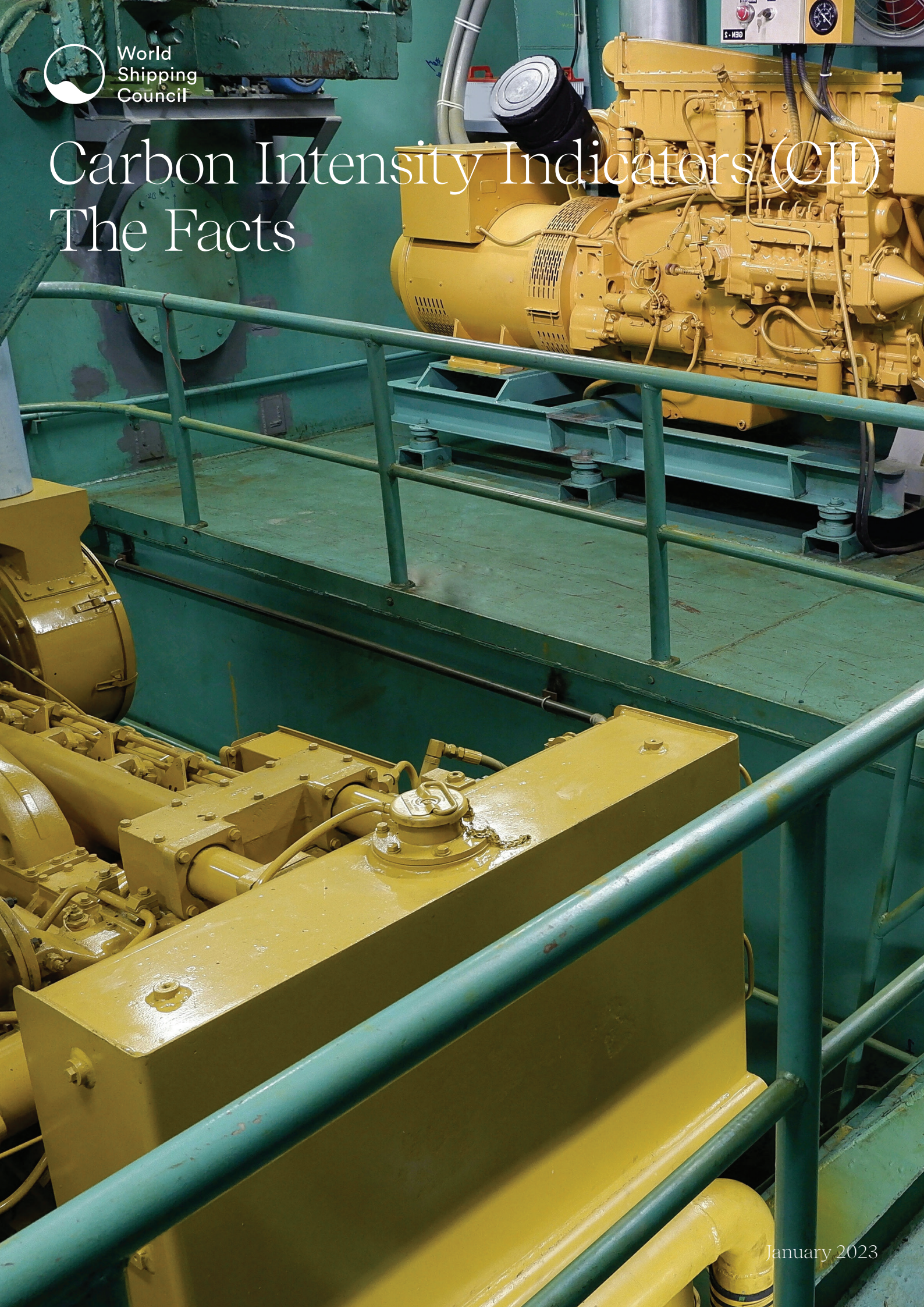
World Shipping Council

Carbon Intensity Indicators (CII) The Facts



January 2023

World Shipping Council

The World Shipping Council is the united voice of liner shipping, working with policymakers and industry groups to shape the future growth of a socially responsible, environmentally sustainable, safe, and secure shipping industry.

90% of everything we buy comes by ship. World Shipping Council members are the international container and vehicle carriers that make global trade possible by offering cost efficient and effective transport for everything from raw materials, food and machinery to consumer goods like clothes, furniture and electronics.

We are a non-profit trade association with offices in Brussels, Singapore, London and Washington, D.C.

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1. Introduction

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This document is intended to provide facts on carbon intensity indicators (CIIs), and serves as a guide to assist WSC members.

The information provided is not intended to replace the relevant guidelines and regulatory documents published by IMO, it is instead complementary and has been prepared to:

- Assist persons involved with data collection and reporting in member companies
- Provide a general point of reference for individuals not directly involved with data collection and reporting but who may be affected by CII requirements

CIIs were developed as a short term GHG reduction measure along with the Energy Efficiency Existing Ship Index (EEXI). Whereas the EEXI addresses technical efficiency of existing ships, being similar to the Energy Efficient Design Index (EEDI) but applied to existing ships, CIIs were developed to promote increased operational efficiency.

This guidance explains the basis of CIIs, the rating bands and their verification. The guidance provided is simplified and it does not provide all regulatory requirements or detailed formulae for CII calculations. Members are referred to the relevant sections of the MARPOL Convention and supporting Guidelines issued by IMO for such details. The objectives of the CII and EEXI requirements were derived from the levels of ambition of the initial strategy, which requires that:

- The carbon intensity of international shipping to decline by at least 40% by 2030, as part of a pathway towards 70% by 2050 compared to 2008
- GHG emissions to peak as soon as possible
- At least a 50% reduction of absolute GHG emissions by 2050 compared to 2008. This strategy will be reviewed and it should be expected that emissions reduction targets will become more ambitious

The guidance is divided into the following sections:

1. Introduction
2. CII requirements
3. The annual efficiency ratio (AER), cgDIST, & Trial CIIs
4. Voyage adjustments & correction factors
5. Reference CII value, required CII value, & ship rating
6. Plan of corrective actions
7. CII verification
8. Port state control
9. Frequently asked questions (FAQ)
10. Further Reading

Each section may be read as a standalone guide, and provides a brief summary of a particular aspect of CIIs followed by key takeaways which condense the most important points as short bullet points.

NOTE: Where this guidance references the Administration, this is the government of the State whose flag the ship is entitled to fly. However, in most cases the functions of the Administration will be carried out by a duly authorized Recognized Organization (RO), usually a Classification Society acting on behalf of the flag state. So, for example, in most cases data will be submitted to, and verified by, an RO acting for the Administration.

2. CII Requirements

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Regulatory requirements for CIIs are provided in MARPOL Annex VI, primarily Regulation 28, as follows.

