

HOW THE **POLAR** CODE PROTECTS THE ENVIRONMENT

OIL



DISCHARGES

Discharge into the sea of oil or oily mixtures from any ship is prohibited



STRUCTURE

Double hull and double bottom required for all oil tankers, including those less than 5,000dwt (A/B ships constructed on or after 1 January 2017)



HEAVY FUEL OIL

Heavy fuel oil is banned in the Antarctic (under MARPOL). Ships are encouraged not to use or carry heavy fuel oil in the Arctic



LUBRICANTS

Consider using non-toxic biodegradable lubricants or water-based systems in lubricated components outside the underwater hull with direct seawater interfaces

SEWAGE



DISCHARGES I

No discharge of sewage in polar waters allowed (except under specific circumstances)

GARBAGE



PLASTICS

All disposal of plastics prohibited (under MARPOL)



FOOD WASTES I

Discharge of food wastes onto the ice is prohibited



FOOD WASTES II

Food wastes which have been comminuted or ground (no greater than 25mm) can be discharged only when ship is not less than 12nm from the nearest land, nearest ice shelf, or nearest fast ice



ANIMAL CARCASSES

Discharge of animal carcasses is prohibited



CARGO RESIDUES

Cargo residues, cleaning agents or additives in hold washing water may only be discharged if: they are not harmful to the marine environment; both departure and destination ports are within Arctic waters; and there are no adequate reception facilities at those ports. The same requirements apply to Antarctic area under MARPOL

CHEMICALS



DISCHARGES

Discharge of noxious liquid substances (NLS) or mixtures containing NLS is prohibited in polar waters



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

October 2022

Mr Loukas Kontogiannis
Head of Marine Pollution Section
Marine Environment Division, IMO Secretariat

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

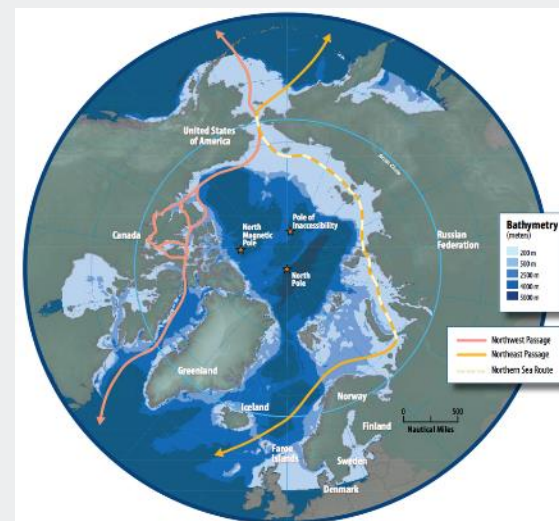
Amendments to MARPOL Annex I, adopted by resolution MEPC.329(76)

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.

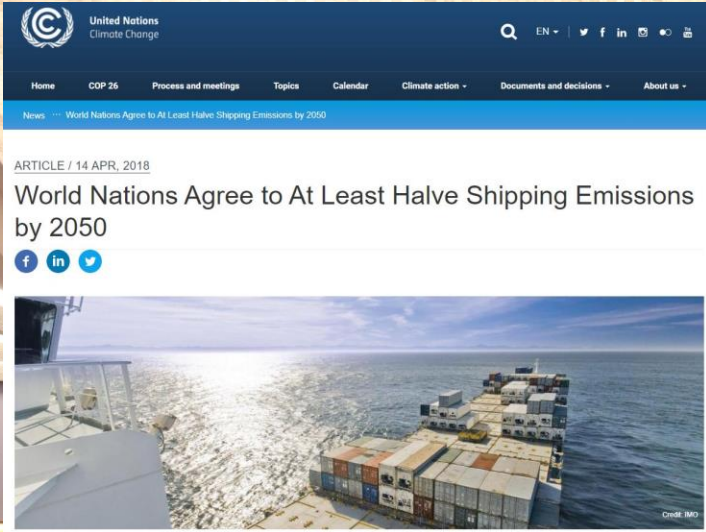


Resolution MEPC.342(77) – Protecting the Arctic from Shipping Black Carbon Emissions

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



United Nations Climate Change


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News World Nations Agree to At Least Halve Shipping Emissions by 2050

ARTICLE / 14 APR, 2018

World Nations Agree to At Least Halve Shipping Emissions by 2050

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Credit: IMO



MEPC 72/17/Add.1
Annex 11, page 1

ANNEX 11
RESOLUTION MEPC.304(72)
(adopted on 13 April 2018)

INITIAL IMO STRATEGY ON REDUCTION OF GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE

RECALLING Article 38(e) of the Convention on the International Maritime Organization (the Organization) concerning the functions of the Marine Environment Protection Committee (the Committee) conferred upon it by international conventions for the prevention and control of marine pollution from ships,

