

MARINE ENVIRONMENT PROTECTION
COMMITTEE
82nd session
Agenda item 6

MEPC 82/6/29
26 July 2024
Original: ENGLISH
Pre-session public release:

ENERGY EFFICIENCY OF SHIPS

World ports methodology for assessing GHG performance of ships for use in port incentive schemes, and rationale for not directly integrating CII

Submitted by IAPH

SUMMARY

Executive summary: With this document, IAPH wants to contribute to the review of the IMO short-term GHG reduction measure and the Carbon Intensity Indicator (CII) in particular. Acknowledging in practice the controversy over the accuracy and reliability of CII, IAPH decided to develop its own GHG performance indicator as part of the new Environmental Ship Index (ESI) to be fully operational in 2026. The document informs the Committee of the respective developments in ESI, the standard index used globally by ports for the provision of incentives to ships, and draws recommendations for the Committee's attention on the way forward in reviewing CII.

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 17

Related documents: Resolution MEPC.366(79) and MEPC 80/7/2

Introduction

1 At MEPC 75 in November 2020, IAPH warmly welcomed the approval of the short-term measure and the Carbon Intensity Indicator (CII) in particular, as a clearly positive development towards the direction of assessing the carbon intensity of international shipping and driving respective improvements in line with the aims of the IMO GHG Strategy. Since then, shortcomings of CII have been identified by the industry, especially concerning the accurate and reliable evaluation of the GHG performance of certain types of ships, and various submissions have been received calling for introducing correction factors and for revising the indicator. MEPC 81 acknowledged the concerns raised by IMO Member States and industry, recognizing "shortcomings and unintended consequences of the CII mechanism and the general agreement that these concerns should be fully considered and addressed during the CII review process."

2 The adoption of the short-term measure, including EEXI and CII, by IMO, coincided with the review of the IAPH Environmental Ship Index (ESI), the standard index used by world ports to incentivize outstanding ship performance in terms of emissions. An important component of this review has been the development of a comprehensive ESI module targeting the evaluation of the GHG performance of vessels. In this process, ESI carefully examined the adopted IMO indicators and considered their integration. IAPH informed the Committee regarding these developments as part of its submission MEPC 80/7/2 on "World ports progress in delivering on the key areas identified by resolution MEPC.366(79)".

3 This submission outlines the main elements of the recently approved new ESI GHG comprehensive module, that will become fully operational in 2026, and explains the rationale of the decisions taken in this process, including not directly integrating CII for the time being. In that way, the submission provides input to the review of CII to be initiated at MEPC 82 and aligns with the views of the shipping industry regarding tackling the identified CII shortcomings in the process.

IAPH Environmental Ship Index (ESI)

4 Several world ports voluntarily promote and reward the proactive emission policies of shipping companies that choose to perform beyond legal requirements. They do so, based on established indexes and schemes. Back in 2011, aiming to assist ports in the development and adoption of such voluntary port incentives, IAPH established the Environmental Ship Index (ESI)*. Since then, ESI has developed to become the standard tool used by world ports to reward and incentivize shipowners with ships that exceed IMO emissions standards.

5 Currently, around 6,500 commercial ships globally are registered in the ESI database and there are more than 80 organizations, predominantly port authorities, that actively provide incentives based on ESI. The ESI scores of participating ships and the types of incentives provided by ports are publicly available on the ESI website.

6 ESI is a voluntary system that provides a numerical representation of the environmental performance of ships regarding air pollutants, CO₂ and noise. It currently scores ships on NO_x and SO_x emissions directly and proportionally, and gives a fixed bonus for documentation and operational energy efficiency performance and the installation of zero-emission technologies at berth (e.g. OPS-ready ships).

7 The GHG ship performance module in ESI was intentionally kept as a simplified version of the Energy Efficiency Operational Indicator (EEOI) since 2011, due to the lack of globally applied operational standards. Following the developments at IMO over the last years, ESI evaluated ways to take into consideration the operational-based Carbon Intensity Indicator (CII) and the design-based indicators (EEDI and EEXI), while developing a new comprehensive GHG ship performance module as part of an overall upgrading of the ESI scheme. The IMO work on producing Life Cycle Assessment (LCA) guidelines for low- and zero-carbon fuels also fed into the development of the new ESI GHG module.