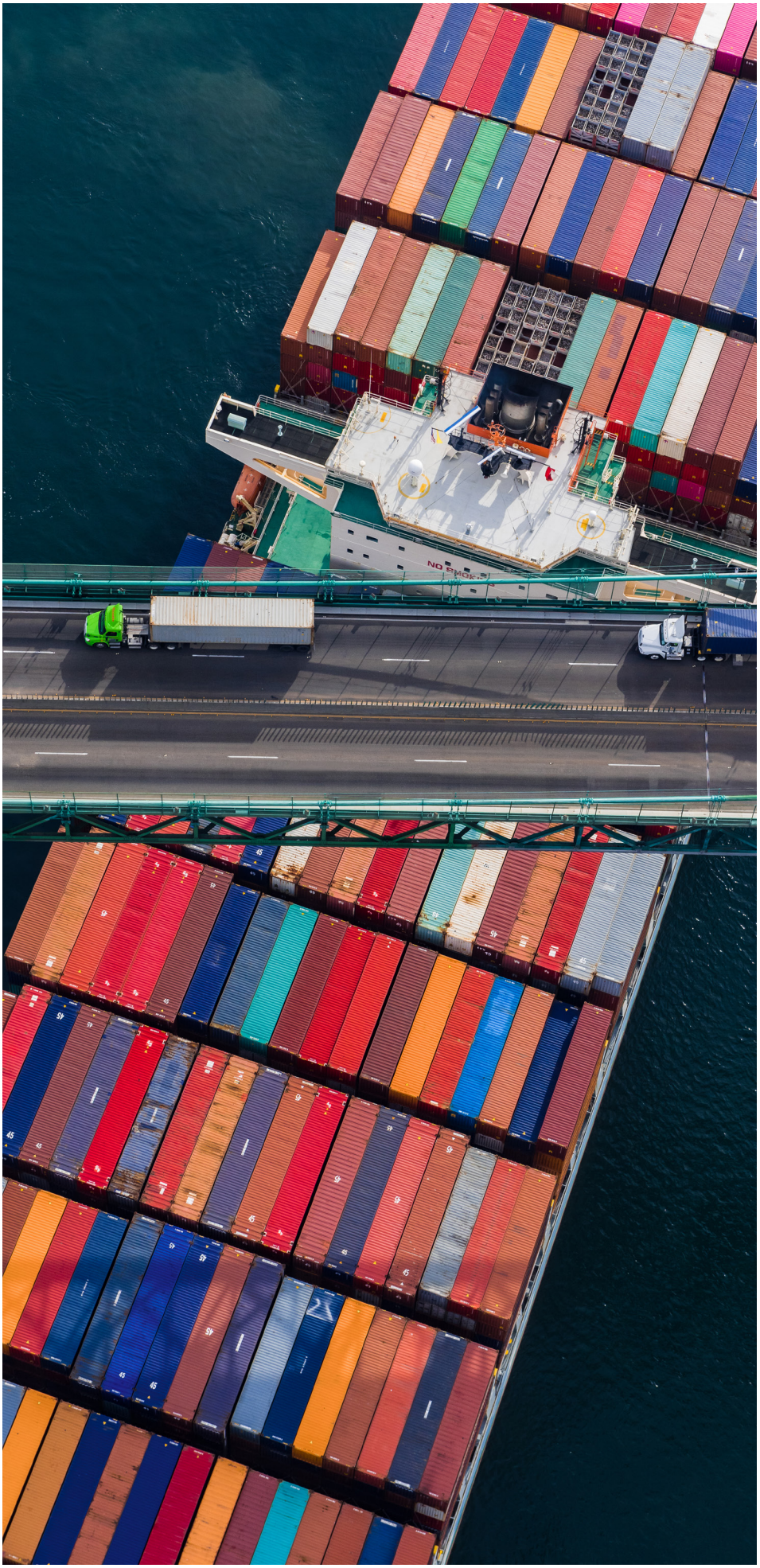
- Ships of 400GT and above are to have a Ship Energy Efficiency Management Plan (SEEMP)
- For ships of 5000GT and above, the SEEMP is to document how the ship will collect and report data for fuel oil used, and for the calculation of its attained CII value and CII rating
- Part III of the SEEMP is to include a three-year CII implementation plan as well as procedures for self-evaluation and improvement
- The CII reporting period is a calendar year, beginning January 1 of each year
- The first reporting period starts on 1 January 2023
- The company is to report the attained CII to the Administration within three months of the end of each reporting period (i.e., before 1 April)
- The company is the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship and who has agreed to take over all the duties and responsibilities imposed by the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code)
- The CII rating falling into one of five bands - A, B, C, D or E, is derived from the attained CII value
- The five rating bands – A, B, C, D, and E are used to indicate major superior, minor superior, moderate, minor inferior, or inferior performance respectively
- The required CII value is the mid-point of the C rating band
- The attained CII value and CII rating are to be reported to the Administration, the Administration will assign a verified CII rating
- A ship rated as D for three consecutive years, or rated as E, is to hold and implement - a plan of corrective actions as part of an amended SEEMP
- The plan of corrective actions is to detail the steps which will be taken to achieve the required CII value
- If required, the amended SEEMP with the plan of corrective actions is to be submitted to the Administration for verification, preferably together with, but not more than 1 month after reporting the attained CII value
- After successful verification the Administration will issue a Statement of Compliance, a certificate valid for the calendar year in which it is issued and for the first five months of the following year
- The MARPOL Convention encourages Administrations, port authorities and other stakeholders as appropriate, to provide incentives to ships rated as A or B
- A review of the measure will be completed by 1 January 2026

These requirements are supported by a suite of supporting Guidelines which provide the methodology to calculate CII values, the rating bands, voyage adjustments and correction factors.

NOTE: Whether a given rating is a true and accurate indicator of superior or inferior performance is significantly impacted by a variety of factors not yet addressed in the CII Guidelines. These include adverse weather, port dwell time, and short voyages - all factors that can significantly impact ratings, even across identical sister ships operated by the same company.

Key Takeaways:

- The CII reporting year is 1 January – 31 December, starting on 1 January 2023
- For existing ships, Part III of the SEEMP is to be submitted to the Administration and verified by the Administration prior to 1 January 2023
- Part III of the SEEMP is to include a three-year CII implementation plan and procedures for self-evaluation and improvement
- The company is to report the attained CII and rating by 1 April after each reporting period, the definition of company is aligned with the ISM Code
- The Administration assigns the verified ship rating
- The first report will be due by 1 April 2024
- The Statement of Compliance issued after verification is valid for the calendar year in which it is issued plus the first five months of the following year
- The mid-point of the C rating band is the required CII
- A ship which is E rated or D rated for three years must have a plan of corrective actions which details steps which will be taken to achieve the required CII
- The plan of corrective actions is to be submitted to the Administration within one month of the attained CII being reported
- A review of the measure will be completed by 1 January 2026



3. The Annual Efficiency Ratio (AER), cgDIST & Trial CIIs

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The CII calculation can be represented by the following simplified relationship.

$$CII = \frac{\text{Emissions}}{\text{Cargo Capacity x Distance travelled}}$$

The mandatory CII for most ship types, including container ships, is the Annual Efficiency Ratio (AER). Currently, the AER uses DWT as a proxy for cargo capacity.

However, recognizing that the DWT based AER was not appropriate for all ships, IMO adopted a second CII metric for some ship types, cgDIST, which is the mandatory CII for vehicle carriers. The cgDIST is calculated in a similar way as for the AER, but replaces DWT with gross tonnage (GT) in the calculation. This choice of mandatory CIIs was imposed by the data which is reported to the IMO Data collection system for fuel oil consumption of ships (DCS).

Emissions are calculated by multiplying fuel used by a carbon factor (C_f). Fuel consumption and distance travelled are as reported to the IMO DCS, meaning it is calculated using aggregated data for the 12 month reporting period.

The actual calculation is more complex, being subject to a range of correction factors and adjustments, and is provided in the 2022 Interim guidelines on correction factors and voyage adjustments for CII calculations (CII guidelines, G5).

Distance travelled is the annual aggregated distance travelled over ground in nautical miles as recorded in the logbook in accordance with SOLAS regulation V/28.1, under the ships' own propulsion power.

The C_f value is critical to AER/cgDIST performance. A fuel with a C_f of zero would result in an AER/cgDIST value of zero (TtW) carbon intensity of fuels. These C_f values are provided in table 1.

NOTE: Cf values are provided by the 2018 Guidelines on the method of calculation of the attained EEDI for new ships, meaning that they are based on tank to wake.

Table 1: C_F values.

Type of fuel	Reference	Lower calorific value (kJ/kg)	Carbon content	Cf (t-C02/t-Fuel
Diesel/Gas Oil	ISO 8217 Grades DMX through DMB	42,700	0.8744	3.206
Light Fuel Oil (LFO)	ISO 8217 Grades RMA through RMD	41,200	0.8594	3.151
Heavy Fuel Oil (HFO)	ISO 8217 Grades RME through RMK	40,200	0.8593	3.114
Liquefied Petroleum Gas (LPG)	Propane	46,300	0.8182	3.000
	Butane	45,700	0.8264	3.030
Liquefied Natural Gas (LNG)		48,000	0.7500	2.750
Methanol		19,900	0.3750	1.375
Ethanol		26,800	0.5217	1.913

In the case of fuel oil which does not fall into one of these categories and which therefore has no assigned Cf, the fuel oil supplier should provide a Cf value, supported by documentary evidence.

Since DWT and GT are both fixed, the AER/cgDIST can be improved by reducing emissions or increasing distance travelled, the calculation is particularly sensitive to distance travelled time since it indexes total emissions, including time at berth and at anchor, to aggregated distance travelled between port pairs.

The AER or cgDIST value is used to establish the ships CII rating.

