

INTERSESSIONAL MEETING OF THE
WORKING GROUP ON REDUCTION OF
GHG EMISSIONS FROM SHIPS
7th session
Agenda item 2

ISWG-GHG 7/2/26
18 September 2020
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 a mandatory goal-based technical and operational short-term measure
with combination of EEXI, SEEMP, CII and rating mechanism**

**Submitted by China, Croatia, Denmark, France, Germany, Ghana, India, Italy, Japan,
Malaysia, Nigeria, Norway, Republic of Korea Singapore, Spain,
United Arab Emirates and ICS**

SUMMARY

Executive summary: This document contains a proposal to combine the measures submitted by documents ISWG-GHG 7/2/6, ISWG-GHG 7/2/9, ISWG-GHG 7/2/14 and ISWG-GHG 7/2/21

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 32

Related documents: ISWG-GHG 7/2/6, ISWG-GHG 7/2/7, ISWG-GHG 7/2/9, ISWG-GHG 7/2/14 and ISWG-GHG 7/2/21

Introduction

1 The Marine Environment Protection Committee, at its seventy-fourth session (13 to 17 May 2019), instructed the Working Group on Reduction of GHG Emissions from Ships at its sixth and seventh intersessional meeting (ISWG-GHG 6 and ISWG-GHG 7) to further consider concrete proposals to improve the operational energy efficiency of existing ships, to develop draft amendments to Chapter 4 of MARPOL Annex VI and associated Guidelines, as appropriate. This document is submitted in accordance with paragraph 9 of Circular Letter No.4181/Rev.1 on the Resumption of the seventh session of the Intersessional Working Group on Reduction of GHG Emissions from Ships (ISWG-GHG 7).

2 ISWG-GHG 6 (11 to 15 November 2019), agreed that goal-based measures should be pursued and that two approaches (i.e. technical and operational) should be further developed in parallel, taking into account the comments made at this meeting. In this respect, the Group noted that Japan offered to informally coordinate future work on the technical approach while China, Denmark and France offered to coordinate the future submission on the operational approach, noting that it would benefit from collaborative approaches. Soon after that, Germany joined the group of coordinators.

3 This proposal is submitted in accordance with the procedures specified in paragraphs 8 and 9 of Circular Letter No.4181/Rev.1.

4 Greece, Japan, Norway, Panama, the United Arab Emirates, ICS, BIMCO and INTERTANKO proposed on 7 February 2020, amendments to add the technical approach of the Energy Efficiency Existing Ship Index (EEXI) into Annex VI of the MARPOL Convention (ISWG-GHG 7/2/6). The co-sponsors of document ISWG-GHG 7/2/6 also proposed a first version of the associated guidelines (ISWG-GHG 7/2/7).

5 Denmark, France, and Germany proposed on 7 February 2020 amendments to add the operational approach of the Carbon Intensity Indicator (CII) into MARPOL Annex VI (ISWG-GHG 7/2/9).

6 Greece, Japan and Norway proposed on 7 February 2020 amendments to add strengthening of the Ship Energy Efficiency Management Plan (SEEMP) with mandatory elements into MARPOL Annex VI (ISWG-GHG 7/2/14).

7 China and Brazil proposed on 7 February 2020 amendments to Annex VI of the MARPOL Convention and the sketches of supporting guidelines to introduce a carbon intensity rating mechanism as an operational approach (ISWG-GHG 7/2/21).

8 The informal meeting of the intersessional group, held from 6 to 10 July 2020, highlighted the interest of delegations in the proposed measures (EEXI, SEEMP, CII and rating mechanism) and the need to combine these complementary approaches. At the end of this informal session, the Secretariat and the moderator of the informal group invited the coordinating States identified at ISWG-GHG 6 to work together to develop a common proposal.

9 Within a very limited timeframe, China, Denmark, France, Germany, Japan and Norway worked actively to find a proposal combining EEXI, SEEMP, CII and a rating mechanism.

10 In the context of this work, the co-sponsors identified points on which there was no consensus and considered that it was necessary for the intersessional group and all Member States to be able to discuss these issues before the Working Group could formulate a proposal to MEPC 75. Part A of the document contains the elements agreed by the co-sponsors. Part B contains the different options presented by the co-sponsors.

11 The proposal laid out in this document combines proposals for which an impact assessment has been submitted to ISWG-GHG 7, namely documents ISWG-GHG 7/2/6 (EEXI), ISWG-GHG 7/2/9 (CII), ISWG-GHG 7/2/14 (SEEMP) and ISWG-GHG 7/2/21 (CII rating). The impact assessment on these proposals is provided in documents ISWG-GHG 6/2 and ISWG-GHG 7/2/8 (EEXI), ISWG-GHG 6/2/1 and ISWG-GHG 7/2/20 (CII), ISWG-GHG 5/4 (SEEMP) and ISWG-GHG 7/2/21 (CII rating), respectively.

