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## ENERGY EFFICIENCY OF SHIPS

**The implications of the 2023 IMO GHG Strategy and work on the basket of mid-term measures for the revision of the CII**

**Submitted by WWF, Pacific Environment and CSC**

### SUMMARY

*Executive summary:* The purpose of this document is to place the revision of the Carbon Intensity Indicator (CII) in the context of the 2023 IMO GHG Strategy and the negotiation of the basket of mid-term measures, and, in particular, to ensure a clear understanding that the various short- and mid-term measures, that will be developed at the same time but in parallel, are collectively capable of delivering the highest level of climate ambition and contribute to a just and equitable transition.

*Strategic direction, 3  
if applicable:*

*Output:* 3.2

*Action to be taken:* Paragraph 15

*Related documents:* MEPC 81/6/1 and ISWG-GHG 16/2/19

### Introduction

1 This document comments on document MEPC 81/6/1 (Secretariat) and is submitted in accordance with the provisions of paragraph 6.12.5 of the *Organization and method of work of the Maritime Safety Committee and the Marine Environment Protection Committee and their subsidiary bodies* (MSC-MEPC.1/Circ.5/Rev.5).

### Background

2 Developed as an integral component of a set of policies intended to drive greater energy efficiency of ships, the Carbon Intensity Indicator (CII) entered into force on 1 November 2022 and came into effect on 1 January 2023 to all ships covered by the Data Collection System (DCS). This earlier measure was a precursor to the start of work on what is now referred to as the basket of mid-term measures and predates the *2023 IMO strategy on reduction of GHG emissions from ships* (2023 IMO GHG Strategy). In the intervening years, mounting evidence has increased our understanding of the seriousness of the climate crisis,

including the looming risk of hitting irreversible climate tipping points. The 2023 IMO GHG Strategy reflects this growing awareness and has gone some way to bringing the Organization's aims and ambitions into line with climate science and with the urgent need to keep global heating below 1.5°C above pre-industrial levels.

3 The revision of the CII, which is due to start at MEPC 82 and conclude before the end of 2025, is a key opportunity to bring it up to date with the 2023 IMO GHG Strategy and to make sure that it works in the future in a coherent way with the contents of the basket of mid-term measures being negotiated at the same time. With the absence of any firm enforcement mechanism and with annual energy efficiency improvement requirements that are little better than "business as usual", it is perhaps understandable that some have referred to this first period of the CII as an "experience-building phase". But this phase must come to an end and from 2027 the CII must be in a position to play a major role, alongside the proposed GHG Fuel Standard (GFS) and other mid-term measures, in driving the urgently needed ship climate emission reductions.

### **Levels of ambition and CII**

4 The revised CII will be central to the Organization's ability to drive emission reductions on a pathway that meets the targets contained in the 2023 IMO GHG Strategy, which has committed the industry to decarbonize by 2050 and aim to cut emissions by 30% by 2030, and 80% by 2040. The 2023 IMO GHG Strategy also contains a commitment to ensure a 5 to 10% uptake of zero emission fuels/energy sources by 2030. As warming has already reached approximately 1.2°C<sup>1</sup>, early emissions reductions are especially important to avoid breaching the 1.5°C threshold and to avoid triggering climate tipping points. Even assuming that a maximum of 10% new near-zero and zero-emission fuels are available by 2030 there remains a very significant "emissions gap" that must be filled by improvements in ship energy efficiency driven by the CII. There is no other measure on the table that can do this.

5 One may assume that to reach the 30% emissions reduction target by 2030, set out in the 2023 IMO GHG Strategy, an equivalent amount of emissions reductions should be achieved. In reality, the level of effort actually needs to be much higher as the 2030 targets are relative to a 2008 baseline, and emissions have continued to rise. The gap between the targeted emissions and actual 2030 BAU could be as high as 39%. And new fuels will not suddenly flood the market in the 2030s. Much of the 80% emission reductions aimed for by 2040 will also need to be met with improvements in energy efficiency. Indeed, as the International Chamber of Shipping recently pointed out<sup>2</sup>, perhaps one third of all emission reductions taking us to zero by 2050 will likely come from energy efficiency improvements.

6 Finally, it should also be remembered that the objectives in the 2023 IMO GHG Strategy are not fully in-line with keeping warming below 1.5°C. The necessary annual emission reductions derived from the Strategy's aim and objectives are the bare minimum that the Organization should be seeking to achieve. It is also important to acknowledge that, while some form of economic GHG emission pricing mechanism, such as a levy, will be an essential component of the transition to zero-emission shipping and ensuring it is equitable, just this alone would not be able to drive emission reductions in line with the 2023 IMO GHG Strategy pathway.

### **Fixing the CII**

7 If the Organization and international shipping are to meet their climate obligations and at least achieve the emissions reductions called for in the 2023 IMO GHG Strategy, then a number of changes will need to be made to the CII. Perhaps most important, after raising the

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<sup>1</sup> <https://climate.copernicus.eu/copernicus-2023-hottest-year-record>.

<sup>2</sup> Verbal intervention during [RINA Technical Conference: Managing CII and Associated Challenges](#).

levels of ambition (the energy efficiency improvement requirements), is ensuring that the targeted emission reductions are reliable and real. The current "soft" enforcement will need to be replaced with a more traditional approach that has real consequences for failing to comply.

8 There have also been a number of complaints made about the CII, suggesting that it does not always incentivize the right behaviour. These should be investigated during the review process and, if possible, the CII revised to improve its effect. As a general principle though, this process should not result in emissions that currently fall within the scope of the CII, being excluded in the future revision. Simply carving out chunks of emissions related to shipping activity and leaving them unregulated is not acceptable. While it is likely the CII can be adjusted to address many of the issues, it is unreasonable to expect the CII to produce perfect results for all ships in all circumstances. The pursuit of a perfect CII should not get in the way of an improved CII that delivers the fleet level emission reductions needed.

