

## IMO regulations aimed at reducing greenhouse gas emissions in shipping

The International Maritime Organization (IMO) met in June 2021 and agreed amendments to the International Convention for the Prevention of Pollution from Ships (MARPOL) Annex VI that will require, as applicable, vessels to reduce their greenhouse gas emissions.

The Club has produced the following reference table to highlight existing and new regulations related to the IMO's goals.

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▶ **IMO REGULATIONS AIMED AT REDUCING GREENHOUSE GAS EMISSIONS IN SHIPPING**



The International Maritime Organization (IMO) has introduced new operational and technical frameworks aimed at affecting a 40% reduction in carbon intensity compared to 2008 across the global shipping fleet by 2030. These measures will be implemented through amendments to Annex VI of the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL Convention). The effectiveness of these measures will be reviewed by 1 Jan 2026, at the latest, with further developments adopted if deemed necessary.

|                                   | Ship Energy Efficiency Management Plan (SEEMP)   | Energy Efficiency Design Index (EEDI)   | Carbon Intensity Indicator (CII)  | Energy Efficiency Existing Ship Index (EEXI)   |
|-----------------------------------|--|---|---|--|
| <b>What is it?</b>                | Ship specific plan containing energy efficiency improvement measures.  | An index which defines minimum energy efficiency levels, depending on vessel type.  | A measure of how efficiently a ship transports goods or passengers and is given in grams of CO <sub>2</sub> emitted per cargo-carrying capacity and nautical mile.  | A technical framework for determining the energy efficiency of in-service vessels, with considerations made for each vessel type.  |
| <b>Who does it apply to?</b>      | All ships over 400GT shall comply with Part I. A verified Part II is mandatory for all ships above 5,000 GT as part of the Data Collection System. A verified Part III is required for all ships subject to the Carbon Intensity Indicator (CII) – i.e. cargo, Ro-Pax and cruise passenger vessels above 5,000 GT. | All new (Passenger, cargo and ro-ro vessels). Vessels above 400GT with the exception of vessels with diesel-electric, steam turbine or hybrid propulsion systems.           | Passenger, cargo and ro-ro vessels of 5,000 GT and above, trading internationally   | All existing vessels above 400GT that fall under the requirements of MARPOL Annex VI.  |
| <b>How does it work?</b>          | Applicable vessels will seek to improve energy efficiency through four steps: planning, implementation, monitoring and self-evaluation and improvement.  | Applicable vessels will be designated an Attained EEDI, this will be compared to a Required EEDI. Technical changes will need to be implemented to reach the required EEDI. | Applicable vessels will be designated an Attained Annual Operational CII, this will be compared to a Required Annual Operational CII, with a CII rating between A and E awarded depending on the difference. Within each rating level there is an annual reduction factor for the improvement of the CII. This rating is recorded in the SEEMP. | Applicable vessels will be designated an Attained EEXI, this will be compared to a Required EEXI. Technical changes will need to be implemented to reach the Required EEXI requirements. EEXI implementation phases have been established for each vessel type along with accompanying <a href="#">reduction factors</a> .   |
| <b>How to comply?</b>             | <ul style="list-style-type: none"> <li>• hull cleaning to reduce drag</li> <li>• speed and routing optimisation</li> <li>• installation of low energy light bulbs</li> <li>• Alternative fuels</li> </ul>  | <ul style="list-style-type: none"> <li>• Improved hull design</li> <li>• Waste heat recovery</li> <li>• Reduced electrical consumption</li> </ul>                           | <ul style="list-style-type: none"> <li>• hull cleaning to reduce drag</li> <li>• speed and routing optimisation</li> <li>• installation of low energy light bulbs</li> <li>• Alternative fuels</li> </ul>   | <ul style="list-style-type: none"> <li>• Propulsion and engine optimizations</li> <li>• Engine Power Limitation (EPL)</li> <li>• Low friction coating</li> <li>• Low resistance rudder</li> <li>• Optimized propeller design</li> <li>• Hull air lubrication system</li> <li>• Wind assistance sails</li> <li>• Heat recovery systems</li> <li>• Solar PV</li> </ul> |
| <b>How is compliance checked?</b> | Shipowners and the vessel are audited to assess the management plan, record keeping and how this is implemented on board. This will lead to the issuance of the International Energy Efficiency Certificate (IEEC).  | EEDI Technical File is verified and the IEEC should be issued on delivery.  | The Attained Annual Operational CII will be documented and verified against the Annual Operational CII. Ships rated D for three years, or E, would need to submit a corrective action plan to demonstrate how a minimum rating of C would be achieved. Incentives are to be granted for vessels rated A or B.                                   | EEXI Technical File is verified at the first annual, intermediate or renewal survey for its IAPP certificate. This will lead to the re-issuance of the IEEC.   |