PART A – Agreement part: A combined technical and operational goal-based framework

12 The co-sponsors propose a combination of mandatory goal-based short-term measures where ships must comply with both operational and technical requirements on carbon intensity to achieve the levels of ambition in the Initial IMO GHG Strategy, consisting of the following elements:

- .1 to use the EEXI mechanism as a basis. All ships subject to this mechanism must be certified with the EEXI meeting the required level;
- .2 to use the SEEMP scheme as a tool for managing energy efficiency in a similar way to ISM, and the shipowners may choose measures to reduce emissions;
- .3 to use the CII, calculated on the basis of data in the Data Collection System, to rate each ship according to how its CII relates to an agreed CII reference line, and classify the ship annually in a category (A,B,C,D or E) according to its annual attained CII; and
- .4 to define a review clause for 2026 or 2027 based on an evaluation of the measure.

13 The elements defined by guidelines may include in particular but not be limited to:

- .1 updates of the SEEMP;
- .2 method to calculate CII;
- .3 method to develop CII baselines and reduction factors;
- .4 method to define the width of each rating category; and
- .5 updates to/of PSC guidelines (need to add Chapter 4 of Annex VI to the existing guidelines).

14 It is also necessary to amend the *2017 Guidelines for the development and management of the IMO ship fuel oil consumption database* (Resolution MEPC.293(71)), so that the Secretariat report to MEPC can integrate the aggregated data from the CII and the rating mechanism or otherwise the Committee may identify this as "other relevant information" for inclusion in the annual report to the Committee.

15 The list of guidelines to be created or updated could be as follows:

New guidelines:¹

- .1 Guidelines on the method of calculation of the attained EEXI;
- .2 Guidelines on survey and certification of the attained EEXI;
- .3 Guidelines on the Shaft/Engine Power Limitation System to comply with the EEXI requirements and use of a power reserve;

¹ These guidelines can be consolidated with or incorporated into other guidelines.

- .4 Guidelines on determination of the required annual operational Carbon Intensity Indicator (CII);
- .5 Guidelines on calculation and verification of the attained annual Carbon Intensity Indicator (CII);
- .6 Guidelines on the operational carbon intensity rating of ships; and
- .7 Guidelines on the development of a plan of corrective actions to achieve the required annual operational Carbon Intensity Indicator (CII).

Existing guidelines:

- .1 *2016 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*;
- .2 *[2017 Guidelines for the development and management of the IMO Ship Fuel Oil Consumption Database]*; and
- .3 *2019 Guidelines for port State control under MARPOL Annex VI Chapter 3 (to include provisions on Chapter 4 of MARPOL Annex VI)*.

PART B – Main differences

16 In developing the legal framework of the aforementioned short-term measure, divergent views were raised by the co-sponsors on some specific elements. Therefore, the co-sponsors put these elements in square brackets in the draft amendment to MARPOL Annex VI as set out in annex to this document for further consideration by the Working Group. In particular, specific options entailing these issues where agreement is aimed to be reached are listed below.

17 The co-sponsors preferred not to increase the number of options to avoid complicating the content of the proposal. It is acknowledged that other options or combinations of options are conceivable.

Scope

Option 1.1:

18 Applying the CII rating to ships of 5,000 GT and above.

Option 1.2:

19 Applying the CII rating to ships of 400 GT and above.

Actions to be implemented for ships with inferior rating

Option 2.1:

20 Ships rated as D for three consecutive years or as E, shall develop a plan of corrective actions which may include any technical and/or operational actions as appropriate in a goal-based manner to achieve the required annual operational CII and update the SEEMP to include the plan accordingly, taking into account guidelines developed by the Organization. The updated SEEMP shall be submitted to the Administration or any organization duly authorized by it within one month after reporting of the attained annual operational CII for verification.

21 Ships rated as D for three consecutive years or rated as E shall duly undertake the planned corrective actions in accordance with the updated SEEMP.

22 The mechanism under Option 2.1 shall be continuously implemented based on the operational CII rating.

Option 2.2:

23 Ships rated as D or E in 2024 and after, shall develop a plan of corrective actions in the same way as in Option 2.1

24 In 2025, ships rated as a maximum level D and E for three consecutive years have to improve their EEXI as appropriate in a goal-based manner by an additional X%. Ships rated D would need to improve their EEXI by $X_{1D}\%$ and ships rated E by $X_{1E}\%$ ($X_{1E} > X_{1D}$). X_{1D} and X_{1E} are specific to each ship type. On these dates the Statement of Compliance is only issued if the action plan is validated and a new IEE Certificate is reissued.

25 After a new period (2027), ships which remained in categories E and D have to improve their EEXI as appropriate, on the same principle, but with values that could be different (X_{2D} and X_{2E}).

26 A ship rated E after the 1st January 2029 and a ship rated D after 1 January 2030 shall not be issued a Statement of Compliance.

27 The EEXI improvement in 2025 or 2027 as well as the refusal to issue Statement of Compliance to ships with inferior CII ratings will be subject to the [2026][2027] review.

Option 2.3:

28 This option shares some elements with Option 2.2, but with the following key differences:

- .1 ships rated as D for three consecutive years or E shall develop a plan of corrective actions;
- .2 the application of the additional EEXI improvement will be subject to the [2026][2027] review, and the starting year is 2027 or 2028;
- .3 ships rated C or better for three or more consecutive years after applying an improved EEXI may revert to the required EEXI pursuant to regulation 21A; and

- .4 a ship rated E after 1 January 2029 and a ship rated D after 1 January 2030 can be issued a Statement of Compliance after applying appropriate corrective actions.