Trial CIIs

IMO has defined several trial CIIs which may be reported on a voluntary basis, these are:

- Energy Efficiency Performance Indicator (EEPI). The EEPI is similar to the AER/cgDIST, however distance used is distance for laden voyages only, i.e. unladen and ballast voyages are excluded
- cbDIST is unique to cruise passenger ships and replaces GT in the cgDIST calculation with available lower berth capacity
- clDIST is a trial metric which may be used by Ro-Ro ships, it replaces GT in the cgDIST calculation with the length (in metres) of the lanes of a ro-ro ship
- Energy Efficiency Operational Indicator (EEOI). As defined in MEPC.1/Circ.684 on Guidelines for voluntary use of the ship energy efficiency operational indicator (EEOI), applies a similar calculation as the AER but uses data for cargo carried rather than DWT

Key Takeaways

- The CII for container ships is the AER, calculated using DWT
- The CII for vehicle carriers is cgDIST, calculated using GT;
- Emissions are calculated using tonnes of fuel multiplied by a carbon factor, Cf
- The carbon factor Cf is used for the EEDI calculation, representing TtW carbon intensity
- The AER/cgDIST calculations use distance travelled over ground and fuel use as reported to the IMO DCS along with fuel Cf as used in the EEDI calculation
- AER/cgDIST values can be improved either by reducing emissions or increasing distance travelled, or a combination of both
- Trial CII values may be calculated and reported voluntarily

4. Voyage Adjustments and Correction Factors

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Recognizing the sensitivity of AER/cgDIST values to a range of non-transport work variables, IMO developed CII correction factors and voyage adjustments.

The correction factors and voyage adjustments relevant for container ships and vehicle carriers are:

- Correction factor FCElectrical for electrical power consumption, which includes power consumed by refrigerated containers
- Voyage adjustment for scenarios specified in regulation 3.1 of MARPOL Annex VI, which may endanger safe navigation of a ship
- Voyage adjustment for sailing in ice conditions, which means sailing of an ice-classed ship in a sea area within the ice edge

Correction factor for refrigerated containers

Ships carrying refrigerated (reefer) containers may include power consumption of such containers within the correction factor FCElectrical, using one of two options:

- Ships which monitor reefer electrical consumption can calculate the correction using metered electrical consumption values
- Ships which cannot monitor reefer electrical consumption may use an estimation method based on a default value of 2.75 kW/h for each reefer container

The FCElectrical correction factor is applied to the CII calculatio using the following factor:

(0.75 – 0.03y) x FCElectrical.

Therefore, in year one, 75% of the calculated power consumption will be deducted from the calculation, with this falling by 3% each year.

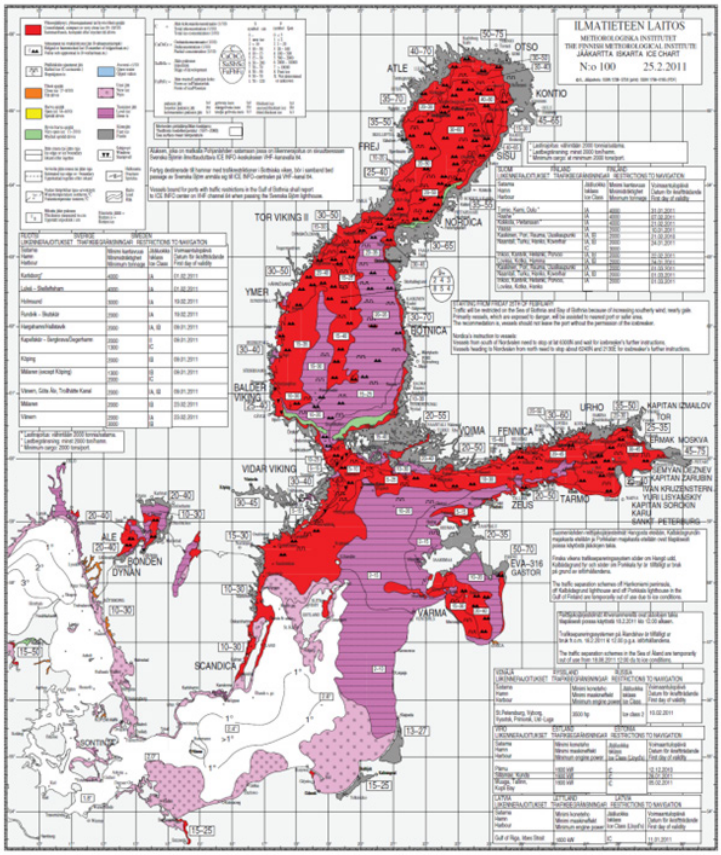
NOTE: Full details of the reefer correction are provided in the 2022 Interim guidelines on correction factors and voyage adjustments for CII calculations (G5).

Voyage adjustment for safety reasons and when in ice

MARPOL Annex VI Regulation 3.1 states that regulations of the Annex do not apply to 'any emission necessary for the purpose of securing the safety of a ship or saving life at sea', therefore periods of operation within the scope of this regulation are excluded from the CII calculation. Recognizing the challenges faced by ships in ice conditions, periods of operation in ice conditions are also excluded from CII calculations. The ice exclusion applies to ice-classed ships when operated within the ice edge, identified using an ice chart.

Unlike the reefer correction factor, these voyage adjustments are applied in full, with no regression factor. Records of measured fuel oil consumption and distance travelled for periods excluded from CII calculations should be available on board, along with ice charts in the case of ice operations. An example of an ice chart is provided in figure 1.

Figure 1 – Example of an Ice Chart, Baltic Sea.



Source: The International Maritime Organization

Note: As with the reefer correction, full details of the reefer correction and how it is to be used are provided in the 2022 Interim guidelines on correction factors and voyage adjustments for CII calculations (G5).

Key Takeaways

- The electrical power consumed by reefer containers is included within the CII correction factor for electrical power FCElectrical
- The correction factor FCElectrical is applied with a regression factor, 75% of electrical power consumption can be deducted from the CII calculation in year 1, with a further annualized deduction of 3% (i.e., in year two, 72% can be deducted)
- Reefer power used with the correction factor FCElectrical may be metered using KWhr meters, or if the ship cannot meter electrical power supplied to reefer containers a default value of 2.75KWhr per container may be used
- Periods of operation in ice conditions, as well as emissions necessary for the purpose of securing the safety of a ship or saving life at sea, are excluded from CII calculations
- Voyage adjustments for operation in ice and emissions necessary for the purpose of securing the safety of a ship or saving life at sea are applied in full, with no regression factor

IMPORTANT NOTE Concerning Correction Factors

While the current CII Guidelines include correction factors for refrigerated containers, ice-class ships, and safety exclusions. The current guidelines do not include correction factors or adjustments for factors that are known to significantly impact CII ratings. These include adverse weather, port dwell times, short voyages, and other factors that may be unique to a given ship type.

WSC, ICS, and others have argued that development and adoption of correction factors or adjustments for these key operating parameters are critical. Deliberations concerning the 2026 CII Review will determine what actions are taken on adoption of further correction factors or voyage adjustments.

5. Reference CII Value, Required CII Value & Ship Rating

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In principle, the CII mechanism is quite simple.

- Establish the reference CII value (AER or cgDIST as applicable)
- Calculate the required CII value by applying a reduction factor to the reference CII value
- Develop rating boundaries, using rating vectors referenced to the required CII value
- The rating boundaries define the five rating bands – A, B, C, D & E
- Calculate the actual attained CII value for the ship
- Plot the attained CII value against the rating bands
- Based on where the attained CII value sits, assign the ship rating

The basis of each of these steps is outlined below.

Reference CII

Ship type specific CII reference values were established using data collected by the IMO DCS for year 2019, using the following formula:

$$CIIref = aCapacity^{-C}$$

Where 'a' and 'c' are non-dimensional regression factors. As already highlighted, capacity is DWT for container ships which use the AER, and GT for vehicle carriers which use cgDIST. The regression factors are shown in table 2.

Data for 2019 was used because there was no transport work data for the year 2008 which is the reference year for the IMO initial strategy. The 2019 DCS data was the only available verified data which was collected globally. Alternatives were either regional (such as the European MRV database) which would potentially distort results, or unverified (such as databases maintained by commercial information specialists).

Table 2 – Non-dimensional regression factor values used to calculate CII reference value.

Ship type	Size	Capacity	a	c
Container ship	All	DWT	1984	0.489
Vehicle carrier	57,700GT and above	GT	3627	0.590
	30,000GT and above but less than 57,7000GT	GT	3627	0.590
	Less than 30,000GT	GT	330	0.329

Table 3: Reduction factor (Z%) for the CII relative to the 2019 reference values.

