multiple-tier market, which will most probably distort competition. In case of a sectoral approach under the same strengthened SEEMP "umbrella", Greece would prefer every ship of a particular sector to follow one requirement mandated by MARPOL.

14 Greece firmly believes that the prescription of one uniform power reduction factor across a shipping sector (prescriptive approach by sector) is more appropriate for existing ships of the bulk/tramp shipping sector compared to the establishment of mandatory goals, the accomplishment of which is out of the control of the shipowner of this sector. It is noteworthy to mention that, by setting goals of technical nature to individual ships, as for example proposed by Japan, the accomplishment of the 2030 target is not guaranteed and the feasibility of such measures implemented on existing ships is questioned. For example, a study commissioned by the European Commission published in April 2019 concludes that technical measures applying the EEDI to existing ships have a potential to reduce annual CO_2 emissions by a maximum of 6%, which is considerably lower than the 21% reduction needed in order to achieve the 2030 target, if estimations are based on a Business As Usual (BAU) scenario.*

15 CE Delft has been commissioned to quantify the uniform reduction factors for bulk carriers, tankers and containerships over 5,000 GT. The intention is to include the prescriptive measure in Regulation 21A of chapter 4 of MARPOL Annex VI (Data Collection System Regulation – DCS), as already proposed in document ISWG-GHG 5/4/3 (paragraph 9.2). The year 2012 has been selected as one of the three years with the estimated lowest total shipping emissions (*Third IMO GHG Study 2014* and ICCT estimates) according to available undisputed data. CE Delft came up with power reduction factors, which, if applied to all ships of the above-mentioned three ship categories, would result in the level of speeds recorded for the year 2012 in the *Third IMO GHG Study 2014*. The full study, which elaborates the power reduction rates and provides an initial impact study, is set out in the annex to document ISWG-GHG 6/2/4. Further similar studies have to be carried out for the remaining shipping sectors classified in the *Third IMO GHG Study 2014* to determine their power reduction factors accordingly.

16 Having considered the outcome of the CE Delft study, and taking into account that the maximum allowed power should be close to but higher than the power estimated for achieving the average speed observed in 2012, Greece proposes a prescriptive and sectoral approach, whereby all bulk carriers and tankers over 5,000 GT will be obliged to reduce their maximum main engine(s) power by 50% of their maximum continuous rating (MCR) and containerships over 5,000 GT by 66% accordingly. The proposal envisages the mandatory installation of a simple mechanical index sealing system limiting the maximum main engine(s) power (power limiter) on all ships over 5,000 GT by amending appropriately the MARPOL Annex VI regulation 22 (DCS Regulation) and the International Air Pollution Prevention Certificate (IAPP) to include an installation and use requirement. Based on the IAPP Certificate, a phase-in period of maximum three years is foreseen, i.e. installation should be carried out during the intermediate or the certificate renewal survey, whichever comes first.

* CE Delft, *Study on methods and considerations for the determination of GHG reduction targets for international shipping*, April 2019.

17 The study also compares the results for bulk carriers and tankers with the corresponding power lines (Level 1) to assess the level of safety (resolution MEPC.232(65), as amended by resolutions MEPC.255(67) and MEPC.262(68) on *2013 Interim Guidelines for Determining Minimum Propulsion Power to Maintain the Manoeuvrability of Ships in Adverse Conditions*). These lines represent "average installed propulsion power" regression lines. As the vast majority of the results lies below these lines, it is understood that the restricted part will serve as a safety power reserve that can be used at the discretion of the ship's master by permitting the temporary override of the power limiter for safety reasons.

18 It is also envisaged that MEPC in 2027 will thoroughly review the data provided by DCS for the period 2019-2026. This shall enable an accurate assessment of the effectiveness of the implemented measures towards the 2030 target, and the making of appropriate decisions. Rectification action may include the extension of the scope of the measure and/or the re-adjustment of the power limits taking account of the experience that will have been accumulated during the implementation period.

19 Exemptions provided by the flag Administration are envisaged for ships continuously using fossil-free fuels. This will incentivize innovation at an early stage.

20 Exemptions provided by the flag Administration could be considered to be granted to a ship, if it can be demonstrated, for safety reasons, that the power limit has been set too low. In any case, the power reduction factor should not be less than 25%, which corresponds to a maximum allowed power of 75% of MCR.

21 As a next step, the development of carbon fuel factors will provide the appropriate tool for higher power limits throughout a lower power reduction factor. This can be achieved if low-carbon or zero carbon fuels such as natural gas, biofuels, electro-fuels etc. or their blends with fossil fuels are used, demonstrating a better carbon factor compared to pure fossil fuels. This step will further incentivize innovation.