Reduction factors for the EEXI relative to the EEDI reference line in Table 3 under regulation 21A

Option 3.1

- 29 Reduction factors as given out in square brackets in the annex to this document.

Option 3.2

- 30 Reduction factors depending on the potential further reduction factors to be applied to D or E ships in option 2.2 and 2.3.

Proposal

- 31 The co-sponsors invite the Working Group to:
- .1 consider the remaining issues particularly specified in part B (paragraphs 16 to 30) of this document; and
 - .2 finalize the draft amendments to MARPOL Annex VI to incorporate mandatory operational goal-based short-term measure with combination of EEXI, SEEMP, CII and rating mechanism as set out in annex of this document with a view to further consideration and approval by MEPC 75.

Action requested of the Working Group

- 32 The Group is invited to consider the proposals set out in this document and take action as appropriate.

ANNEX

DRAFT AMENDMENTS TO MARPOL ANNEX VI

(Mandatory goal-based technical and operational measures to reduce carbon intensity of international shipping)

(shown as additions/deletions)

CHAPTER I - GENERAL

Regulation 1

Application

The provisions of this Annex shall apply to all ships, except where expressly provided otherwise in regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 20A, 21, 21A, ~~22~~, and 22A and 22B of this Annex.

Regulation 2

Definitions

24 *Major Conversion* means in relation to chapter 4 of this Annex a conversion of a ship:

- .5 which substantially alters the energy efficiency of the ship and includes any modifications that could cause the ship to exceed the applicable required EEDI as set out in regulation 21 or required EEXI as set out in regulation 21A of this Annex.

36 *Attained EEDI* is the EEDI value achieved by an individual ship in accordance with regulation 20 of this Annex.

36A *Attained EEXI* is the EEXI value achieved by an individual ship in accordance with regulation 20A of this Annex.

36B *Attained annual operational CII* is the operational carbon intensity indicator value achieved by an individual ship in accordance with regulation 22 and 22B of this Annex.

37 *Required EEDI* is the maximum value of attained EEDI that is allowed by regulation 21 of this Annex for the specific ship type and size.

37A *Required EEXI* is the maximum value of attained EEXI that is allowed by regulation 21A of this Annex for the specific ship type and size.

37B *Required annual operational CII* is the target value of attained CII in accordance with regulation 22 and 22B of this Annex for the specific ship type and size.

CHAPTER II - SURVEY, CERTIFICATION AND MEANS OF CONTROL

Regulation 5

Surveys

4 Ships to which chapter 4 of this Annex applies shall also be subject to the surveys specified below, taking into account guidelines adopted by the Organization**:

.5 the Administration shall ensure that for each ship to which regulation 22A applies, the SEEMP complies with regulation 22.2 of this Annex. This shall be done prior to collecting data under regulation 22A of this Annex in order to ensure the methodology and processes are in place prior to the beginning of the ship's first reporting period. Confirmation of compliance shall be provided to and retained on board the ship.

.5bis the Administration shall ensure that for each ship to which regulation 22B applies, the SEEMP complies with regulation 22.3 of this Annex. This shall be done prior to [1 January 202X]. Confirmation of compliance shall be provided to and retained on board the ship.

.6 the verification of the ship's EEXI according to regulations 20A and 21A of this Annex shall take place at the first [annual,] intermediate or renewal survey identified in paragraphs 1 of this regulation or the initial survey identified in paragraph 4.1 and 4.3 of this regulation, whichever is the first, on or after [date of entry into force]; and

.7 notwithstanding paragraph 4.6 of this regulation, a general or partial survey, according to the circumstances, after a major conversion of a ship to which regulation 20A applies. The survey shall ensure that the ship's EEXI is recalculated as necessary and meets the requirement of regulation 21A of this Annex.

(Applies to Options 2.2 and 2.3 only)

.8 An additional survey either general or partial, according to the circumstances, shall be made for ships to which regulation [22B.10][22B.12] applies. The survey shall ensure that the ship's EEXI is recalculated as necessary and meets the requirement of regulation 21A and [22B.10][22B.12] of this Annex.

Regulation 6

Issue or endorsement of Certificates and Statements of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

** Refer to the 2014 Guidelines on survey and certification of the Energy Efficiency Design Index (resolution MEPC.254(67), as amended by resolutions MEPC.261(68) and MEPC.309(73); consolidated text:MEPC.1/Circ.855/Rev.2), as may be further amended.

6 Upon receipt of reported data pursuant to regulation 22A.3 of this Annex and attained annual operational CII pursuant to regulation 22B.2 of this Annex, the Administration or any organization duly authorized by it shall determine whether the data has been reported in accordance with regulation 22A of this Annex and performance against the required annual operational CII with the operational carbon intensity rating has been verified in accordance with regulation 22B.9 of this Annex. Following the determination and the verification, the Administration or any organization duly authorized by it shall, ~~if so,~~ issue a Statement of Compliance related to fuel oil consumption and annual operational CII rating to the ship no later than five months from the beginning of the calendar year. In every case, the Administration assumes full responsibility for this Statement of Compliance.

