

[RESOLUTION MEPC.XXX(XX)]

Adopted on [XX April 2018]

INITIAL IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

RECALLING THAT article 38(a) of the Convention on the International Maritime Organization (the Organization) concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution from ships,

1 ADOPTS the initial IMO strategy on reduction of GHG emissions from ships as set out in the annex to the present resolution;

2 REQUESTS.....]

ANNEX

**DRAFT TEXT FOR INCLUSION IN THE INITIAL IMO STRATEGY
ON REDUCTION OF GHG EMISSIONS FROM SHIPS**

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1 Preamble/introduction/context/objectives including emission scenarios

Preamble/introduction

[1.1 The International Maritime Organization (IMO) is the United Nations specialized agency responsible for safe, secure and efficient shipping and the prevention of pollution from ships.

1.2 Assembly resolution A.963(23) on *IMO policies and practices related to the reduction of greenhouse gas emissions from ships*, adopted on 5 December 2003, urged the Marine Environment Protection Committee (MEPC) to identify and develop the mechanisms needed to achieve the limitation or reduction of GHG emissions from international shipping.

1.3 In response work to address GHG emissions from ships has been undertaken, including inter alia:

- .1 In 2011, MEPC 62 adopted resolution MEPC.203(62) on *Inclusion of regulations on energy efficiency for ships in MARPOL Annex VI* introducing mandatory technical (EEDI) and operational (SEEMP) measures for the energy efficiency of ships. To date more than 2,500 new ships have been certified to the energy efficiency design requirement;
- .2 MEPC 65 (May 2013) adopted resolution MEPC.229(65) on *Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships*, which, among other things, requests the IMO, through its various programmes (ITCP¹, GloMEEP project², GMN project³, etc.), to provide technical assistance to Member States to enable cooperation in the transfer of energy efficient technologies, in particular to developing countries; and
- .3 MEPC 70 (October 2016) adopted resolution MEPC.278(70) on *Data collection system for fuel oil consumption of ships* introducing mandatory requirements for ships to record and report their fuel oil consumption. Ships of 5,000 gross tonnage and above (representing approximately 85% of the total CO₂ emissions from international shipping) will be required to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for “transport work”.

1.4 This initial Strategy is a first stage of the *Roadmap for developing a comprehensive IMO strategy on reduction of GHG emissions from ships* approved at MEPC 70.

Context

[1.5 The adoption of the initial IMO GHG Strategy falls within a broader context including:

- .1 the leading role of the Organization for the development, adoption and assistance in implementation of environmental regulations applicable to international shipping; and

¹ Integrated Technical Cooperation Programme

² <http://glomeep.imo.org/>

³ <http://gmn.imo.org/>

- .2 other existing relevant legal instruments and frameworks including the 1982 United Nation Convention on the Law of the Sea, the 1997 Montreal Protocol on Substances that Deplete the Ozone Layer, the 1992 United Nations Framework Convention on Climate Change, its 1997 Kyoto Protocol and the 2015 Paris Agreement, and relevant global, regional and sectorial bodies.]

Emissions and emission scenarios

1.6 The third IMO GHG Study 2014 has estimated that GHG emissions from international shipping could grow by between 50% and 250% by 2050. However, emission estimates and scenarios contain uncertainty so there will be a need for future IMO GHG Studies.

Objectives of the initial IMO GHG Strategy

1.7 The initial IMO GHG Strategy is aimed at:

- .1 supporting the efforts to address GHG emissions from international shipping, which in 2012 accounted for some 2.2% of anthropogenic CO₂ emissions. Current international efforts include the 2015 Paris Agreement and for UN Agenda 2030, in particular SDG 13: “*Take urgent action to combat climate change and its impacts*”;
- .2 identifying and implementing, as required, of appropriate actions by the international shipping sector, whilst allowing continued development of trade and maritime transport services; and
- .3 identifying of appropriate mechanisms to help achieve the stated objectives, including incentives for research and development.

2 Vision

[“The IMO remains committed to reducing GHG emissions from international shipping and aims to phase them out as soon as possible in this century, in the context of sustainable development [and in line with the purposes and provisions of the UNFCCC and the Paris Agreement].”]

[“The IMO is committed to reducing GHG emissions from international shipping [to] [towards] zero [as soon as possible in this century] [by 2050].”]

