

ESG and Energy Transition in the Marine Environment

Dr Aime Harrison

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International Maritime Organization (IMO)

The IMO participates in the United Nations Climate Change Conferences, providing updates to the Subsidiary Body for Scientific and Technological Advice (SBSTA) on Emissions from fuel used for international aviation and maritime transport.

The IMO participated in the COP 29 conference to showcase its commitment to reduce GHG emissions from shipping and the 2030 Agenda for Sustainable Development.



International Maritime Organization (IMO)

MARPOL Convention

In 1973, the IMO adopted the International Convention for the Prevention of Pollution from Ships, now known universally as MARPOL, which has been amended and updated with relevant amendments.

The MARPOL Convention addresses pollution from ships by oil; by noxious liquid substances carried in bulk; harmful substances carried by sea in packaged form; sewage, garbage; and the prevention of air pollution from ships.



How does IMO's marine protection treaty make a difference?



The International Convention for the Prevention of Pollution from Ships (MARPOL) contains six annexes:





NOXIOUS LIQUID SUBSTANCES

Prevention of Pollution by Oil

(entered into force 2 October 1983)

OIL ANNEX I

Control of Pollution by Noxious Liquid Substances in Bulk (entered into force 2 October 1983)

HARMFUL SUBSTANCES

Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form (entered into force 1 July 1992)



SEWAGE

ANNEX IV Prevention of Pollution by Sewage from Ships (entered into force 27 September 2003)

GARBAGE ANNEX V

Prevention of Pollution by Garbage from Ships (entered into force 31 December 1988)



AIR ANNEX VI Prevention of Air Pollution from Ships (entered into force 19 May 2005)



Port reception facilities

MARPOL Annexes require member states to provide adequate port reception facilities for wastes generated during the normal operation of ships visiting their ports.









Stopping marine litter

MARPOL Annex V prohibits ships from discharging garbage into the sea. Ships must have a garbage management plan, and must store garbage and dispose of it in port reception facilities.

Recycling centre onboard MSC Virtuosa passenger ship









Cleaning the air

MARPOL Annex VI limits air pollution from ships, including sulphur oxides (SOx), particulate matter and nitrogen oxides (NOx), and thus improves air quality globally, particularly in coastal regions.





Breathing better

The IMO 2020 sulphur limit under MARPOL Annex VI reduced sulphur oxide emissions from ships by 77% from 1 January 2020, protecting human health and the oceans.







MARPOL Annex VI Regulation 10

Port State control on operational requirements This regulation allows a Party to inspect foreign ships which are in its ports or an offshore terminal under its jurisdiction to ensure compliance with the Annex. The amendments to Annex VI adopted by Resolution MEPC.278(70) introduced the Statement of Compliance and requires that the Statement be subject to verification pursuant to a port State control inspection.

This provision should be incorporated in national legislation.

The carbon intensity indicator (CII) requirement implemented in 2023 was introduced to assess and manage the individual ships' CO_2 emissions per transport work, represented by the product of a ship's DWT or GT value and the distance travelled for the calendar year.

GHG Strategy

2023 IMO Strategy on Reduction of Greenhouse Gas Emissions from Ships



The current (2023) IMO GHG Strategy includes a goal for reducing carbon intensity by 40% by 2030 compared to 2008.

The levels of ambition directing the 2023 IMO GHG Strategy are as follows:

- 1. carbon intensity of the ship to decline through further improvement of the energy efficiency design requirements for new ships;
- 2. carbon intensity of international shipping to decline;
- 3. uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to increase; and
- 4. GHG emissions from international shipping to reach net zero.

GHG Strategy

How can ports and shipping cooperate to reduce emissions from shipping?



- Onshore Power Supply (preferably from renewable sources);
- safe and efficient bunkering of alternative low-carbon and zero-carbon fuels;
- incentives promoting sustainable low-carbon and zero-carbon shipping;
- support for the optimization of port calls including facilitation of just-in-time arrival of ships; and
- "facilitating voluntary cooperation through the whole value chain, including ports, to create favourable conditions to reduce GHG emissions from ships through shipping routes and maritime hubs".

[Reference MEPC RESOLUTION.366(79) December 2022]

Green Corridors



GHG Strategy

The IMO Working Group On Air Pollution And Energy Efficiency discusses the environmental impacts of **port waiting time.**

Should the port waiting time be defined as:

- all voyage time excluding the period "at sea"?
- all waiting time for berthing, including anchoring and drifting (or waiting time after a specified period)?

- all time spent within the port when the engine is stopped, including cargo operation time?

- all waiting and transit time within the port, excluding cargo operation time?



Alternative Fuels



According to projections in the IMO GHG Study 2020, about 64% of the total amount of CO_2 reduction from shipping in 2050 will be achieved using alternative low/zero-carbon fuels.

Transitional benchmarking & scaling



Year	Targeted reductions relative to reference year
2020	Reference year
2025	↓ 2%
2030	↓ 6%
2035	↓13%
2040	↓26%
2045	↓59%
2050	↓75%



Sources: IMO, IRENA

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Existing orderbook drives demand for bunker facilities 48 candidate fuel production projects identified



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Public





FUELS & TECHNOLOGY PROJEC FOR LOW/ZERO CARBOI SHIPPING

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Update on the IMO Future Fuels & Technology Project (FFT Project)

Air Pollution and Energy Efficiency Team

Marine Environment Division, IMO Secretariat

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The **Future Fuels & Technology Project** launched a dedicated website in April 2024, works as an online information portal for promoting and sharing the latest information on zero and near-zero marine fuels and technologies for GHG emission reduction from international shipping in the mid- and long-term and how to get involved in a just and equitable transition.



The main focus is to provide:

1. Statistics and latest information on the uptake of zero and near-zero marine fuels and technologies, port/bunkering infrastructures, fuel prices, etc.

2. Future insight on GHG reduction scenarios and possible mitigation pathways, fuel mix, cost, etc.

https://futurefuels.imo.org/

3. Training materials, education, technical cooperation and events.

Alternative Fuels

"This voluntary standard offers guidance on the training seafarers require to handle these alternative fuels safely and with confidence.

There can be no just transition without first ensuring the safety of all seafarers involved, at every level."



Training Standard for Handling Alternative Fuels in the Maritime Sector

Ammonia, methanol and hydrogen

A guide for trainers and training managers

GreenVoyage2050 Accelerator

GREENVOYAGE 2050



The IMO GreenVoyage2050 Project and the Georgia Maritime Transport Agency met on 2 March 2023 in Batumi to identify practical opportunities to reduce emissions from shipping in Georgia:



Installation of innovative energy-saving devices on-board ships;

Hybridisation of ships – use of battery and electric power;



Infrastructure development for the provision and bunkering of alternative marine fuels;



Technologies that would enable ships to reduce emissions in port.



Pilot Project

Exploring the potential for the establishment of a new domestic passenger ferry route connecting several cities along the Black Sea coast to reduce road congestion and emissions, particularly during high tourist season.

National Lead Agency



Maritime Transport Agency of Georgia, Ministry of Economy and Sustainable Development of Georgia

National Partners

Mayor of Batumi Municipality

GreenVoyage2050 Accelerator support

 Financing and co-developing a pilot project feasibility study to assess green technology options and business models for a new, green ferry route. გმადლობთ ყურადღებისთვის.

ახლა მოდით განვიხილოთ!

Thank you for your attention.

Now let's discuss!

