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REDUCTION OF GHG EMISSIONS FROM SHIPS

Revision of the Initial IMO GHG Strategy

Submitted by ICS

SUMMARY

Executive summary: In the annex to this document, ICS suggests some specific text to be considered for inclusion in the Revised Strategy. This includes, inter alia, a reference to a net zero emissions target for 2050 which doubles the level of ambition in the current Initial Strategy. ICS has prepared these text suggestions to help facilitate discussion by the Committee but remains open to considering other ideas that may be suggested as the Revised Strategy is developed.

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 13

Related documents: Resolution MEPC.304(72), MEPC 77/16, MEPC 77/7/22

INTRODUCTION

1 At MEPC 77, it was agreed that the Committee should commence work on the revision of the Initial Strategy for adoption in Spring 2023. Taking account of the ‘Code Red’ IPCC report in August 2021 and the outcome of COP 26, ICS considers that the Revised Strategy needs to significantly increase the level of ambition currently set out in the Initial Strategy.

2 In view, however, of the short time available for the Committee to complete this important work, ICS suggests that rather than producing an entirely new document the Committee can readily develop an ambitious Revised Strategy by making a relatively small number of changes to the text of the current Initial Strategy, as set out in the annex to resolution MEPC.304(72). To help the Committee to expedite its work, this document suggests some text revisions which might be made to the Initial Strategy together with the rationale for these changes, the most important of which relate to the “Levels of Ambition”.

3 As set out in document MEPC 77/7/22, ICS reiterates its support for adaption of a net zero target for 2050 as part of the Revised Strategy but is open to considering a similar (e.g. 'carbon neutral') target as may be proposed by others.

4 To ensure that this high level of ambition is plausible, ICS suggests that before the Revised Strategy is adopted at MEPC 80, the Organization should commission appropriate research to demonstrate how, for shipping, the pathway to zero emissions by 2050 can realistically be achieved. In view of the typical 25-year life span of newly constructed ships, this research should take account, inter alia, of the expected increase in Technology Readiness Levels (TRLs) by 2030 and the expected availability of zero-carbon technologies and fuels. Given that the development of relevant technologies, fuels, propulsion systems and related infrastructure required will be the responsibility and in the control of stakeholders other than shipowners, this research should also include a full assessment of the macro-economic impacts on States in the event that an accelerated increase in TRLs is not achieved by 2030.

DISCUSSION

Vision

5 ICS suggests that the text in the Initial Strategy is revised as follows (deleted text ~~striketrough~~):

"2 VISION

IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible ~~in this century.~~"

6 Outside of IMO, the current text may be misunderstood to mean that the Organization's vision still allows for the possibility that GHG emissions from international shipping, including CO₂, might continue well into the second half of the century, even up to 2100. Regardless of the revised levels of ambition that might be agreed by the Committee, this suggested change is presentational and hopefully not controversial.

Levels of ambition

7 ICS suggests that the text in the sub-paragraphs of Section 3.1 of the Initial Strategy is revised as follows (deleted text ~~striketrough~~, additional text underlined):

.1bis carbon intensity of the ship to decline through implementation of technical and operational measures for ships

to review with the aim to strengthen the energy efficiency requirements for ships, in combination with any other standards that might be adopted;

.2 carbon intensity of international shipping to decline

to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030 compared to 2008, pursuing efforts towards 70% net zero CO₂ emissions by 2050, ~~compared to 2008~~; and

.3 GHG emissions from international shipping to peak and decline

to peak GHG emissions from international shipping as soon as possible, pursuing efforts to reduce the total annual ~~GHG~~ CO₂ emissions to net zero by

~~at least 50% by 2050, also pursuing efforts towards net zero GHG emissions compared to 2008, as soon as possible as called for in the Vision as a point on a pathway of CO₂ emissions reduction consistent with the Paris Agreement temperature goals including the aim to limit the temperature increase to 1.5°C.~~