3 Levels of ambition Guiding principles

Levels of ambition

[The levels of ambition regarding limitations or reduction GHG emissions from international shipping is agreed...]

Possible approaches⁴ to set the levels of ambition could be presented as a package or individually and have been identified as follows⁵:

Annual total GHG emissions from international shipping to be kept below a defined level

Proposals

[to maintain international shipping's annual total CO₂ emissions below 2008 levels]

[reduce international shipping's total annual CO₂ emissions by an agreed percentage by 2050, compared to 2008, as a point on a continuing trajectory of CO₂ emissions reduction]

[to reduce international shipping's total annual CO₂ emissions by at least 70%, pursuing efforts for 100% reduction, by 2050 compared to 2008, as a point on a continuing linear trajectory of CO₂ emissions reduction]

[reduce net CO₂ emissions from international shipping by 50% over 2008 (base year) by 2060, subject to amendments depending on a review of its achievability to be conducted by IMO in, for instance, 2033]

GHG emissions from international shipping to peak and then decline

Proposals

- .1 imminent peaking of GHG emissions at 2008 levels;
- .2 rapid decline in GHG emissions starting as soon as possible, but no later than 2025; and
- .3 full decarbonization (to zero GHG emissions) by 2035]

[the level of ambition must be decisive and progressive in its increase, without defining points or degrees, but committing itself with a forceful peak and with the gradual decrease to zero (0) emissions of greenhouse gases from ships, which will be progressively adjusted through a periodic review of five (5) years]

Carbon intensity of international shipping to decline

Proposals

[to reduce CO₂ emissions per tonne-km, as an average across international shipping, by at least [50%] [90%] by 2050, compared to 2008]

[improve the energy efficiency of international shipping (CO₂ emissions per transport work (tonne-miles)) by 40% over 2008 (base year) by 2030]

⁴ These approaches were not submitted to the meeting but prepared by the Chair to assist further consideration of the proposals submitted to the meeting

⁵ Language in italic are explanatory notes only and not substantial text suggested to be included in the Strategy

[Operational efficiency

To improve the energy efficiency of international shipping (EE), as an average across international shipping, by X% over (A =base year) by (B = end year).

EE = AER or other indicator

A = from 2008 to 2019 for estimates, 2020 for real data or other

B = 2030 or other to be defined

X% = to be defined, could be a range for example from 0 to X%

In the first phase, the efficiency of existing ships would be addressed to induce a more rational use of its capacity. Considering the wide recognition that operational indicators may vary significantly for similar ships performing similar trades, for reasons beyond control of operators, we propose a global operational efficiency indicator as an average across the fleet.]

Carbon intensity of the ship to decline

Proposal

[Design Efficiency

To improve the energy efficiency design index (EEDI) of new ships by further phases (or by X%) over (A =base year) by (B = end year).

EE = EEDI (energy efficiency design index) or other index

A = 2030 or other (currently EEDI phase 3 will start on 2025)

B = 2050 or other to be defined

X% = to be defined, could be a range for example from 0 to X%

In a second phase, the effective reduction of shipping emissions can only be achieved through the development of more efficient new ships. Further design indexes may be considered for application to individual ships, giving a clear market signal for technology and alternative fuels developers. We underline that the idea that ships can be constantly retrofitted along their life is misleading, as it does not take into consideration that retrofitting is often very costly and unsafe.]

Guiding principles

[Guiding principles for the initial Strategy are ...]

Possible approaches to identify the guiding principles have been identified as follows:

Reflecting principles of IMO and UNFCCC in the Strategy

Proposals:

[BEING COGNIZANT⁶ of the principles enshrined in the Convention on the Organization, including the principle of non-discrimination, as well as the principle of no more favourable treatment enshrined in MARPOL and other IMO Conventions,

BEING COGNIZANT ALSO of the principles enshrined in the UNFCCC and its Paris Agreement including the principle of common but differentiated responsibilities and respective capabilities.]

[acknowledging the principle of non-discrimination and the principle of no more favourable treatment of ships irrespective of their flags enshrined in MARPOL and other IMO conventions.]

Reflecting impacts on States, in particular LDCs and SIDS

Proposals:

[acknowledging that the impacts of measures on States, in particular on LDCs and SIDS, and their specific needs, need to be studied in advance as recognised in the Organization's High-Level Action Plan (Resolution A.1098(29)) as noted by MEPC 68 and that disproportionate impacts on specific States should be addressed.]