7 Upon receipt of reported data pursuant to regulations 22A.4, 22A.5 or 22A.6 of this Annex and attained annual operational CII pursuant to regulation 22B.3, 22B.4 or 22B.5 of this Annex, the Administration or any organization duly authorized by it* shall promptly determine whether the data has been reported in accordance with regulation 22A and performance against the required annual operational CII with the operational carbon intensity rating has been verified in accordance with regulation 22B.9 of this Annex. Following the determination and the verification, the Administration or any organization duly authorized by it shall, ~~if so,~~ issue a Statement of Compliance related to fuel oil consumption and annual operational CII rating to the ship at that time. In every case, the Administration assumes full responsibility for this Statement of Compliance.

(Applies to Option 2.1 and 2.3 only)

[8 Notwithstanding paragraphs 6 and 7 of this regulation, a ship rated as D for three consecutive years or rated as E in accordance with regulation 22B of this Annex shall not be issued a Statement of Compliance related to annual operational CII unless a plan of corrective actions are duly developed and reflected to the SEEMP and verified by the Administration or any organization duly authorized by it in accordance with regulation 22B.10 of this Annex. The plan of corrective actions shall be submitted to the Administration, or any organization duly authorized by it for verification within one month after reporting of the attained annual operational CII]

(Applies to Option 2.2 only)

[8 Notwithstanding paragraphs 6 and 7 of this regulation, a ship rated E after the 1st January 2029 and a ship rated D after the 1st January 2030 shall not be issued a Statement of Compliance. The plan of corrective actions shall be submitted to the Administration, or any organization duly authorized by it for verification within one month after reporting of the attained annual operational CII.

9 Notwithstanding paragraphs 6 and 7 of this regulation, a ship for which the reduction factor of Regulation 21A is increased according to Regulation 22B10 shall not be issued a Statement of Compliance, as long as a new IEEC certificate has not been re-issued.]

(Applies to Option 2.3 only)

[9 Notwithstanding paragraphs 6 and 7 of this regulation, a ship for which the reduction factor of Regulation 21A is increased according to Regulation 22B.12 shall not be issued a Statement of Compliance, as long as a new IEEC certificate has not been re-issued.]

Regulation 8

Form of Certificates and Statements of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

Statement of Compliance related to fuel oil Consumption Reporting and operational carbon intensity rating

3 The Statement of Compliance pursuant to regulations 6.6 and 6.7 of this Annex shall be drawn up in a form corresponding to the model given in appendix X to this Annex and shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.

Regulation 9

Duration and Validity of Certificates and Statements of Compliance related to fuel oil consumption reporting

11 An International Energy Efficiency Certificate issued under this Annex shall cease to be valid in any of the following cases:

- .3 if the ship's equipment, systems, fittings, arrangements, or material covered by the survey was changed without the express approval of the Administration in accordance with regulation 5.5 of this Annex, unless regulation 3 of this Annex applies; and

Statement of Compliance related to fuel oil consumption reporting and operational carbon intensity rating

12 The Statement of Compliance pursuant to regulation 6.6 of this Annex shall be valid for the calendar year in which it is issued and for the first five months of the following calendar year. The Statement of Compliance pursuant to regulation 6.7 of this Annex shall be valid for the calendar year in which it is issued, for the following calendar year, and for the first five months of the subsequent calendar year. All Statements of Compliance [issued to the ship during its life] shall be kept on board [for at least five years] ~~the period of their validity.~~

Regulation 10

Port State control on operational requirements

5 In relation to chapter 4 of this Annex, any port State inspection ~~may be limited to verifying~~, when appropriate, that there is a valid Statement of Compliance related to fuel oil consumption reporting and operational CII rating, an International Energy Efficiency Certificate and Ship Energy Efficiency Management Plan on board, in accordance with article 5 of the Convention.²

6 Notwithstanding the requirements in paragraph 5 of this regulation, any port State inspection may inspect whether the Ship Energy Efficiency Management Plan is duly implemented by the ship in accordance with regulation 22B of this Annex.

² The co-sponsors identified the need to work on a draft PSC guideline for Chapter 4 of MARPOL Annex VI in order in particular to specify the scope of the PSC's action on the effective implementation of equipment enabling EEXI compliance, as well as on the verification of the implementation of action plans and SEEMP (Regulation 22B).

CHAPTER IV - REGULATIONS ON THE CARBON INTENSITY OF INTERNATIONAL SHIPPING ENERGY EFFICIENCY FOR SHIPS

Regulation 19

Application

3 Regulations 20, 20A, and 21 and 21A of this Annex shall not apply to ships which have non-conventional propulsion, except that regulations 20 and 21 shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion, delivered on or after 1 September 2019, as defined in paragraph 43 of regulation 2 and regulations 20A and 21A shall apply to cruise passenger ships having non-conventional propulsion and LNG carriers having conventional or non-conventional propulsion. Regulations 20, 20A, and 21, 21A and 22B shall not apply to category A ships as defined in the Polar Code.

Regulation 19bis

Goal

The goal of this chapter is to reduce the carbon intensity of international shipping, working towards the levels of ambition set out in the Initial IMO Strategy on reduction of GHG emissions from ships.

Regulation 19ter

Functional requirements

1 In order to achieve the goal set out in regulation 19bis of this Annex, the following functional requirements are embodied in the provisions of this regulation to reduce the carbon intensity of the ship, which can be expressed both in terms of operational and technical carbon intensity requirements.