- 8 The rationale for these changes is as follows:
- .1 The suggested addition of sub-paragraph 3.1.1bis takes account of the amendments to MARPOL Annex VI adopted at MEPC 76 to improve the carbon intensity of the existing fleet, whilst leaving open the possibility of the introduction of other standards that might be adopted by the Committee, including any standards that may be developed, as a mid-term measure, subject to progress made on this issue by MEPC 80;
 - .2 The suggested changes to sub-paragraph 3.1.2 reflect:
 - .1 ICS support for the adoption by the Organization of a target signalling a high level of ambition for 2050 whilst noting that achievement of such an ambitious target will only be plausible if Technology Readiness Levels are sufficiently increased and adequate quantities of zero-carbon fuels are made available in all ports worldwide. (The importance of adopting a net zero target for 2050, rather than an absolute zero target, is discussed with regard to the suggested changes to sub-paragraph 3.1.3 below.);
 - .2 that with regard to the level of ambition for carbon intensity which applies to the existing fleet, ICS currently considers it will be premature to revise this for 2030 or for any year after 2030 (other than 2050) until after the CII reduction rates for 2027 to 2030 have been established following the review in 2026 agreed at MEPC 76. Given that any further significant reduction of carbon intensity to be achieved after 2030, as an average across the global fleet, will primarily depend on the availability and deployment of low and zero-carbon technologies, the issues raised in document MEPC 77/7/22 with respect to the measures that will need to be adopted by the Organization will be equally relevant, including the vital need for approval by the Committee of the IMRF and development of an appropriate MBM; and
 - .3 that the 2008 baseline should be retained for all of the 2030 levels of ambition, otherwise there will not be any continuity with respect to measurement of progress.
 - .3 The suggested changes to sub-paragraph 3.1.3 reflect:
 - .1 ICS support for an ambitious net zero reduction target for 2050 which is considerably more ambitious than the current target of halving the sector's total GHG emissions by 2050, and support for the need for the Revised Strategy to address the phase-out of other GHG emissions, whilst acknowledging that the practicability of phasing-out all GHG emissions by 2050 requires additional consideration;

- .2 that UNFCCC¹ and IPCC² place particular emphasis on the global economy aiming to achieve net zero carbon emissions “in the coming decades”;
- .3 according to the IPCC glossary of terms “*net zero CO₂ emissions are also referred to as carbon neutrality*”;³ and the terms ‘net zero’ and ‘carbon neutral’ are more or less synonymous;
- .4 the current IPCC definition of net zero is as follows: “*net zero CO₂ emissions are achieved when anthropogenic CO₂ emissions are balanced globally by anthropogenic CO₂ removals over a specified period*”;
- .5 use of the term ‘net zero’ (or ‘carbon neutrality’) would leave open the possibility of using a wider range of alternative fuels and, should this be technologically feasible, deploying other technologies such as carbon capture and storage (CCS) and direct carbon capture from the atmosphere;
- .6 notwithstanding questions relating to the potential desirability and use of other measures, the term ‘net zero CO₂’ (or ‘carbon neutrality’) could leave open the possibility for IMO to consider exploring such measures should it subsequently decide to do so, in addition to leaving the Organization with greater flexibility depending on the decisions it might take with respect, inter alia, to carbon life-cycle analysis; and
- .7 following the outcome of COP 26, a reference to the 1.5 degree temperature goal should no longer be controversial.

Other suggested changes

9 To assist the Committee, ICS suggests a number of other changes to the text to be included in the Revised Strategy, which are set out in the annex to this document. The reason for many of these suggested changes is for clarification and/or to reflect developments since the Initial Strategy was adopted, but also, inter alia, to give emphasis to the important role of MBMs in expediting the take-up of zero-carbon fuels, as well as the importance of the GHG TC-Trust Fund to support implementation of the Revised Strategy in developing countries, in particular LDCs and SIDS.

CONCLUSION

10 In view of the limited time available, it is suggested that the Committee can complete its task of developing an ambitious Revised Strategy, consistent with the 1.5 degree climate goal, which includes a net zero target for 2050, by making a relatively small number of changes to the text of the current Initial Strategy. The proposed amendments set out in the annex to this document might therefore be used by the Committee, amongst other documents, to help facilitate this important work.

¹ <https://unfccc.int/climate-action/race-to-zero-campaign>

² https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Headline_Statements.pdf

³ <https://www.ipcc.ch/sr15/chapter/glossary/>

11 For the revised IMO Strategy to succeed, both the IMRF and an appropriate MBM need to be adopted by the Organization, otherwise the Revised Strategy will lack credibility.

12 The development of relevant technologies, fuels, propulsion systems and related infrastructure required to achieve such an increased level of ambition will be the responsibility and in the control of stakeholders other than shipowners. ICS therefore suggests that before the Revised Strategy is adopted, the Organization should commission appropriate research to demonstrate how, for shipping, the pathway to net zero emissions by 2050 can realistically be achieved.