Year	Reduction factor relative to 2019 reference CII value
2023	5%
2024	7%
2025	9%
2026	11%
2027	**
2028	**
2029	**
2030	**

Required CII

The required CII value is calculated by applying a reduction factor to the reference CII value, referred to as the Z% factor in IMO documents. The Z% factors are shown in table 3.

- Z factors of 1%, 2% and 3% are set for the years of 2020 to 2022, using expectations for fleet improvement based on recent studies until entry into force of the measure.
- **Z factors for the years 2027 to 2030 are to be further strengthened and developed taking into account the review of the CII which is to be completed by 1 January 2026.

Information on establishing these reduction rates is provided in the 2021 Guidelines on the operational carbon intensity reduction factors relative to reference lines (CII reduction factors guidelines, G3).

Rating boundaries and bands

Rating boundaries and bands are referenced to the required CII value. There are five rating bands:

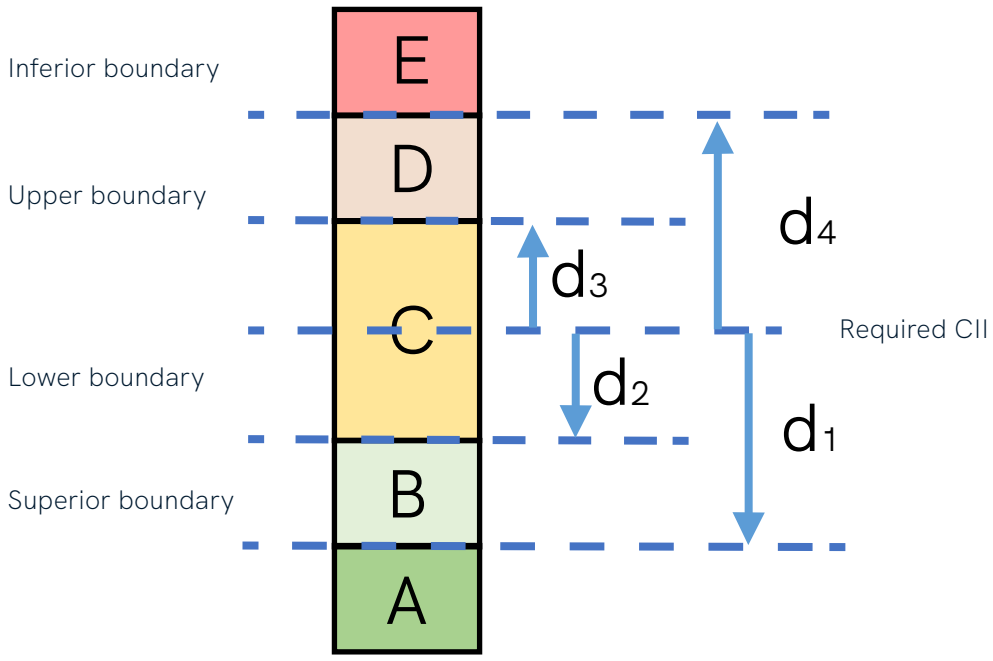
- A – major superior performance
- B – minor superior performance
- C – moderate performance
- D – minor inferior performance
- E – inferior performance

The principle of the rating bands and vectors ('d'), is shown in figure 2.

The rating bands and rating vectors were developed using a distribution model, so for example the top 15% of ships should be 'A' rated, figure 3 shows the distribution model applied.

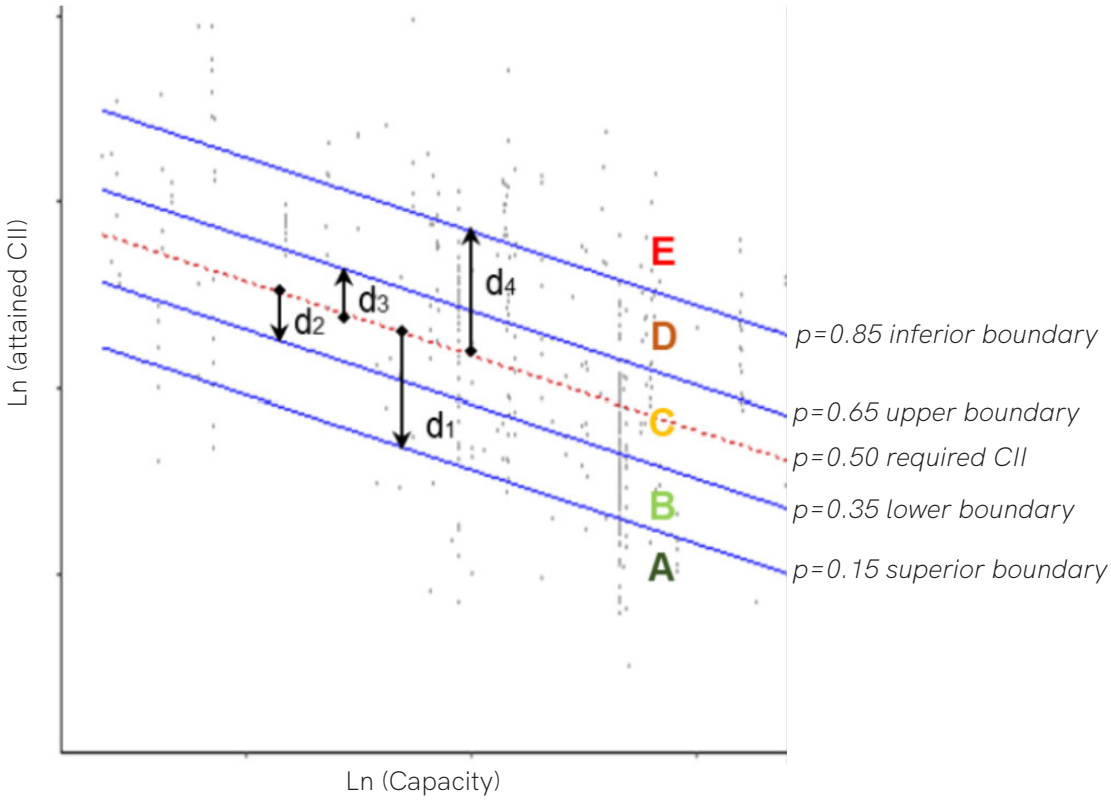
2019 DCS data was used to plot a logarithmic distribution of ships to develop the rating vectors for each ship type using the distribution bands shown in figure 3.

Figure 2 - Rating vectors.



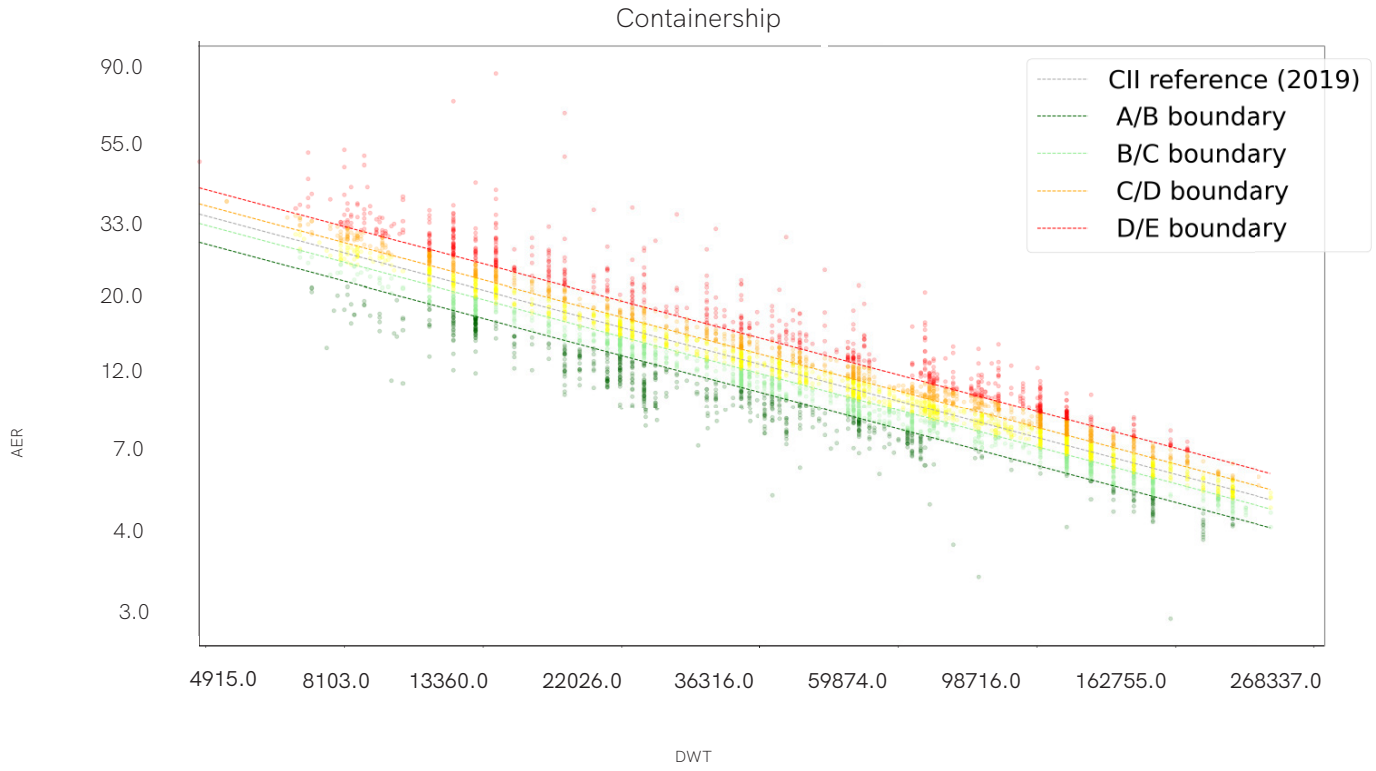
Source: The International Maritime Organization