[Financing of technical cooperation, transfer of technology and impact assessment. All measures need to be evaluated and confronted with possible implications for States, including transport costs, cost of new measures, distance from countries, etc.]

⁶ Consequential grammatical improvements may be needed

Other guiding principles

Proposals:

Nine principles identified by MEPC 57:

- [.1 effective in contributing to the reduction of total global greenhouse gas emissions;
- .2 binding and equally applicable to all flag States in order to avoid evasion;
- .3 cost-effective;
- .4 able to limit, or at least, effectively minimize competitive distortion;
- .5 based on sustainable environmental development without penalizing global trade and growth
- .6 based on a goal-based approach and not prescribe specific methods;
- .7 supportive of promoting and facilitating technical innovation and R&D in the entire shipping sector;
- .8 accommodating to leading technologies in the field of energy efficiency; and
- .9 practical, transparent, fraud free and easy to administer.]

Guiding principles identified in document MEPC 71/7/6:

- [.1 Coherence with the multilateral climate change regime
- .2 No absolute cap
- .3 Evidence-based decision-making
- .4 Implementation of the Sustainable Development Goals (SDGs)
- .5 Recognition of specific characteristics of maritime transport
- .6 Providing the right incentives
- .7 No trade barrier or protectionist measure
- .8 Environmental integrity
- .9 Financing, technical cooperation, technology transfer and impact assessment
- .10 Adaptation]

Guiding principles identified in document ISWG-GHG 1/2/7:

- [.1 Ambitious and evidence-based
- .2 Ensure the sustainable growth of the international shipping sector
- .3 Avoid regional or unilateral measures
- .4 Inclusive in addressing Member States' concerns
- .5 Flexible in accommodating sectorial developments
- .6 Supportive of innovation and research and development
- .7 Cost-effective, practical and easy to administer
- .8 Recognition of early actions]

[The development of strategy should be evidence-based, with the final decision utilizing data from the IMO fuel consumption data collection system.]

Ensure the sustainable growth of the international shipping sector (/based on sustainable environmental development without penalizing global trade and growth).

The Strategy should be "in sector" and ensure that international shipping would not be targeted as a potential revenue source for the climate finance to the other sectors not related to the maritime industry, taking into account circumstances that are relevant to international shipping.

The Strategy should be cost-effective, practical and easy to administer.

The Strategy should recognize and motivate early actions.]

Operationalizing CBDR-RC in international shipping.

Proposal:

[Developed countries take the lead
Geography
Low value cargo
Transport costs
Route-based, phased approach
Readiness]

4 List of candidate short-, mid- and long-term further measures with possible timelines and their impacts on States

Timelines

4.1 Candidate measures for inclusion in the initial IMO GHG Strategy should be consistent with the following timelines:

- .1 possible short-term measures could be measures finalized and agreed by the MEPC between 2018 and 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 possible mid-term measures could be measures finalized and agreed by the MEPC between 2023 and 2030. Dates of entry into force 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 MEPC 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 When the measures could effectively start to reduce GHG emissions should be identified.

4.3 In aiming for early action, the timeline for the short-term measures should not preclude potential early measures that the Organization could develop with a view to achieve reduction of GHG emissions from international shipping before 2023.

Candidate short-term measures

4.4 The following candidate measures⁷ represent possible short-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

[Measures the effect of which is to directly reduce GHG emissions from ships:]

- .1 further improvement of the existing energy efficiency framework with a focus on EEDI and SEEMP, taking into account the outcome of the review of EEDI regulations;
- .2 technical and operational energy efficiency measures for both new and existing ships, including consideration of indicators in line with the three-step approach that can be utilized to indicate and enhance the energy efficiency performance of shipping (e.g. AER, EESH, ISPI, FORS);
- .3 establish an Existing Fleet Improvement Programme;
- .4 consider and analyse the use of speed reduction as a measure, taking into account safety issues, distance travelled, distortion of the market or to trade and that such measure does not impact on shipping's capability to serve remote geographic areas; and
- .5 consider and analyse measures to address emissions of methane and further enhance measures to address emissions of Volatile Organic Compounds.