ACTION REQUESTED OF THE COMMITTEE

13 The Committee is invited to consider this document and take action as appropriate.

ANNEX

SUGGESTED CHANGES TO THE INITIAL IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

(deleted text ~~struck through~~, additional text underlined)

2 VISION

IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible ~~in this century~~.

3 LEVELS OF AMBITION AND GUIDING PRINCIPLES

Levels of ambition

3.1 Subject to amendment depending on reviews to be conducted by the Organization, the ~~Initial~~ Revised Strategy identifies levels of ambition for the international shipping sector noting that technological innovation and the global introduction of alternative fuels and/or energy sources for international shipping will be integral to achieve the overall ambition. The reviews should take into account updated emission estimates, emissions reduction options for international shipping, and the reports of the Intergovernmental Panel on Climate Change (IPCC), as relevant. Levels of ambition directing the ~~Initial~~ Revised Strategy are as follows:

.1 **carbon intensity of the ship to decline through implementation of further phases of the energy efficiency design index (EEDI) for new ships**

to review with the aim to strengthen the energy efficiency design requirements for ships with the percentage improvement for each phase to be determined for each ship type, as appropriate;

.1bis **carbon intensity of the ship to decline through implementation of technical and operational measures for ships**

to review with the aim to strengthen the energy efficiency requirements for ships, in combination with any other standards that might be adopted;

.2 **carbon intensity of international shipping to decline**

to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030 compared to 2008, pursuing efforts towards 70% net zero CO₂ emissions by 2050, ~~compared to 2008~~; and

.3 **GHG emissions from international shipping to peak and decline**

to peak GHG emissions from international shipping as soon as possible, pursuing efforts to reduce the total annual ~~GHG~~ CO₂ emissions to net zero by at least 50% by 2050, also pursuing efforts towards net zero GHG emissions compared to 2008, as soon as possible as called for in the Vision ~~as a point on a pathway of CO₂ emissions reduction~~ consistent with the Paris Agreement temperature goals including the aim to limit the temperature increase to 1.5°C.

Guiding principles

3.2 The principles guiding the ~~Initial~~ Revised Strategy include:

- .1 the need to be cognizant of the principles enshrined in instruments already developed, such as:
 - .1 the principle of non-discrimination and the principle of no more favourable treatment, enshrined in MARPOL and other IMO conventions; and
 - .2 the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances, enshrined in the UNFCCC, its Kyoto Protocol and the Paris Agreement;
- .2 the requirement for all ships to give full and complete effect, regardless of flag, to implementing mandatory measures to ensure the effective implementation of this strategy;
- .3 the need to consider the impacts of measures on States, including developing countries, in particular, on LDCs and SIDS as noted by MEPC 68 (MEPC 68/21, paragraphs 4.18 to 4.19) and their specific emerging needs, as recognized in the Organization's Strategic Plan (resolution A.1110(30)); and
- .4 the need for evidence-based decision-making balanced with the precautionary approach as set out in resolution MEPC.67(37).

4 LIST OF CANDIDATE SHORT-, MID- AND LONG-TERM FURTHER MEASURES WITH POSSIBLE TIMELINES AND THEIR IMPACTS ON STATES

Timelines

4.1 Candidate measures set out in this ~~Initial~~ Revised Strategy should be consistent with the following timelines:

- .1 short-term measures could be measures listed in the Initial Strategy (resolution MEPC.304(72)) finalized and agreed by the Committee between 2018 and 2023 or, if not yet finalized and agreed, as soon as possible after 2023. Dates of entry into force and when the measure can effectively start to reduce GHG emissions would be defined for each measure individually;
- .2 mid-term measures could be measures finalized and agreed by the Committee between 2023 and 2030. Dates of entry into force could be sooner than 2030 and when the measure can effectively start to reduce GHG emissions would be defined for each measure individually; and
- .3 possible long-term measures could be measures finalized and agreed by the Committee beyond 2030. Dates of entry into force and when the measure can effectively start to reduce GHG emissions would be defined for each measure individually.

4.2 In aiming for early action, the timeline for short-term measures should prioritize potential early measures that the Organization could develop, while recognizing those already adopted, including MARPOL Annex VI requirements relevant for climate change, as well as those already under consideration and not yet finalised, with a view to achieve further reduction of GHG emissions from international shipping ~~before~~ between 2023 and 2030.

~~4.3 Certain mid- and long-term measures will require work to commence prior to 2023.~~

4.43 These timelines should be revised as appropriate as additional information becomes available.

4.54 Short-, mid- and long-term further measures to be included in the Revised IMO GHG Strategy should be accompanied by implementation schedules.