Figure 3 - Use of logarithmic distribution of ship CII values to establish rating vectors.



Source: The International Maritime Organization

Figure 4 – 2019 DCS data distribution used to develop rating boundaries, container ships.



Source: Arcsilea

Figure 5 – 2019 DCS data distribution used to develop rating boundaries, vehicle carriers.

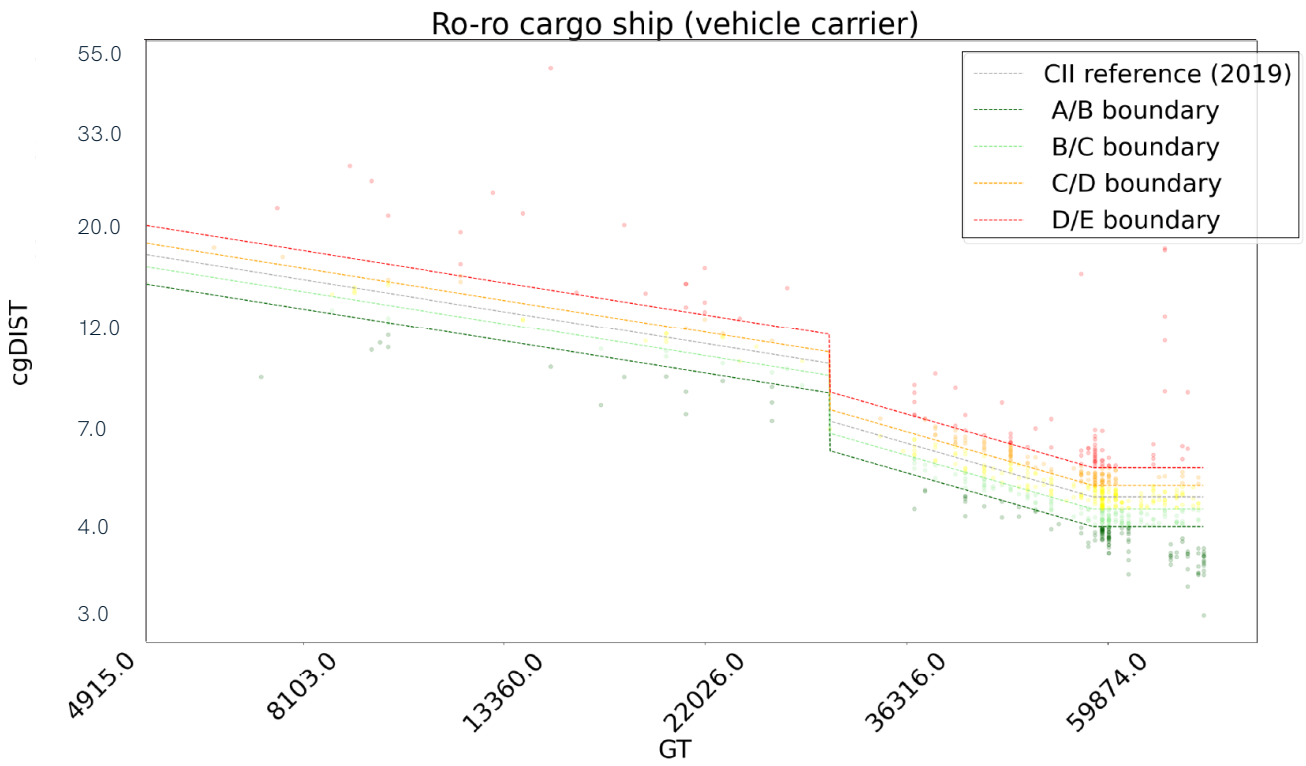


Table 4 - Rating vectors

Ship	Capacity	d1	d2	d3	d4
Container	DWT	0.83	0.94	1.07	1.19
Vehicle Carrier	GT	0.86	0.94	1.06	1.16

The rating vectors are ship type specific, since they were derived from distribution of ships using 2019 DCS data. This data showed different distribution by ship type, so the resulting 'd' vector values differ. The rating vectors for container ships and vehicle carriers are shown in table 4.

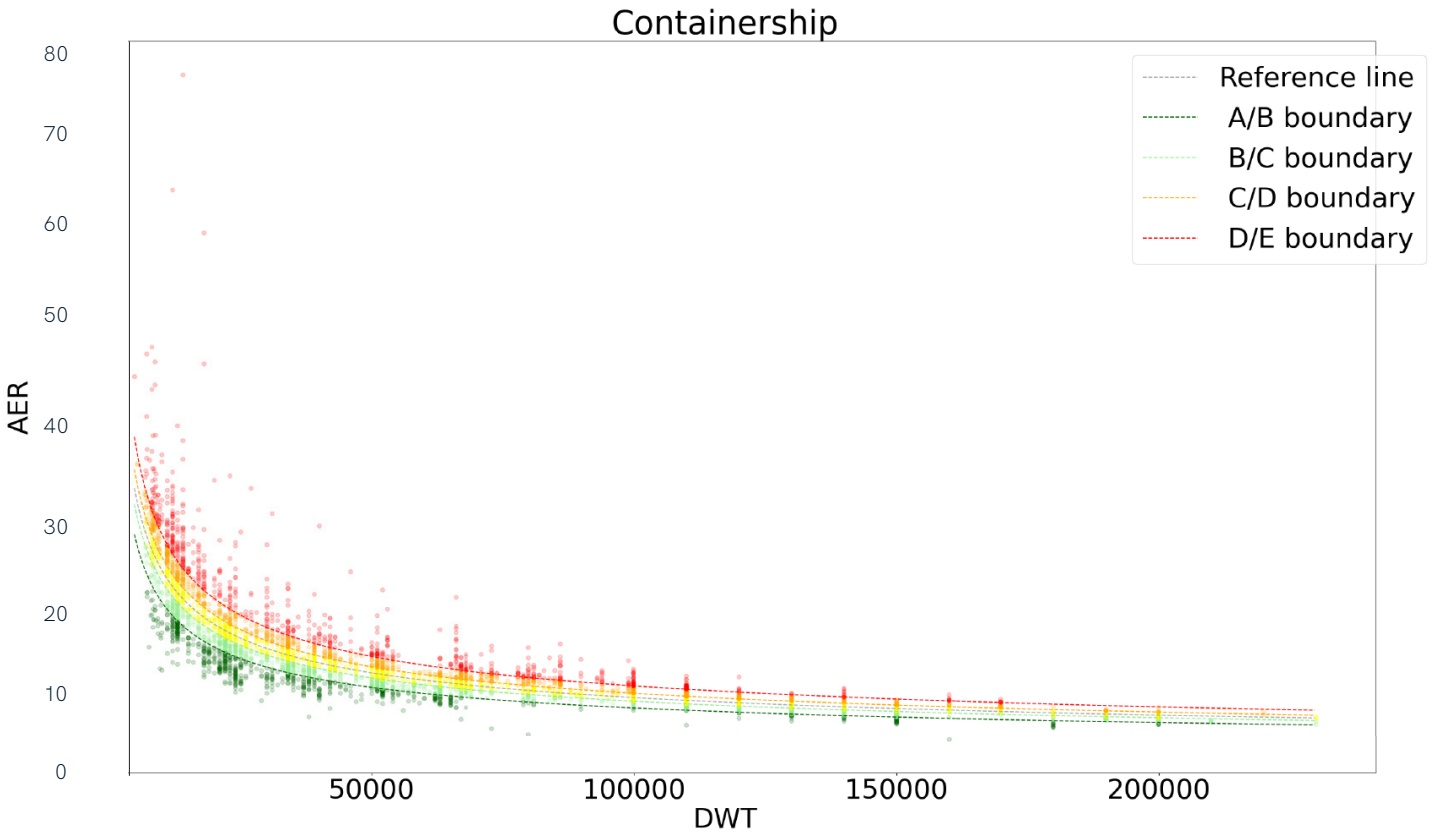
To summarise, the rating for a ship is established by:

- Establishing its required CII value using the reference value and Z% regression factor
- Establishing rating bands using the required CII value and rating vectors
- Calculating its attained CII
- Plotting the attained CII value against the rating bands

If the attained CII lands on a rating boundary, the ship should be rated as the better of the two ratings.

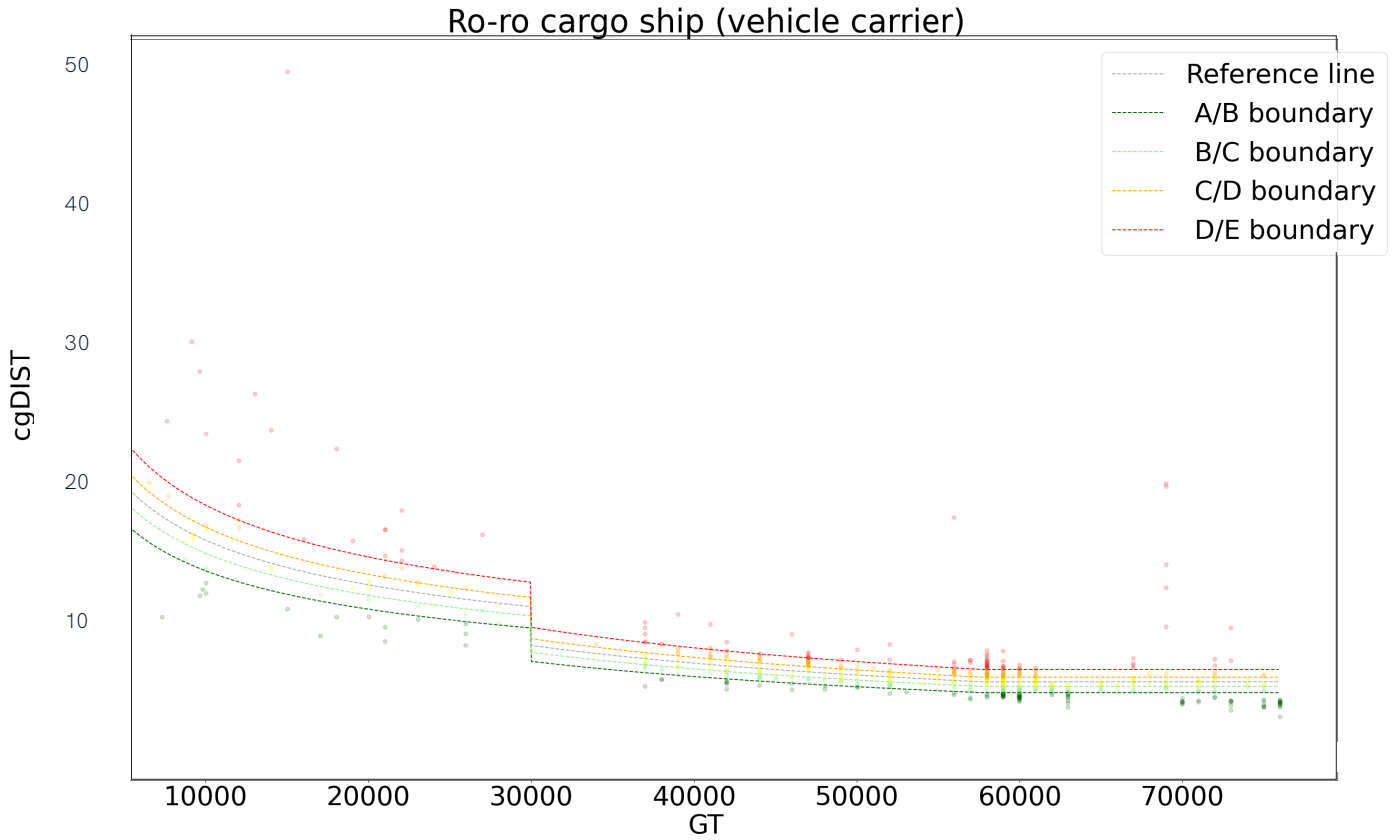
The CII reference values, along with the rating bands, can be illustrated visually as CII reference lines, as shown in figures 6 and 7.

Figure 6 – Container ship CII reference line with rating boundaries.



Source: Arcsilea

Figure 7 – Vehicle carrier CII reference line with rating boundaries.



Source: Arcsilea

Note: The Z% factor is to be applied to these reference lines.

Key takeaways

- The CII reference value is calculated using two non-dimensional regression parameters, a and c:
- The required CII is established by applying the reduction factor Z% to the reference value
- Reduction factors after 2026 are still to be determined
- Rating bands were established using a distribution model and 2019 DCS data
- Distribution vectors plotted ships within the rating distribution bands in 2019, followed by establishing rating vectors
- The ship rating is applied by comparing the attained CII against the required CII value, with rating vectors identifying the rating boundaries
- If the attained CII lands on a rating boundary, the ship should be rated as the better of the two ratings

6. Plan of Corrective Actions

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Ships rated D for three consecutive years or rated as E are to develop a plan of corrective actions.

If required, the plan of corrective actions is to be included in a revised SEEMP, and is to be submitted to the Administration for verification. This should preferably be when submitting the attained CII value, but not later than one month after reporting the attained CII.

The plan of corrective actions is to outline the steps to be taken to allow the ship to achieve at least a C rating for the following year, as part of a pathway to achieve the required CII, including:

- Analysis of the cause of the inferior CII rating
- Analysis of the performance of implemented measures
- A list of additional measures and revised measures, along with the time and method of implementation necessary for achieving the required operational CII
- Designation of a company person to be responsible for the added and revised measures, monitoring and recording performance throughout and reviewing of the effectiveness of the corrective actions
- Identification of possible impedi-ments to the effectiveness of measures, including possible additional contingency measures put in place to overcome and how these impediments will be overcome

Additional measures should be taken to strengthen corrective actions in case of insufficient intermediate results.

Requirements for the plan of corrective actions are provided in the 2022 Guidelines for the development of a ship energy efficiency management plan (SEEMP).

Key Takeaways

- A plan of corrective actions is required if a ship is E rated or D rated for three consecutive years
- The plan of corrective actions (where required) is to form part of an amended SEEMP
- The plan of corrective actions is to outline how the ship will achieve at least a C rating for the following year, and how it will achieve the required CII
- The plan is to be submitted to the Administration for verification, preferably when submitting the attained CII value, but not later than one month after reporting the attained CII
- The plan should include an analysis of why the ship has an inferior rating and the effectiveness of the measures implemented under the previous SEEMP
- The plan should list the additional measures which will return the ship to the required C rating, along with potential impediments to the success of the identified measures
- The company is to designate a person responsible for monitoring, implementation and effectiveness of the plan

7. CII Verification

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Requirements for the CII Statement of Compliance and verification are detailed in MARPOL Annex VI regulation 6.

The 2022 Guidelines for Administration Verification of Ship Fuel Oil Consumption Data. The Administration should inform the company what documentation should be submitted along with the annual data report to complete verification and assign the ship rating. This may include:

- A copy of the verified SEEMP part III
- Copies of verified documents which establish DWT or GT, as applicable (international energy efficiency certificate (IEEC), Stability Booklet or International Tonnage Certificate)
- Aggregated data for fuel oil consumption and distance travelled for the reporting period
- Aggregated values of any applicable parameters necessary for trial CIIs, if being voluntarily reported
- Documentary evidence for correction factors and voyage adjustment, if any
- Statements of compliance for previous two calendar years where applicable

This is in addition to documentation the Administration may require to verify fuel oil consumption data reported to the DCS. Verification is based on data over the 12-month reporting period, 1 January to 31 December for the preceding calendar year.