### **The CII and fuels**

9 Biofuels are now a way of meeting the CII but were not part of the original CII design and actually weaken the CII's special focus on ship operations. With a GFS being developed in parallel with the CII revision, it is logical to ask whether a new CII should allow its requirements to be met via the use of alternative fuels. The co-sponsors believe that the CII and the GFS have important but distinct roles to play, and that they will work best if the GFS is driving the uptake of new fuels, while the CII ensures more efficient ship operations. Using fuels to comply with the CII is likely to reduce the incentive to improve the energy efficiency of an individual vessel, leaving important energy efficiency gains that are needed to meet the Organization's goals on the table. And, if fuels are a route to compliance with both the CII and the GFS, there is also a risk of double counting reductions and weakening the aggregate requirements of the Organization's measures, something that can only make reaching the Organization's goals harder. And this leads to another important point.

### **The CII is not just a short-term measure**

10 The need for an operational energy efficiency measure, like the CII, to drive emission reductions from fossil fuel-powered ships should be clear. What is perhaps less obvious is the importance of ensuring efficient ship operations when vessels are using future new zero GHG emission fuels. There are two reasons why this is important.

11 First, the efficient operation of ships is important for other environmental impacts from ships. As the recent Organization's workshop on the relationship between energy efficiency and underwater radiated noise (URN) clearly illustrated<sup>3</sup>, ships that operate more efficiently, with the objective of reducing GHG emissions, are also quieter and less likely to disturb whales and other ocean wildlife. When ships slow down, they are also less likely to collide with and kill/injure whales and other ocean wildlife and are, generally, less polluting. This is the other largely unacknowledged aspect of shipping's climate impact: ship operations are routinely and relentlessly undermining global ocean health<sup>45</sup> and hindering the ocean's ability to help us mitigate global heating<sup>6</sup>. Healthy ocean ecosystems are needed to win the fight against global heating, and for that, a general lowering of shipping's environmental impact is needed, not just for it to reduce its GHG emissions, as important as that is.

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<sup>3</sup> <https://www.imo.org/en/About/Events/Pages/URN-Workshop-2023.aspx>

<sup>4</sup> <https://seas-at-risk.org/publications/the-state-of-shipping-oceans-report/>

<sup>5</sup> Navigating the Future Bridging Shipping, Biodiversity, & Decarbonization.

<sup>6</sup> <https://www.unep.org/topics/ocean-seas-and-coasts/nexus-ocean-and-climate>

12 Second, while it is important that the availability of safe new zero-carbon fuels is quickly and efficiently ensured, it will be in the interests of wider society to keep the burning of these new fuels in ships to an absolute minimum. They will be costly to produce and, while the economies of scale and structure of the shipping industry may allow them to pass these costs on, the additional cost, nonetheless, represents a loss to society. New zero-GHG emission hydrogen derived fuels are made using renewable electricity that will be in short-supply for the foreseeable future. The process is very energy-intensive, and if that electricity is being used to create ship fuel, then it cannot be used to more efficiently decarbonize other parts of the economy. The Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping has estimated that every \$1 spent on improving on-board energy efficiency would save \$10 in costs associated with the supply of these new fuels<sup>7</sup>. When shipping has the possibility of significantly improving its operational efficiency and is uniquely placed to exploit wind energy directly and for free, it is difficult to justify the unnecessary use of these new fuels. The cost might be "passed to", but it is still borne by, society and those monies unavailable for other uses, including helping facilitate an equitable and just transition.

13 This is why the CII should be seen as a long-term tool specifically calibrated purely for improving and maintaining on-board operational efficiency and to suppress fuel burn to the greatest extent possible. Less demand for fuel means immediate cuts in GHG emissions from fossil fuels and avoiding the wasteful and costly burning of expensive energy-intensive new zero-carbon fuels in the future. There is, understandably, a worry that decarbonizing international shipping will place inappropriate economic burdens on those countries least responsible for the climate crisis but likely most impacted by it. This is another reason why the CII is important in the short term and beyond 2030. It alone has the potential to drive the kind of shipping change, e.g. slower speeds and more wind propulsion, that will minimize the cost of decarbonisation.

### **Recommendations/conclusions**

14 In light of the above, the co-sponsors encourage the Committee to consider the need for the following when revising the CII:

- .1 that CII requirements must be calibrated to ensure that at least the 2030 and 2040 "striving" emission reductions specified in the 2023 IMO GHG Strategy are met and, ideally, are ambitious enough to put shipping on an unambiguously 1.5°C compliant pathway;
- .2 coherence with the GFS and, in particular, the use of a new CII metric that cannot be met with alternative fuels (e.g. MJ/t-nm) and that focuses exclusively on improving operational efficiency and reducing fuel burn (leaving the GFS to regulate fuels uptake);
- .3 an effective enforcement mechanism, ensuring that emission reductions are reliable and real;
- .4 a long-term CII requirement that ensures continued future improvements in operational efficiency and no backsliding on operational efficiency gains; and
- .5 a focus on incentivizing and prioritizing the use of energy efficiency measures that deliver significant benefits for the prevention and reduction of URN and ocean health more broadly.

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<sup>7</sup> Presentation at [RINA Technical Conference: Managing CII and Associated Challenges](#).

**Action requested of the Committee**

15 The Committee is invited to note the information provided in this document, in particular the recommendations/conclusions in paragraph 14, and ensure that these are considered during the process of revision of CII.

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