2 A ship to which this chapter applies shall comply, as applicable, with the technical carbon intensity requirements in accordance with regulation 20, 20A, 21 and 21A of this Annex.

3 A ship to which this chapter applies shall comply, as applicable, with the operational carbon intensity requirements in accordance with regulation 22, 22A and 22B of this Annex.

Regulation 20

Attained Energy Efficiency Design Index (Attained EEDI)

(...)

Regulation 20A

Attained Energy Efficiency Existing Ship Index (EEXI)

1 The attained EEXI shall be calculated for:

.1 each ship; and

.2 each ship which has undergone a major conversion,

which falls into one or more of the categories in regulations 2.25 to 2.35, 2.38 and 2.39 of this Annex. The attained EEXI shall be specific to each ship and shall indicate the estimated performance of the ship in terms of energy efficiency, and be accompanied by the EEXI technical file that contains the information necessary for the calculation of the attained EEXI and that shows the process of the calculation. The attained EEXI shall be verified, based on the EEXI technical file, either by the Administration or by any organization duly authorized by it*.

2 The attained EEXI shall be calculated taking into account guidelines** developed by the Organization.

3 For each ship to which regulation 20 of this Annex applies, the attained EEDI may be used as an alternative to the attained EEXI, if the value of the attained EEDI is equal to or smaller than that of the required EEXI. In such cases, the attained EEDI shall be verified based on the EEDI technical file, in accordance with regulation 20.1 of this Annex.

Regulation 21

Required EEDI

(...)

Regulation 21A

Required EEXI

1 For :

.1 each ship; and

.2 each ship which has undergone a major conversion

which falls into one of the categories in regulations 2.25 to 2.31, 2.33 to 2.35, 2.38 and 2.39 and to which this chapter is applicable, the attained EEXI shall be as follows:

$$\text{Attained EEXI} \leq \text{Required EEXI} = (1 - Y/100) \times \text{EEDI Reference line value}$$

where Y is the reduction factor specified in Table 3 for the required EEXI compared to the EEDI reference line.

Table 3. Reduction factors (in percentage) for the EEXI relative to the EEDI reference line

<u>Ship type</u>	<u>Size</u>	<u>Reduction factor</u>
<u>Bulk carrier</u>	<u>20,000 DWT and Above</u>	<u>[20]</u>
	<u>10,000 and above but less than 20,000 DWT</u>	<u>[0-20*]</u>
<u>Gas carrier</u>	<u>15,000 DWT and above</u>	<u>[30]</u>
	<u>10,000 and above but less than 15,000 DWT</u>	<u>[20]</u>

* Refer to Code for Recognized Organizations (RO Code), adopted by the MEPC by resolution MEPC.237(65), as may be amended.

** Guidelines on the method of calculation of the Energy Efficiency Existing Ship Index to be developed by the Organization.

	<u>2,000 and above but less than 10,000 DWT</u>	[0-20*]
<u>Tanker</u>	<u>20,000 DWT and above</u>	[20]
	<u>4,000 and above but less than 20,000 DWT</u>	[0-20*]
<u>Containership</u>	<u>200,000 DWT and above</u>	[50]
	<u>120,000 and above but less than 200,000 DWT</u>	[45]
	<u>80,000 and above but less than 120,000 DWT</u>	[40]
	<u>40,000 and above but less than 80,000 DWT</u>	[35]
	<u>15,000 and above but less than 40,000 DWT</u>	[30]
	<u>10,000 and above but less than 15,000 DWT</u>	[15-30*]
<u>General cargo ship</u>	<u>15,000 DWT and above</u>	[30]
	<u>3,000 and above but less than 15,000 DWT</u>	[0-30*]
<u>Refrigerated cargo carrier</u>	<u>5,000 DWT and above</u>	[15]
	<u>3,000 and above but less than 5,000 DWT</u>	[0-15*]
<u>Combination carrier</u>	<u>20,000 DWT and above</u>	[20]
	<u>4,000 and above but less than 20,000 DWT</u>	[0-20*]
<u>LNG carrier</u>	<u>10,000 DWT and above</u>	[30]
<u>Ro-ro cargo ship (vehicle carrier)</u>	<u>10,000 DWT and above</u>	[15]
<u>Ro-ro cargo ship</u>	<u>2,000 DWT and above</u>	[20]
	<u>1,000 and above but less than 2,000 DWT</u>	[0-20*]
<u>Ro-ro passenger ship</u>	<u>1,000 DWT and Above</u>	[20]
	<u>250 and above but less than 1,000 DWT</u>	[0-20*]
<u>Cruise passenger ship having non-conventional propulsion</u>	<u>85,000 GT and above</u>	[30]
	<u>25,000 and above but less than 85,000 GT</u>	[0-30*]

* Reduction factor to be linearly interpolated between the two values dependent upon ship size. The lower value of the reduction factor is to be applied to the smaller ship size.

2 The EEDI reference line values shall be calculated in accordance with regulations 21.3 and 21.4 of this Annex. For ro-ro cargo ships and ro-ro passenger ships, the reference line value to be used from phase 2 and thereafter under regulation 21.3 of this Annex shall be referred.