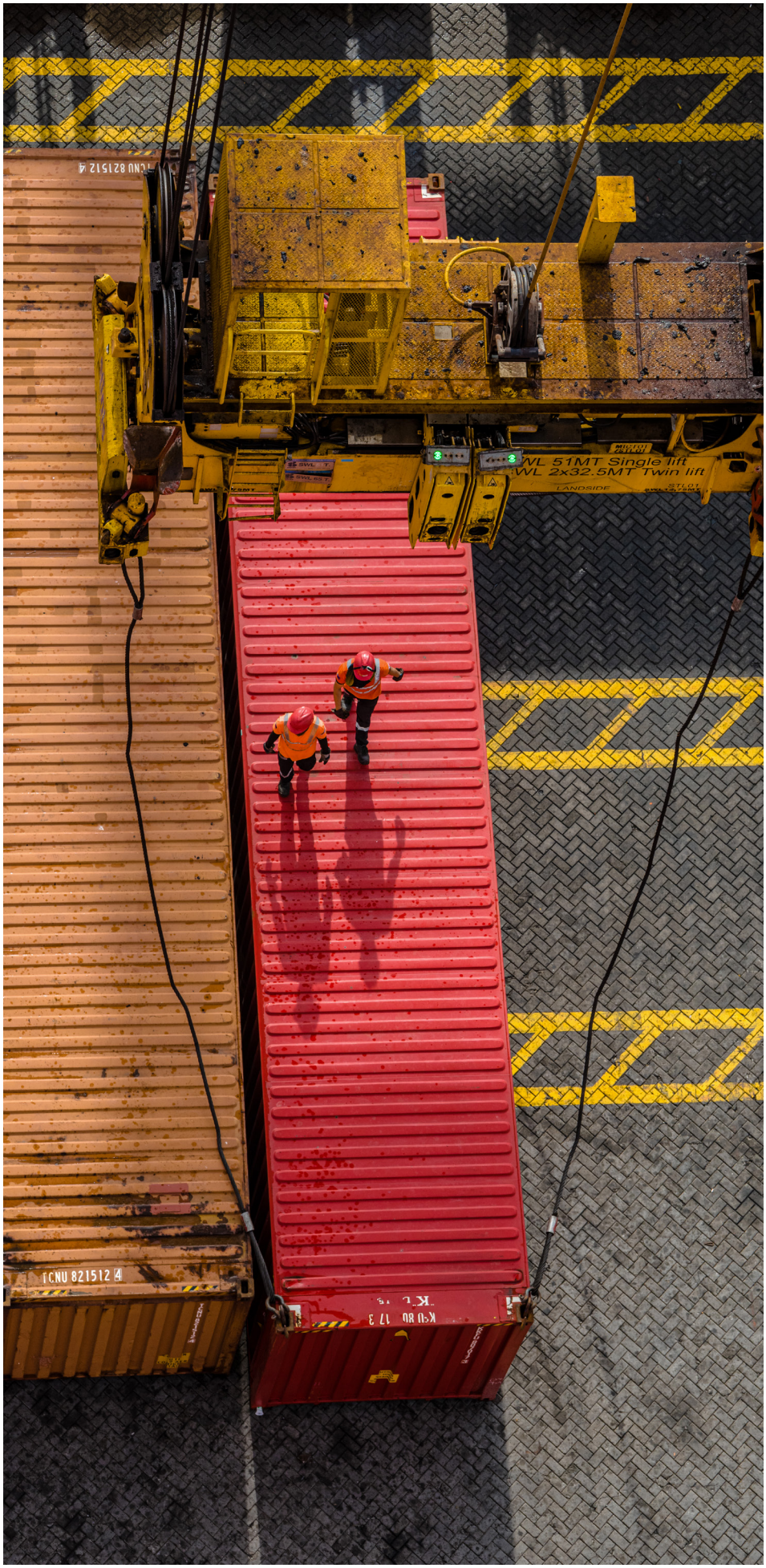
The verification guidelines include information to address:

- New ships delivered during the reporting period
- Ships with multiple load lines
- Ships which permanently change DWT and/or GT during the reporting period
- Ships which undergo a major conversion during the reporting period
- Transfer of Flag or company during the reporting period

After verifying the attained CII, the Administration will assign the ships verified rating and issue a Statement of Compliance (SOC). If the CII lands on a rating boundary, the ship should be rated as the better of the two ratings. If a plan of corrective actions is required, the Statement of Compliance should not be issued until that plan has been verified by the Administration.

Should the Administration identify material discrepancies in reported data or the CII calculation, this should be communicated to the company for clarification or correction. A discrepancy is material if it, or aggregation of discrepancies, could influence the reported total by more than ±5%. The Statement of Compliance should not be issued until such material discrepancies are clarified or corrected.

The Statement of Compliance is valid for the calendar year in which it is issued and for the first five months of the following calendar year. All Statements of Compliance shall be kept on board for at least five years.


WL 51MT Single lift
WL 2x32.5MT Twin lift
LANDSIDE
TCNU 821512 4

Key Takeaways

- The Administration will specify supporting documents to be submitted along with the DCS reporting form
- The Administration assigns the ships verified rating
- A Statement of Compliance (SOC) will be issued by the Administration on successful completion of verification
- If the ship is E rated for a single year or D rated for three consecutive years the SOC should not be issued until an amended SEEMP including a plan of corrective actions has been submitted to, and verified by, the Administration
- The SOC should not be issued until any identified material discrepacies in data or CII calculations have been clarified or corrected
- The verification guidelines address new ships delivered during the reporting period and scenarios such as a transfer of flag or company, undergoing a major conversion, ships having multiple loadlines, and permanent change of DWT/GT
- The Statement of Compliance is valid for the calendar year in which it is issued and for the first five months of the following calendar year
- Statements of Compliance shall be kept on board for at least five years

8. Port State Control

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Port State Control (PSC) of those countries which are parties to MARPOL Annex VI are empowered to inspect ships visiting their ports.

This includes checks on carbon intensity requirements. Port State inspection may verify that the ship holds a SEEMP, CII rating and a valid Statement of Compliance under the DCS fuel reporting and CII requirements. The inspection may further examine whether the SEEMP is being implemented in accordance with MARPOL Annex VI Regulation 28.

General provisions and requirements for port State control inspection are as per Article 5 of the MARPOL Convention and MARPOL Annex VI Chapter II Regulation 10.

MEPC 78 agreed draft amendments to the Procedures for port State control, 2021 (resolution A.1155(32)) to include guidance on CIIs, and referred those draft amendments to IMO's Sub-Committee on Implementation of IMO Instruments (III), to consider:

- Whether the implementation plan and/or the plan of corrective actions for a ship rated as D for three consecutive years, or rated as E, should be regarded as a detainable deficiency if these were not implemented by the ship as planned at the time of a PSC inspection

- Identify whether any further guidance needs to be developed on this issue

The III Sub-Committee decided that not implementing the CII implementation plan and/or the plan of corrective actions is not a detainable deficiency and advised MEPC 79 accordingly. Further guidance is needed on the issue.

Key Takeaways

- Port State control is empowered to inspect ships to confirm that they have a SEEMP and a valid Statement of Compliance

- At this stage, failure to implement the plan of corrective actions (where applicable) or the CII implementation plan is not a detainable deficiency

- General provisions and requirements for port state control inspection are as per Article 5 of the MARPOL Convention and MARPOL Annex VI Regulation 10

9. Frequently Asked Questions (FAQ)

World Shipping Council

This FAQ section provides answers to some frequently asked questions with respect to CIIs and ship rating.

In cases where a company may have specific questions concerning their ships, they should contact the Administration (or a duly authorized RO) responsible for those ships directly.

1. Do CIIs consider cargo carried?

The mandatory CIIs which ships are to report, AER for container ships and cgDIST for vehicle carriers, do not consider cargo carried. They are based on capacity, DWT and GT respectively.

2. Is there any way for ships to report CIIs calculated using cargo carried?

Yes, ships may report their EEOI values on a voluntary basis, which is calculated using cargo carried.