New ESI GHG module and links with IMO measures and requirements

8 The integration of CII into the ESI GHG module was analytically considered by the ESI Technical Advisory Group, consisting of world port experts, as part of the ESI review and upgrade exercise that was initiated back in 2020 and delivered a new Index that is currently under implementation and will be fully functional in 2026. The option of directly integrating CII would have presented clear advantages, due to its simplicity and full alignment with the global

* <https://www.environmentalshipindex.org/>

IMO standards. On the other hand, however, based on consultation and evidence gradually provided by the shipping industry and Member States through numerous submitted proposals calling for amending the CII, the ESI Group acknowledged that, in its current form, CII cannot always provide an accurate indication of ship performance, particularly for certain industry segments and ship types. The risk of incorrect evaluation of ships' performance is critical for ports that, on a voluntary basis, want to incentivize outstanding performance beyond legal requirements, based on accurate, sound and reliable indicators. In addition, CII is not applicable to all ship sizes that form the basis of the 6,500 commercial ships in ESI, 10% of which are of less than 5,000 GT. Furthermore, CII uses a tank-to-wake as opposed to a well-to-wake (WtW) approach with world ports identifying this as a shortcoming of the current system.

9 For the reasons above, the direct integration of CII in ESI was not deemed viable by the Group at this stage. Instead, ESI decided to take an alternative approach and focus on fuel transition and the carbon intensity of bunkered fuels in particular. By using a WtW approach with a focus on the CO_{2e} intensity of bunkered fuels, the distance sailed is no longer required in the ESI GHG formulas. Hence, the controversy over the operational characteristics of different shipping industry segments and how these impact their CII scores is tackled. The WtW CO_{2e} intensity values are being retrieved from either the Bunker Delivery Notes (BDNs) certificate of sustainability, or IMO defaults, with the global warming potential (GWP) of the different fuels also taken into account. The ESI GHG module incorporates a framework that works with all future low- and zero-carbon fuels, and it remains applicable and appropriate for all ship types and sizes.

10 Although not directly integrating CII, the ESI GHG module remains close to it and the IMO short-term measure, using the same relevant data sources where applicable. It is designed with the objectives of transparency and simplicity and uses existing data for verification. Reporting and verification of data in the new ESI are aligned with IMO requirements in terms of timelines and frequency. Respectfully, data reporting takes place annually (instead of every six months currently), on 1 July each year, after data verification by class. Furthermore, by focusing on the carbon intensity of bunkered fuels, ESI encourages and promotes the uptake of zero-carbon fuels in line with the aims and respective targets of the 2023 IMO GHG strategy. ESI maintains the principle of rewarding performance above legal requirements, currently using the Fuel EU maritime baseline 2020 as the basis, until an international IMO baseline value is agreed upon.

11 In parallel, the new ESI rewards innovation on board, including carbon capture, wind assistance, batteries and air lubrication. This is done through a separate innovation module which will be periodically reviewed to adjust to technological and market realities.

12 The changes in ESI will go into effect in 2026 upgrading the current system to comprehensively assess vessels' performance not only on GHG but also on air emissions (SO_x, NO_x), at berth performance, ambient and underwater noise. IAPH will be informing the Committee of these developments in due time. In parallel, IAPH looks forward to contributing to the forthcoming CII review process and assessing further alignment in the future depending on developments.

Conclusions and recommendations

13 IAPH acknowledges that the current CII system has some inherent shortcomings recognized by IMO and may not always accurately reflect the true GHG performance of all types of ships. This, together with its non-applicability to smaller vessels (below 5,000 GT), were the main reasons for not directly integrating CII in ESI but developing a new ESI GHG performance module instead, to serve as the basis for the voluntary provision of port incentives to ships performing above legal requirements.

14 Despite non-directly integrating CII, ESI remains close to the IMO short-term measure, using the same relevant data sources and aligning its data reporting and verification with the IMO requirements in terms of time frames and frequency. Furthermore, ESI serves the targets of the 2023 IMO GHG Strategy regarding the uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources.

15 By increasing the number of world ports offering incentives to best-performing ships, more cost-saving opportunities for frontrunner shipping companies can be generated. Therefore, IAPH calls upon IMO Member States to inform their ports of the availability and development of ESI and encourage them to consider setting ESI-based incentives to reward best-performing ships, on a voluntary basis.

16 IAPH looks forward to the start of the CII review process at MEPC 82 in September 2024, continuing through December 2025, and is committed to working closely with the shipping industry and stakeholders in contributing to the review process.

Action requested of the Committee

17 The Committee is invited to consider the information contained in this document, in particular the conclusions and recommendations in paragraphs 13 to 16, and take action as appropriate.
