Recent environment-related regulatory developments relevant to ships operating in Arctic waters

October 2022

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Prohibition on the use and carriage for use as fuel of heavy fuel oil by ships in Arctic waters

Amendments to MARPOL Annex I, adopted by resolution MEPC.329(76)

New regulation 43A on Special requirements for the use and carriage of oils as fuel in Arctic waters

With the exception of ships engaged in securing the safety of ships or in search and rescue operations, and ships dedicated to oil spill preparedness and response, the use and carriage of oils listed in regulation 43.1.2* of this Annex as fuel by ships shall be prohibited in Arctic waters, as defined in regulation 46.2 of this Annex, on or after 1 July 2024.

* oils, other than crude oils, having a density at 15° C higher than 900 kg/m3 or a kinematic viscosity at 50° C higher than 180 mm²/s

Additional exceptions until 1 July 2029 at which point the prohibition will apply in full to all ships.
Regional arrangements for port reception facilities

Draft amendments to MARPOL Annexes I, II, IV, V and VI to be considered for adoption by MEPC 79

Draft amendments to the MARPOL annexes to allow States with ports in the Arctic region to enter into regional arrangements for port reception facilities.

Resolution MEPC.342(77) – Protecting the Arctic from Shipping Black Carbon Emissions

URGES Member States and ship operators to voluntarily use distillate or other cleaner alternative fuels or methods of propulsion that are safe for ships and could contribute to the reduction of Black Carbon emissions from ships when operating in or near the Arctic.

Work on draft guidelines on recommendatory goal-based control measures to reduce the impact on the Arctic of Black Carbon emissions from international shipping continues at the PPR Sub-Committee.
2018 IMO Initial Strategy on Reduction of GHG emissions from international shipping

World Nations Agree to At Least Halve Shipping Emissions by 2050

Resolution B.268(83) (approved on 13 April 2018)

ART II. 103 STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

RECALLING Article 3(6) of the Convention on the Prevention of Pollution of the Marine Environment from Ships (the Convention) concerning the functions of the Marine Environment Protection Committee and Article 9 of the Protocol of 1997 of the Kyoto Protocol of the United Nations Framework Convention on Climate Change;

RECALLING the resolution adopted by the Eighteenth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, Contracting Parties to the Convention and parties to the Kyoto Protocol;

RECALLING the United Nations 2030 Agenda for Sustainable Development,

RECALLING that in accordance with resolution 57/185 of the General Assembly, INSCRIBES the 2018 UN Oceans Day, under its theme “Our Oceans, Our Future,” in the annual programme of events of the General Assembly for 2018;

ADOPTS the Initial IMO Strategy on Reduction of GHG Emissions from Ships in 2018:

1. ADOPTS the Initial IMO Strategy on Reduction of GHG Emissions from Ships (hereinafter the Initial Strategy) as set out in the present resolution;

2. INVITES the Secretary-General of the Organization to make additional proposals to the Intergovernmental Technical Cooperation Programme (ITCP) to support awareness-building and promotion of the Initial Strategy in non-COMET countries, particularly developing States and small island developing States (SIDS);

3. INVITES the Secretariat to keep the Initial Strategy under review, with a view to adoption of a Revised IMO Strategy on reduction of GHG emissions from ships in 2020.
IMO’s commitment to phase out GHG emissions from international shipping: driving innovation around the world

Vision

- Phasing out GHG emissions from international shipping as soon as possible in this century

Levels of ambitions

- further strengthen energy efficiency design requirements for ships
- 2030: reduce carbon intensity by at least 40%, compared to 2008
- 2050: reduce the total annual GHG emissions by at least 50% compared to 2008

Other key elements

- Impacts on States of candidate GHG reduction measures to be assessed before adoption
- Initial Strategy to be revised by 2023
GHG reduction: Over 10-years of mandatory IMO energy-efficiency requirements in MARPOL Annex VI

**Ship Energy Efficiency Management Plan (SEEMP)**
Since 2013: Each ship shall have a **ship-specific SEEMP** on board

**Energy Efficiency Design Index (EEDI)**
Since 2015: Gradually **more stringent energy efficiency performance of new build ships** under subsequent EEDI phases

**IMO’s Fuel Consumption Data Collection System**
Since 2019: Ships over 5,000 gt to report **annual fuel consumption data** to their Administration; forwarded to IMO

**2020:** 111 Administrations - **27,723 ships - 203 million tonnes of fuel**

*The existing energy efficiency requirements provide key building blocks for future GHG reduction measures*
Implementing the Initial GHG Strategy: IMO binding regulations in MARPOL Annex VI drive innovation

- Entry-into-force by **November 2022**; to be reviewed by **2026**
- Aiming for **40% carbon intensity reduction of global fleet** by 2030
- **Mandatory annual goal-based reduction requirements (EEXI/CII):** leaving **compliance flexibility** to owner/operator
- The **annual CII rating (A – E)** is an important tool for the **maritime value chain** (ports, charterers, financial sector) to provide incentives
Developing the next set of IMO regulatory measures enabling the uptake of low and zero-carbon marine fuels

- Creating a global level-playing-field that leaves nobody behind
- Supporting first-movers whilst avoiding stranded assets
- Supporting further confidence among all IMO Member States and industry

1. A strengthened **revised IMO GHG Strategy** setting out the reduction pathways to decarbonize international shipping

2. **IMO Lifecycle GHG assessment (LCA) guidelines** identifying “well-to-wake” carbon content of alternative low-carbon marine fuels

3. **Safety framework** to allow for safe use of alternative marine fuels (hydrogen, ammonia, etc.)

4. **Mid-term GHG reduction measures**, incl. possible **MBMs**, to incentivize the uptake of low/zero carbon alternative fuels
Revision of the Initial IMO GHG Strategy

Next steps in revising the IMO GHG Strategy:

- **Further negotiations** between States during IMO’s Marine Environment Protection Committee (MEPC 79) in December 2022 (in-person, complemented by remote participation)
- **Revised IMO GHG Strategy** to be agreed by July 2023

Other events that may affect the IMO revision process:

- **COP 27**: 7-18 November, Sharm-el-Sheikh, Egypt
- **G20 Summit**: 15-16 November, Bali, Indonesia
Decarbonizing international shipping in line with a 1.5 degrees Celsius pathway requires a transition to low-and zero carbon fuels.

What will the future low-carbon fuel mix for shipping look like?

**Liquid hydrogen as shipping fuel**

Pioneering intercontinental H2 carrier gets technical green light

Kawasaki Heavy-designed vessel engineered to store 100 times more hydrogen than shipbuilder’s Suizo Frontier, which delivered world’s first liquefied H2 cargo in early 2022.

**Op-Ed: Putting Bio-LNG and Synthetic LNG Into Focus**

**Shipping giant Maersk to become major green hydrogen consumer as it embraces methanol fuel**

Danish company has ordered 12 methanol-powered container vessels from shipbuilder Hyundai Heavy Industries

**Rio Tinto and BP Starting Year-Long Sustain Trial of Biofuels**

RTM Tazman loading at Iron Ore Company of Canada’s Sept-Iles port in Quebec, during the first trial voyage using biofuel.

**Shipbuilders Make Progress with Designs for Ammonia-Fueled Ships**

Mitsubishi completed designs for a LPG-fueled gas carrier that it says will be simple to convert to ammonia (Mitsubishi Shipbuilding)
Thank you.