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Strategies for ship Decarbonisation: Technical Measure for reducing Energy Efficiency Existing Ship Index

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Emerging energy efficiency regulations and ongoing industrial studies are boosting the reduction of ship pollutant emissions. Researches are progressively stimulating innovation in energy efficiency management allowing the adoption of new technologies by shipowners.

In order to find new strategies to reach Greenhouse Gas (GHG) goals, the IMO imposed new technical requirements to reduce carbon intensity by means the Energy Efficiency Existing Ship (EEXI) Index. This new technical measure is compulsory for existing ships. These indexes estimates grams of CO₂ per transport work (g of CO₂ per tonne-mile).

For each vessel in operation an Attained EEXI must be calculated and benchmarked for compliance with a Required EEXI.

The parameters that have the greatest impact on the determination of the Attained EEXI values will be assessed and compared the Required EEXI. Therefore, case by case, different technical solutions able to reduce the EEXI Exceedance percentage (i.e. the difference between the Attained EEXI and the Required EEXI) are tailored for each vessel with reference to the operating profile/scenario. Furthermore, in this paper a case study referred to a merchant fleet engaged in global operations is presented.

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