Impact assessment

22 CE Delft has also been commissioned to provide an initial assessment of the proposed prescriptive measure for bulk carriers, tankers and containerships over 5,000 GT. The study presented in document ISWG-GHG 6/2/5 concludes that:

.1 the measure is likely to result in a reduction of overall transport costs, because the fuel savings outweigh the increase in operational costs;

.2 these impacts are small; transport costs will change by a few percent, depending on the fuel price;

.3 geographically remote countries generally have a larger share of maritime transport costs in the total transport costs, because the distance transported over sea is longer and the distance over land is similar. This means that these countries benefit more from lower maritime transport costs. Similarly, countries that are more dependent on transport benefit more;

.4 positive impact on food security and on socio-economic progress is expected; and

.5 the risk of occurrence of disproportionally negative impact on States is negligible.

Action plan

23 If a decision is made at IWSG-GHG 6 to support the proposals presented in paragraph 9, which could be implemented by a regulatory amendment making SEEMP part of the ships SMS, and in paragraphs 13, 14 and 15, which could be implemented by an amendment of regulation 22A of chapter 4 of MARPOL Annex VI, then the Group could continue working intersessionally and finalize proposals on the form of the regulatory amendments to be submitted to MEPC 75. This would potentially allow measures to be approved at MEPC 75 and adopted at MEPC 76, thus providing the existing fleet with a three-year phase-in period that could commence before 2023.

Advantages of the proposal

24 The advantages of the present proposal and its benefits for the marine environment overall are presented as follows:

.1 the proposed set of short-term measures allows for early action as the measures are combined with a historical slow steaming and can be included in existing IMO instruments;

.2 the implementation of the proposed short-term measures could start before 2023 (at the first intermediate of renewal survey of IAPP Certificate after its entry into force) and their phase-in period could last maximum three years (the present fleet consists of about 18,000 bulk carries and tankers over 5,000 GT);

.3 the prescriptive measure is simple and transparent, thus allowing for a global level playing field, as it is easy to monitor, control and verify the main engine power;

.4 while targeting the carbon intensity reduction (2030 target), the proposal would also lead to absolute emissions reduction (2050 target);

.5 it is combined to the historical slow steaming that has been created by the market itself in 2012 and in practice does not cause any disproportionate impact on States, as confirmed by the study attached to document ISWG-GHG 6/2/5

.6 it will also lead to immediate and direct reductions in SO_X and NO_X emissions and underwater noise;

.7 it includes a review clause (based on the DCS results until 2027 – data of 2026 should be included) to ensure that the 2030 target is accomplished by a possible rectification action;

.8 it is appropriate for bulk/tramp shipping as it includes the commercial operator of the ship (time-charterer) who pays for the fuel (behavioral change);

.9 it is applicable to all ships. Ships under 5,000 GT, mostly engaged in short sea shipping, are to be subject only to the general part (strengthened SEEMP);

.10 it is fair to pre-EEDI and to EEDI ships, while ships that are more efficient retain their competitive advantage over less efficient ships;

.11 exemptions encourage innovation at an early stage;

.12 it allows a shipowner to achieve better operational characteristics by investing in technical measures that improve the ship's energy efficiency;

.13 it could, at a later stage, allow for an increase in the ship's propulsion power limit by using alternative fuels from renewable energy sources. Hence, it facilitates innovation earlier (i.e. in the short-term) than generally anticipated (i.e. in the medium or in the long-term);

.14 it includes safety provisions (master's authority to permit temporary override of the power limiter for safety reasons); and

.15 it is flexible enough to be easily accepted by a broad spectrum of stakeholders.

Action requested of the Working Group

25 The Group is invited to consider the comments and proposals contained in this document together with the information provided in ISWG-GHG 6/2/5 and take action as appropriate. Taking into account the initial assessment of the impact on States, the Group is invited, in particular, to:

.1 agree, in principle, with the strengthening of SEEMP within the ISM framework, as explicitly presented in paragraphs 10 and 11 (General part);

.2 agree, in principle, with the proposal supplementing the strengthened SEEMP, as explicitly presented in paragraphs 12 to 21 (Prescriptive part);

.3 agree that a sectoral approach is preferred, whereby all ships of the same shipping sector have to comply with the same measure, and that options left to the shipowner to choose should be avoided (paragraph 13);

.4 decide on how to proceed with the consequential issues emanating from the decisions made in the three previous sub-paragraphs (as for example those presented in paragraphs 11 and 15); and

.5 decide on how to proceed with the development of carbon factors for all types of marine fuels as proposed in document ISWG-GHG 5/4/8.