ACKNOWLEDGING that work to address greenhouse gas (GHG) emissions from ships has been undertaken by the Organization continuously since 1997, in particular, through adopting global mandatory technical and operational energy efficiency measures for ships under MARPOL Annex VI,

ACKNOWLEDGING ALSO the decision of the thirtieth session of the Assembly in December 2017 that adopted for the Organization a strategic direction entitled "Respond to Climate Change",

RECALLING the United Nations 2030 Agenda for Sustainable Development,

1. ADOPTS the Initial IMO Strategy on Reduction of GHG Emissions from Ships (hereinafter the Initial Strategy) as set out in the annex to the present resolution;
2. INVITES the Secretary-General of the Organization to make adequate provisions in the Integrated Technical Cooperation Programme (ITCP) to support relevant follow-up actions of the Initial Strategy that may be further decided by the Committee and undertaken by developing countries, particularly least developed countries (LDCs) and small island developing States (SIDS);
3. AGREES 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 2023.

adopted

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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

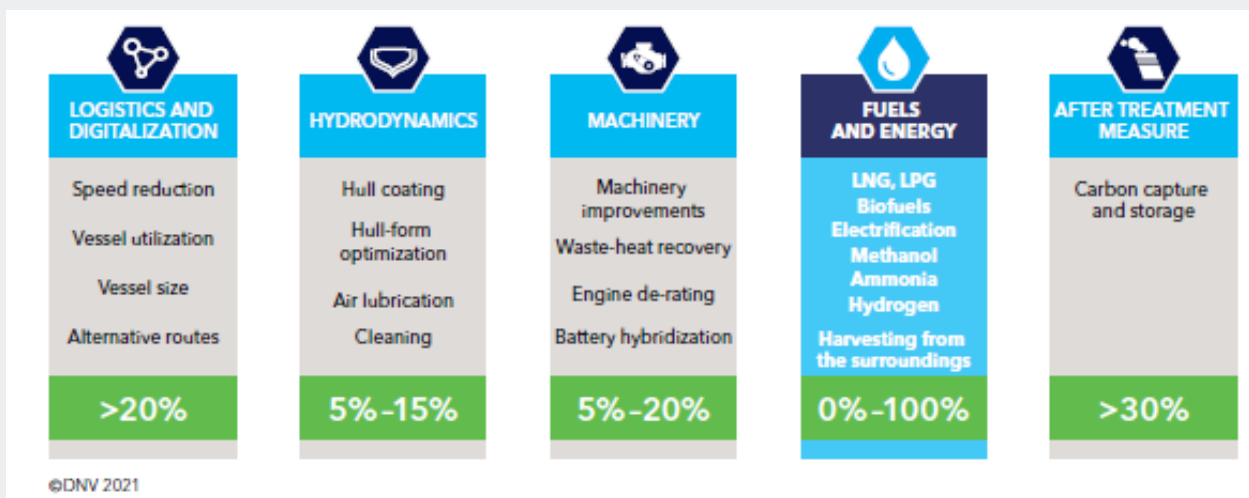
2020: 111 Administrations - 27,723 ships - 203 million tonnes of fuel

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

IMO short-term GHG reduction measure

- 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



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 Suiso Frontier, which delivered world's first liquefied H2 cargo in early 2022

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



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

11 January 2022 19:17 GMT UPDATED 13 January 2022 5:00 GMT

By Leigh Collins

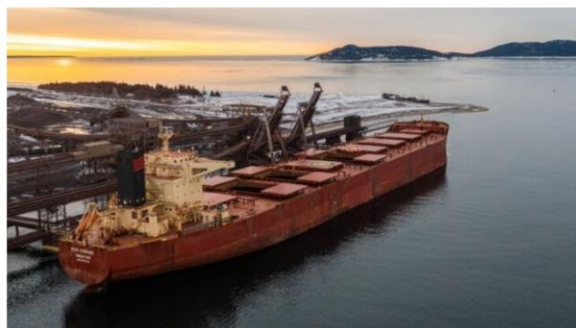
Op-Ed: Putting Bio-LNG and Synthetic LNG Into Focus



Image courtesy CMA CGM

PUBLISHED JUN 15, 2021 1:23 PM BY PETER KELLER

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



RTM Tasman loading at Iron Ore Company of Canada's Sept-Îles port in Quebec, during the first trial voyage using biofuel

PUBLISHED MAY 23, 2022 2:55 PM BY THE MARITIME EXECUTIVE

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)

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Thank you.

International Maritime Organization

4 Albert Embankment
London
SE1 7SR
United Kingdom

Tel: +44 (0)20 7735 7611
Fax: +44 (0)20 7587 3210
Email: info@imo.org
www.imo.org



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