3 By the end of [2026][2027], the Organization shall review the status of implementation and effect of this regulation and, if proven necessary, amend the relevant regulations as appropriate.

Regulation 22

Ship Energy Efficiency Management Plan (SEEMP)

1 Each ship shall keep on board a ship specific Ship Energy Efficiency Management Plan (SEEMP). This may form part of the ship's Safety Management System (SMS). The SEEMP shall be developed and updated, taking into account Guidelines adopted by the Organization.

2 On or before 31 December 2018, in the case of a ship of 5,000 gross tonnage and above, SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 22A.1 of this Annex and the processes that will be used to report the data to the ship's Administration.

3 On or before [1 January 202X], in case of a ship of [5,000][400] gross tonnage and above, the SEEMP shall include:

.1 required annual operational Carbon Intensity Indicator (CII) for the next [three][five] years, as specified in regulation 22B of this Annex;

.2 an implementation plan documenting how the required annual operational CII will be achieved; and

.3 a procedure for self-evaluation and improvement.

(Applies to Option 2.1 and 2.3 only)

[4 For ships rated as D for three consecutive years or rated as E in accordance with regulation 22B of this Annex for its attained annual operational CII, the SEEMP shall be updated to include a plan of corrective actions to achieve the required annual operational CII in accordance with regulation 22B.10 of this Annex.]

[5 For ships for which Chapter IX of the International Convention for the Safety of Life at Sea (SOLAS), 1974 applies, the implementation of the SEEMP shall be subject to verification at ISM Code shipboard and company audits taking into account guidelines adopted by the Organization.]

(Applies to Option 2.2 only)

[4 For ships rated as D or E in accordance with regulation 22B of this Annex for its attained annual operational CII, the SEEMP shall be updated to include a plan of corrective actions to achieve the required annual operational CII in accordance with regulation 22B.8 of this Annex.]

Regulation 22A

Collection and reporting of ship fuel oil consumption data
(...)

Regulation 22B

Operational carbon intensity

Attained annual operational carbon intensity indicator (CII)

1 Except as provided for in paragraphs 3, 4 and 5 of this regulation, at the end of each calendar year, each ship of [5,000][400] gross tonnage and above shall calculate the attained annual operational CII over a 12-month period from 1 January to 31 December in that calendar year, using the data collected in accordance with regulation 22A of this Annex, taking into account guidelines developed by the Organization³.

2 Except as provided for in paragraphs 3, 4 and 5 of this regulation, within three months after the end of each calendar year, the ship shall report to its Administration or any organization duly authorized by it, the attained annual operational CII, via electronic communication and using a standardized format to be developed by the Organization.

3 In the event of the transfer of a ship from one Administration to another, the ship shall on the day of completion of the transfer or as close as practical thereto report to the losing Administration or any organization duly authorized by it, the attained annual operational CII over the period of the calendar year corresponding to that Administration.

4 In the event of a change from one Company to another, the ship shall on the day of completion of the change or as close as practical thereto report to its Administration or any organization duly authorized by it, the attained annual operational CII over the calendar year corresponding to the Company.

5 In the event of change from one Administration to another and from one Company to another concurrently, paragraph 3 of this regulation shall apply.

Required annual operational CII

6 For each ship of [5,000][400] gross tonnage and above, the required annual operational CII shall be determined as follows:

$$\text{Required annual operational CII} = (1 - Z/100) \times \text{CII}_R$$

where,

Z is the annual reduction factor; and

CII_R is the reference value.

7 The annual reduction factor Z⁴ and the reference value CII_R are the values as defined in the guidelines to be developed by the Organization.

8 Each ship of [5,000][400] gross tonnage and above shall follow the implementation plan documented in the SEEMP to achieve the required annual operational CII set out in paragraph 6 of this regulation.

Operational CII rating

9 Performance against the required annual operational CII shall be verified and documented with operational carbon intensity rating A, B, C, D or E, indicating a major superior, minor superior, moderate, minor inferior, or inferior performance level, either by the Administration or by any organization duly authorized by it, taking into account guidelines

³ Refer to the 2016 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP Guidelines) Resolution MEPC.282(70) as may be amended)

⁴ The annual reduction factor is specific to each category of vessel and is a function of the size of the vessel. This factor is defined to increase progressively to meet the objectives of the initial IMO Strategy.

developed by the Organization. The middle point of rating level C shall be the value equivalent to the required annual operational CII set out in paragraph 6 of this regulation.

Corrective actions

(Applies to Option 2.1 and 2.3 only)

[10 In case where a ship's attained annual operational CII is calculated to be rated as D for three consecutive years or rated as E, the ship shall develop a plan of corrective actions⁵ to achieve the required annual operational CII and update the SEEMP to include the plan accordingly, taking into account guidelines developed by the Organization. The updated SEEMP shall be submitted to the Administration or any organization duly authorized by it for verification within one month after reporting the attained annual operational CII in accordance with paragraph 2 of this regulation.

11 A ship rated as D for three consecutive years or rated as E shall duly undertake the planned corrective actions in accordance with the updated SEEMP.]

(Applies to Option 2.2 only)

[10.