3. What enforcement action will be taken against poorly rated ships?

Ships rated as E, or as D for three consecutive years will be required to develop a plan of corrective actions, to be verified by the Administration and implemented by the company. The Administration may withhold issuance of the Statement of Compliance if they identify problems with data, or the plan of corrective actions (where required) is not submitted. Currently, failure to implement the CII implementation plan and/or plan of corrective actions is not a detainable deficiency.

4. If a ship is D rated for two consecutive years, then achieves a C rating followed by dropping back to D in the following year, will a plan of corrective actions be necessary?

No. A plan of corrective actions is only required if the ship is E rated for a single year or D rated for three consecutive years.

5. When will the first CII ratings be issued?

The first reporting period ends 31 December 2023, attained CII are to be reported to the Administration by 1 April 2024, the Administration will then assign the verified ratings. Therefore, the first ratings will be assigned during Q1/Q2 2024.

6. Who assigns the ship CII rating?

The rating is calculated by the company and reported as part of the DCS submittal, however the ships verified rating (which will become its official IMO rating) is assigned by the Administration.

7. What is the periodicity of the CII implementation plan?

Three years.

8. Does the SEEMP need to include a self-evaluation and improvement procedure?

Yes, self-evaluation and improvement procedures are required within the SEEMP.

9. I have been advised that because my ship is under performing, I will need to submit a plan of corrective actions during 2023. Is this correct?

No. There will be no verified ratings until the end of the reporting period. The verified rating, which will be entered into the Statement of Compliance, will be assigned by the Administration when it verifies DCS data and the attained CII value.

10. Does the ship have to achieve the required CII (AER/cgDIST) value, or is it only required to avoid being E rated or D rated for three consecutive years?

Unless a plan of corrective actions is required it is not necessary to achieve the required AER/cgDIST value. However, if a plan of corrective actions is required, it is to demonstrate the steps which will be taken to return the ship to the required CII value, not simply to achieve a C rating.

11. Are the CII rating vectors re-calculated each year?

No, the rating vectors which define the rating bands are based on 2019 DCS data and distribution of ships in that reporting year, as explained in the G4 guidelines.

12. If a ship's attained CII value lands on a rating boundary, which rating band is applied?

If the attained CII lands on a rating boundary, the ship should be rated as the better of the two ratings.

13. Can the ship be detained for poor CII performance?

If the ship has the required verified SEEMP on-board, and Statements of Compliance for the previous reporting period on-board it should not be detained. Failure to implement the SEEMP and/or plan of corrective actions is not at the present time a detainable deficiency. However, this may change.

14. Can the Administration decline to issue the CII Statement of Compliance?

Yes, if any material deficiencies in data or calculations are not addressed, the Administration may decline to issue the SOC. Similarly, if the ship does not submit an appropriate plan of corrective actions in the case of ships rated E or D for three consecutive years it should withhold issuance of the SOC.

15. What is a material deficiency in data?

A discrepancy is material if it, or aggregation of discrepancies, could influence the reported total by more than ±5%.

16. Are there any incentives for A and B rated ships?

The MARPOL Convention encourages Administrations, port authorities and other stakeholders as appropriate, to provide incentives to ships rated as A or B, however it is for those stakeholders to make a decision on whether they will offer such incentives.

17. Will CII ratings be public?

Currently there is no IMO mechanism to circulate ship ratings to the public. Ratings will be included in the DCS report and reported to the Organization, as well as in the ship Statement of Compliance issued to the ship by the Administration. However, it is expected that charterers, shippers, financial institutions and other stakeholders will request sharing of CII ratings.

18. Does the CII implementation plan have to be submitted to the Administration?

Yes. Part III of the SEEMP, which includes the CII implementation plan, is to be submitted to the Administration for verification. This is to be done before commencement of 1 January 2023 for existing ships.

19. Does the ship have to achieve the required CII (AER/cgDIST) value, or is it only required to avoid being E rated or D rated for three consecutive years?

Detailed guidance is provided in the 2022 Guidelines for Administration Verification of Ship Fuel Oil Consumption Data to report data and calculate CII values based on part year performance.

20. What do I do if a ship transfers flag or company during the reporting period?

The 2022 Guidelines for Administration Verification of Ship Fuel Oil Consumption provide detailed guidance for cases where a ship transfers flag or company during the reporting period.

21. Who is responsible for monitoring a plan of corrective actions?

The plan of corrective actions is to designate a person of the company to be responsible for the added and revised measures, monitoring and recording performance throughout and reviewing of the effectiveness of the corrective actions.

22. How do I know what documents, if any, I should submit to the Administration in addition to the DCS reporting form, when they verify the attained CII and rating at the end of the reporting period?

This should be confirmed by the Administration, but may include copies of the verified SEEMP part III, verified documents which establish DWT or GT, aggregated values of any applicable parameters necessary for trial CIIs if reported, documentary evidence for correction factors and voyage adjustments applied. Statements of compliance for previous two calendar years (where applicable) will be required to be submitted.

23. What happens if a ship does not receive a Statement of Compliance?

The Statement of Compliance is required to demonstrate compliance with statutory requirements of the MARPOL Convention. The Statement of Compliance is valid for the calendar year in which it is issued plus the first five months of the following year. The company has to submit data including the attained CII and rating for verification by April 1 each year meaning that in the worst case the Administration will have two months to complete verification and issue the Statement of Compliance before the previous statement ceases to be valid.

24. Can port state control inspect the SEEMP, CII rating and Statement of Compliance?

Yes.

25. What is the 'company'?

The company is the owner of the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship and who has agreed to take over all the duties and responsibilities imposed by the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code)

26. CII performance will be degraded by lengthy periods at anchor or operating in adverse weather, if this included in the CII correction factors?

No, correction factors for port waiting time and operation in adverse whether were proposed but not agreed by IMO member States. This may be reconsidered at the time of the review which is to be completed by 1 January 2026.

27. Will IMO review the measure and improve the measure, such as consideration of further correction factors?

Yes, a review is to be completed by 1 January 2026. However, since the first verified data will not be available until Q1/Q2 2024, it is to be completed by 1 January 2026 and the time needed to undertake an analysis and reach agreement it is expected that this review will only be able to consider verified data for 2023.

10. Further Reading

World Shipping Council

The following IMO documents provide the statutory requirements relating to CIIs and associated supporting guidelines.

These are the documents which govern how CIIs are to be implemented by Administrations, regardless of any interpretations, guidance and advice published by other bodies such as classification societies, consultants, trade associations etc. In the case of any confusion or contradictory guidance members should consult the relevant Administration directly.

1. MARPOL Annex VI Chapter IV - Regulations on the Carbon Intensity of International Shipping.

In particular:

- Regulation 6 – Statement of Compliance
- Regulation 10 – Port State Control
- Regulation 12 – Ozone depleting substances
- Regulation 19 - Application
- Regulation 26 - Ship Energy Efficiency Management Plan (SEEMP)
- Regulation 27 - Collection and Reporting of Ship Fuel Oil Consumption Data
- Regulation 28 - Operational Carbon Intensity

2. MEPC.346(78) - 2022 Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP).

3. MEPC.352(78) - 2022 Guidelines on Operational Carbon Intensity Indicators and the Calculation Methods (CII Guidelines, G1).

4. MEPC.353(78) - 2022 Guidelines on the Reference Lines for Use with Operational Carbon Intensity Indicators (CII Guidelines, G2)

5. MEPC.338(76) - 2021 Guidelines on the Operational Intensity Reduction Factors Relative to Reference Lines (CII Reduction Factors Guidelines, G3)

6. MEPC.354(78) - 2022 Guidelines on the Operational Carbon Intensity Rating of Ships (CII Rating Guidelines, G4)

7. MEPC.355(78) - 2022 Interim Guidelines on Correction Factors and Voyage Adjustments for CII Calculations (CII Guidelines, G5)

8. MEPC.332(76) Amendments to the 2018 Guidelines on the Method of Calculation of the Attained Energy Efficiency Design Index (EEDI) for New Ships (Resolution MEPC.308(73), as Amended by Resolution MEPC.322(74))

9.MEPC.348(78) - 2022 Guidelines for Administration Verification of Ship Fuel Oil Consumption Data

10. A. 1155(32) Procedures for Port State Control, 2021

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If you want to contact our offices, please go to: worldshipping.org/contact-us
Or email us directly via: info@worldshipping.org


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