

Towards Sustainable Shipping

Market Overview & growth opportunities



SHAPING THE FUTURE | Global Growth Opportunities Reviews



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This report aims to provide some insight into the growth opportunities and challenges facing the shipping industry in implementing new technologies that will contribute towards promoting a sustainable future. The study collated a number of examples and views that further highlight the opportunities and lessons learned from various stakeholders across the international shipping industry, accompanied by state-of-the-art examples of events. This report highlights what most concerns customers with regards to sustainability and the forces of change that are pushing this mega trend forward: the environmental challenges impacting the shipping industry around the world and how the International Maritime Organization (IMO), a United Nations agency that is responsible for regulating international shipping, governments and corporations are responding. This research provides an overview of potential CO₂ reduction targets for international maritime transport and analyzes which targets would be consistent with the long-term global primary objective of keeping the temperature increase below 2°C.

Subsequently, interested parties are able to gain further information on the ways in which companies are adopting innovative strategies through a secondary report, facilitating industry players in implementing creative approaches and developing “green technologies” to further succeed in meeting new regulations posed by continued sustainability obligations.

This report is intended to serve as a tool for the application of concrete and ready-to-use technologies and solutions.





“Climate change is considered to be one of the major environmental problems facing the planet today.”

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EXECUTIVE SUMMARY

Climate change is considered to be one of the major environmental problems facing the planet today. The ultimate goal of the United Nations Framework Convention on Climate Change (UNFCCC) is to maintain ambient greenhouse gas concentrations at a rate that would prevent dangerous anthropogenic interference with the climate system (Article 2, UN 1992). The IPCC considers that increasing global demand for transport may pose a significant challenge to the potential achievement of emission reduction targets.

International shipping contributes around 3% to global emissions. Despite significant improvements in efficiency, CO₂ emissions from global shipping have grown and continue to rise as a result of strong demand for increased transportation. In 2012, the contribution to global CO₂ emissions of international maritime transport amounted to 2.2%.

In view of the projections of global trade growth, technological and organizational interventions alone would not be sufficient to reduce the level of GHG emissions from international shipping in a satisfactory manner. The International Maritime Organization (IMO) aims to facilitate achieving the internationally agreed goal of the rise in global temperature below 2°C. Shipping is a global industry that needs internationally standardized regulations.

MARPOL Annex VI was the first effort by the International Maritime Organization (IMO) to reduce ship pollution. This imposes a global limit on the sulphur content of fuel oil and implements technical software in phases to minimize nitrogen oxide (NO_x) emissions to marine engines. IMO has also introduced a set of steps through the Marine and Environmental Protection Committee (MEPC) to minimize and reduce ship

pollution by regulating the performance of ship operation and ship design. In April 2018, the International Maritime Organization (IMO) introduced a new strategy to reduce GHG emissions from shipping, by at least 50% by 2050 compared to the 2008 baseline. This is a landmark strategy aimed at bringing the industry into line with the Paris climate commitment, representing a historic achievement as the first global shipping climate system to promote the transition from international shipping to clean energy and enhanced sustainability.

The strategy also sets out targets for the reduction of carbon intensity for 2030 and 2050. The strategy includes the objective of reducing the carbon intensity of global shipping by at least 40% by 2030, compared to 2008 and efforts to reduce emissions by 70% by 2050.

As a result of the development of different emission control policies, abatement technologies and alternative

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fuels are being investigated in different industries and at different rates in the hope of finding the best technology or solution to comply with the new shipping regulations. The new climate strategy will have far-reaching implications for the industry, which will involve the rapid adoption of advanced technology and fuel switching at a much faster pace than has been achieved to date. There are several options for reducing shipping emissions through the use of alternative fuels and other technologies and forms of renewable energy.

The Energy Efficiency Design Index (EEDI), an efficiency standard for new ships, is actually the only IMO regulation in place to address the shipping industry's GHG emissions. This mandate involves an annual energy increase in efficiency of the fleet comprising only 1% on average between 2015 and 2025. However, the "IMO 2020" agreement will be implemented from 1 January 2020, which is the sulphur cap in fuel oil used on board ships operating beyond specified emission control areas to be reduced to 0.50% m/m (mass by mass).

Rapid adoption and extension of new measures, including improved EEDI, operational efficiency standards, low-carbon fuel requirements or regulations and a carbon pricing system, are important for continued shipping decarbonisation.



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