- .1 The 1st January [2025] a ship's attained annual operational CII is calculated to be rated as a maximum level D for three consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{1D} .
- .2 The 1st January [2025] a ship's attained annual operational CII is calculated to be rated as a maximum level E for three consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{1E} .
- .3 The 1st January [2027] a ship's attained annual operational CII is calculated to be rated as a maximum level D for three consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{2D} .
- .4 The 1st January [2027] a ship's attained annual operational CII is calculated to be rated as a maximum level E for three consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{2E} .

10bis A ship rated as D or rated as E shall duly undertake the planned corrective actions in accordance with the updated SEEMP.

11 The factors X_{1D} , X_{1E} , X_{2D} , and X_{2E} are specific to each ship category as defined in the guidelines to be developed by the Organization].

(Applies to Option 2.3 only)

[12 After 1 January [2027][2028], for a ship to which regulation 21A of this Annex applies, the following shall apply:

⁵ The guidance for the corrective actions that should be considered and incorporated in the SEEMP by ships rated as D for three consecutive years or rated as E would be developed in the Guidelines and could be differentiated between ships by their ratings.

- .1 A ship with operational carbon intensity rating D for three consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{1D} .
- .2 A ship with operational carbon intensity rating E must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{1E} .
- .3 A ship with operational carbon intensity rating D for four consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{2D} .
- .4 A ship with operational carbon intensity rating E for two consecutive years must be re-certified under Regulation 21A and 5.4.7. The reduction factor of Regulation 21A is increased by X_{2E} .
- .5 A ship with operational carbon intensity rating C or better for three or more consecutive years after applying an improved EEXI may revert to the required EEXI in Regulation 21A.

13 The factors X_{1D} , X_{1E} , X_{2D} , and X_{2E} are specific to each ship category as defined in the guidelines to be developed by the Organization].

Incentives

12 The Administrations, ports authorities and other stakeholders as relevant are encouraged to provide incentives to the ships rated as A or B.

Review

13 By the end of [2026][2027], the Organization shall review the status of implementation and effect of this regulation and, if proven necessary, amend the relevant regulations as appropriate.

(Applies to Option 2.2 and 2.3 only)

[14 Based on of the analysis of emission reduction results and the information provided by the review, the Organization may decide not to apply the provisions of paragraph [10.3, 10.4 or 10bis.][12]

APPENDIX VIII

Form of International Energy Efficiency (IEE) Certificate

INTERNATIONAL ENERGY EFFICIENCY CERTIFICATE

Issued under the provisions of the Protocol of 1997, as amended, to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....
(Full designation of the Party)

by
(Full designation of the competent person or organization authorized under the provisions of the Convention)

Particulars of ship⁶

Name of ship

Distinctive number or letters

Port of registry

Gross tonnage

IMO Number⁷

THIS IS TO CERTIFY:

- 1 That the ship has been surveyed in accordance with regulation 5.4 of Annex VI of the Convention; and
- 2 That the survey shows that the ship complies with the applicable requirements in regulation 20, regulation 20A, regulation 21, regulation 21A and regulation 22.

Completion date of survey on which this Certificate is based: (dd/mm/yyyy)

Issued at
(Place of issue of certificate)

(dd/mm/yyyy):
.....

(Date of issue)

(Signature of duly authorized official
issuing the certificate)

(Seal or stamp of the authority, as appropriate)

⁶ Alternatively, the particulars of the ship may be placed horizontally in boxes.

⁷ In accordance with IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

**Supplement to the International Energy Efficiency Certificate
(IEE Certificate)**

**RECORD OF CONSTRUCTION RELATING TO ENERGY
EFFICIENCY**

Notes:

- 1 This Record shall be permanently attached to the IEE Certificate. The IEE Certificate shall be available on board the ship at all times.
- 2 The Record shall be at least in English, French or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy.
- 3 Entries in boxes shall be made by inserting either: a cross (x) for the answers "yes" and "applicable"; or a dash (-) for the answers "no" and "not applicable", as appropriate.
- 4 Unless otherwise stated, regulations mentioned in this Record refer to regulations in Annex VI of the Convention, and resolutions or circulars refer to those adopted by the International Maritime Organization.

1 Particulars of ship

- 1.1 Name of ship
- 1.2 IMO number
- 1.3 Date of building contract
- 1.4 Gross tonnage
- 1.5 Deadweight
- 1.6 Type of ship*

2 Propulsion system

- 2.1 Diesel propulsion
- 2.2 Diesel-electric propulsion
- 2.3 Turbine propulsion
- 2.4 Hybrid propulsion
- 2.5 Propulsion system other than any of the above

* Insert ship type in accordance with definitions specified in regulation 2. Ships falling into more than one of the ship types defined in regulation 2 should be considered as being the ship type with the most stringent (the lowest) required EEDI. If ship does not fall into the ship types defined in regulation 2, insert "Ship other than any of the ship type defined in regulation 2".

3 Attained Energy Efficiency Design Index (EEDI)

3.1 The Attained EEDI in accordance with regulation 20.1 is calculated based on the information contained in the EEDI technical file which also shows the process of calculating the Attained EEDI.....