[Measures which support action to reduce GHG emissions from ships:]

- .6 encourage the development and update of national action plans to develop policies and strategies to address GHG emissions from international shipping in accordance with guidelines to be developed by the Organization, taking into account the need to avoid regional or unilateral measures;
- .7 continue and enhance technical cooperation and capacity-building activities under the ITCP;
- .8 consider and analyse measures to encourage port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shore-side/on-shore power supply from renewable sources, infrastructure to support supply of alternative low carbon and zero-carbon fuels, and to further optimize the logistic chain and its planning, including ports;
- .9 initiate research and development activities addressing marine propulsion, alternative low-carbon and zero-carbon fuels, and innovative technologies to further enhance the energy efficiency of ships and establish an International Maritime Research Board to coordinate and oversee these R&D efforts;
- .10 incentives for first movers to develop and take up new technologies;

⁷ The Initial IMO Strategy is subject to revision based on fuel oil consumption data collected during 2019-2021 and does not prejudice any specific further measures that may be implemented in phase 3 of the three-step approach.

- .11 develop robust lifecycle GHG/carbon intensity guidelines for all types of fuels, in order to prepare for an implementation programme for effective uptake of alternative low-carbon and zero-carbon fuels;
- .12 actively promote the work of the Organization to the international community, in particular, to highlight that the Organization, since the 1990's, has developed and adopted technical and operational measures that have consistently provided a reduction of air emissions from ships, and that measures could support the Sustainable Development Goals, including SDG 13 on Climate Change; and
- .13 undertake additional GHG emission studies and consider other studies to inform policy decisions, including the updating of Marginal Abatement Cost Curves and alternative low carbon and zero-carbon fuels.

Candidate mid-term measures

4.5 The following candidate measures represent possible mid-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

[Measures the effect of which is to directly reduce GHG emissions from ships:]

- .1 implementation programme for 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; and
- .3 new/innovative emission reduction mechanism(s), possibly including Market-based Measures (MBMs), to incentivize GHG emission reduction.

[Measures which support action to reduce GHG emissions from ships:]

- .4 further continue and enhance technical cooperation and capacity building activities such as under the ITCP; 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

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

[Measures the effect of which is to directly reduce GHG emissions from ships or support action to reduce 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 other possible new/innovative emission reduction mechanism(s).

Impacts on States

4.7 The impacts on States of each measure should be assessed before adoption of the measure.

5 Barriers and supportive measures; capacity building and technical cooperation; R&D

5.1 The Organization recognizes that developing countries, in particular the LDCs and SIDSs, have special requirements with regard to capacity building and technical cooperation.

5.2 The Organization acknowledges that the development and availability of new energy sources is a specific barrier to the implementation of various measures.

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

5.4 The Organization should provide mechanisms for facilitating information sharing, technology transfer, capacity building and technical cooperation. These mechanisms could leverage off initiatives such as the Global Maritime Energy Efficiency Partnership (GloMEEP) Project and the Global Maritime Network (GMN) Project, in accordance with resolution MEPC.229(65) on *Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships*. The Organization also encourages initiatives such as the IMO-DNV GL Energy Efficiency Appraisal Tool designed to facilitate the assessment of various energy efficiency technologies and measures.

6 Follow-up actions towards the development of the revised Strategy

6.1 A programme of follow-up actions of the initial Strategy should be developed.

6.2 The key stages for the adoption of a revised Strategy in 2023 as set out in the Roadmap, are as follows:

April 2018	Adoption of initial IMO Strategy (MEPC 72)
January 2019	Start of step 1: data collection
Spring 2019	Initiation of fourth IMO GHG Study (MEPC 74)
Summer 2020	2019 fuel oil consumption data reported to IMO
Autumn 2020	Start of step 2: data analysis
	Fourth IMO GHG Study completed for consideration by MEPC 76
Spring 2021	Secretariat reports on 2019 data (MEPC 77)
	Initiation of work on adjustments to initial IMO Strategy
Summer 2021	2020 fuel oil consumption data reported to IMO
Spring 2022	Step 3: decision making
	Secretariat reports on 2020 data (MEPC 78)
Summer 2022	2021 fuel oil consumption data reported to IMO
Spring 2023	Secretariat reports on 2021 data (MEPC 80)
	Adoption of revised Strategy (MEPC 80)

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

7 Periodic review of the Strategy

[7.1 The revised Strategy will be subject to a review [five] [ten] years after its final adoption.

7.2 The Organization shall undertake the review including defining the scope of the review and its terms of reference.]]