4.65 The list of candidate measures is non-exhaustive and is without prejudice to measures the Organization may further consider and adopt.

Candidate short-term measures

4.76 Measures can be categorized as those the effect of which is to directly reduce GHG emissions from ships and those which support action to reduce GHG emissions from ships. All the ~~following~~ candidate measures listed in the Initial Strategy (resolution MEPC.304(72)) represent possible short-term further action of the Organization on matters related to the reduction of GHG emissions from ships.

[NB: it is suggested that the short terms measures listed in the Initial Strategy need not be repeated in the Revised Strategy, as these covered by the adjustments to paragraph 4.7 above.]

Candidate mid-term measures

4.87 Measures can be categorized as those the effect of which is to directly reduce GHG emissions from ships and those which support action to reduce GHG emissions from ships. All the following candidate measures represent possible mid-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

- .1 implementation programme for the effective uptake of alternative low carbon and zero-carbon fuels, including update of national actions plans to specifically consider such fuels;
- .2 operational energy efficiency measures for both new and existing ships including indicators in line with three-step approach that can be utilized to indicate and enhance the energy efficiency performance of ships;
- .3 new/innovative emission reduction mechanism(s), ~~possibly~~ including appropriate Market-based Measures (MBMs), to incentivize GHG emission reduction and expedite take-up of zero-carbon fuels;
- .4 further continue and enhance technical cooperation and capacity-building activities such as under the ITCP and GHG TC-Trust Fund; and

- .5 development of a feedback mechanism to enable lessons learned on implementation of measures to be collated and shared through a possible information exchange on best practice

Candidate long-term measures

4.98 All the following candidate measures represent possible long-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

- .1 pursue the development and provision of zero-carbon or fossil-free fuels to enable the shipping sector to assess and consider decarbonization in the second half of the century; and
- .2 encourage and facilitate the general adoption of other possible new/innovative emission reduction mechanism(s).

Impacts on States

4.409 The impacts on States of a measure should be assessed and taken into account as appropriate before adoption of the measure. Particular attention should be paid to the needs of developing countries, especially small island developing States (SIDS) and least developed countries (LDCs).

4.410 When assessing impacts on States the impact of a measure should be considered, as appropriate, inter alia, in the following terms:

- .1 geographic remoteness of and connectivity to main markets;
- .2 cargo value and type;
- .3 transport dependency;
- .4 transport costs;
- .5 food security;
- .6 disaster response;
- .7 cost-effectiveness; and .8 socio-economic progress and development.

4.421 The specification for and agreement on the procedure for assessing and taking into account the impacts of measures related to international shipping on States should be undertaken as a matter of urgency as part of the follow-up actions.

4.432 Disproportionately negative impacts should be assessed and addressed, as appropriate.

5 BARRIERS AND SUPPORTIVE MEASURES; CAPACITY-BUILDING AND TECHNICAL COOPERATION; R&D

5.1 The Committee recognizes that developing countries, in particular the LDCs and SIDS, have special needs with regard to capacity building and technical cooperation.

5.2 The Committee acknowledges that development and making globally available new energy sources that are safe for ships could be a specific barrier to the implementation of possible measures.

5.3 The Committee could assist the efforts to promote low-carbon technologies by facilitating public-private partnerships and information exchange.

5.4 The Committee should continue to provide mechanisms for facilitating information sharing, technology transfer, capacity-building and technical cooperation, taking into account resolution MEPC.229(65) on Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships.

5.5 The Organization is requested to assess periodically the provision of financial and technological resources and capacity-building to implement the Strategy through the ITCP, the GHG TC-Trust Fund and other initiatives including the GloMEEP GreenVoyage2050 and GHG-SMART projects and the MTCC network.

6 FOLLOW-UP ACTIONS TOWARDS THE DEVELOPMENT OF THE REVISED STRATEGY

6.1 A programme of follow-up actions of the ~~Initial~~ Revised Strategy should be developed.

~~6.2 [Deleted]~~

~~6.3~~2 The Marginal Abatement Cost Curve (MACC) for each measure, as appropriate, should be ascertained and updated, and then evaluated on a regular basis.

7 PERIODIC REVIEW OF THE STRATEGY

~~7.1 The Revised Strategy is to be adopted in spring 2023.~~

~~7.2~~1 The Revised Strategy should be subject to a review five years after its final adoption.

~~7.3~~2 The Committee should undertake the review including defining the scope of the review and its terms of reference.