The Attained EEDI is: grams-CO₂/tonne-mile

3.2 The Attained EEDI is not calculated as:

3.2.1 the ship is exempt under regulation 20.1 as it is not a new ship as defined in regulation 2.23

3.2.2 the type of propulsion system is exempt in accordance with regulation 19.3

3.2.3 the requirement of regulation 20 is waived by the ship's Administration in accordance with regulation 19.4

3.2.4 the type of ship is exempt in accordance with regulation 20.1

4 Required EEDI

4.1 Required EEDI is: grams-CO₂/tonne-mile

4.2 The required EEDI is not applicable as:

4.2.1 the ship is exempt under regulation 21.1 as it is not a new ship as defined in regulation 2.23

4.2.2 the type of propulsion system is exempt in accordance with regulation 19.3.....

4.2.3 the requirement of regulation 21 is waived by the ship's Administration in accordance with regulation 19.4

4.2.4 the type of ship is exempt in accordance with regulation 21.1

4.2.5 the ship's capacity is below the minimum capacity threshold in Table 1 of regulation 21.2

5 Attained Energy Efficiency Existing Ship Index (EEXI)

5.1 The attained EEXI in accordance with regulation 20A.1 is calculated taking into account guidelines** developed by the Organization.....

The attained EEXI is:.....grams-CO₂/tonne-mile

5.2 The attained EEXI is not calculated as:

5.2.1 the type of propulsion system is exempt in accordance with regulation 19.3.....

5.2.2 the type of ship is exempt in accordance with regulation 20A.1.....

** Guidelines on the method of calculation of the Energy Efficiency Existing Ship Index to be developed by the Organization.

6 Required EEXI

6.1 Required EEXI is:.....grams-CO₂/tonne-mile in accordance with regulation regulation 21A

(Applies to Option 2.2 and 2.3 only)

[6 Required EEXI

6.1 Required EEXI is:.....grams-CO₂/tonne-mile in accordance with regulation regulation 21A and regulation [22B.10][22B.12]

6.1.1 The EEXI reduction factor in Regulation 21A is increased by % applying factor
X_{1E} X_{1E} X_{2D} X_{2E}
in accordance with regulation [22B.10][22B.12]

6.2 The required EEXI is not applicable as:

6.2.1 the type of propulsion system is exempt in accordance with regulation 19.3.....

6.2.2 the type of ship is exempt in accordance with regulation 21A.1.....

6.2.3 the ship's capacity is below the minimum capacity threshold in Table 3 of regulation 21A.1.....

57 Ship Energy Efficiency Management Plan

57.1 The ship is provided with a Ship Energy Efficiency Management Plan (SEEMP) in compliance with regulation 22.....

68 EEDI technical file

68.1 The IEE Certificate is accompanied by the EEDI technical file in compliance with regulation 20.1.....

~~6.28.1.1~~ The EEDI technical file identification/verification number.....

~~6.38.1.2~~ The EEDI technical file verification date.....

9 EEXI technical file

9.1 The IEE Certificate is accompanied by the EEXI technical file in compliance with regulation 20A.1.....

9.1.1 The EEXI technical file identification/verification number.....

9.1.2 The EEXI technical file verification date.....

9.2 The IEE Certificate is not accompanied by the EEXI technical file as the attained EEDI is used as an alternative to the attained EEXI.....

THIS IS TO CERTIFY that this Record is correct in all respects.

Issued at
(Place of issue of the Record)

(dd/mm/yyyy):
(Date of issue)

.....
(Signature of duly authorized official
issuing the certificate)

(Seal or stamp of the authority, as appropriate)

APPENDIX X

**Form of Statement of Compliance – Fuel Oil Consumption Reporting and
Operational Carbon Intensity**

**STATEMENT OF COMPLIANCE – FUEL OIL CONSUMPTION REPORTING AND
OPERATIONAL CARBON INTENSITY RATING**

Issued under the provisions of the Protocol of 1997, as amended, to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....
(full designation of the Party)

by.....
(full designation of the competent person or organization authorized under the provisions of the Convention)

Particulars of ship⁸

Name of ship.....

Distinctive number or letters.....

IMO Number⁹.....

Port of registry.....

Gross tonnage.....

Deadweight.....

Type of ship.....

THIS IS TO DECLARE:

- 1 That the ship has submitted to this Administration the data required by regulation 22A of Annex VI of the Convention, covering ship operations from (dd/mm/yyyy) through (dd/mm/yyyy); ~~and~~
- 2 The data was collected and reported in accordance with the methodology and processes set out in the ship's SEEMP that was in effect over the period from (dd/mm/yyyy) through (dd/mm/yyyy);
- 3 The operational carbon intensity of the ship from (dd/mm/yyyy) through (dd/mm/yyyy) was:
- 4 The operational carbon intensity of the ship in this period is rated as

⁸ Alternatively, the particulars of the ship may be placed horizontally in boxes.

⁹ In accordance with *IMO Ship Identification Number Scheme*, adopted by the Organization by resolution A.1078(15).

A B C D E,
in accordance with regulation 22B of Annex VI of the Convention; and

5 A corrective action plan has been developed and included in to the SEEMP
(Regulation [22B10][22B10bis]).

This Statement of Compliance is valid until (dd/mm/yyyy)

Issued at.....
(place of issue of Statement)

Date (dd/mm/yyyy)

(date of issue)

(signature of duly authorized official
issuing the Statement)

(seal or stamp of the authority, as appropriate)"
