



From IMO 2020 to IMO 2030: How IMO's fuel standards support innovation in marine fuel production

September 2023

Mr. Harry Conway
Chair, Marine Environment Protection Committee



MARPOL Annex VI sets global regulations for preventing air pollution from ships



Adopted in **1997** - ratified by **105 States**
– **97% of world tonnage**



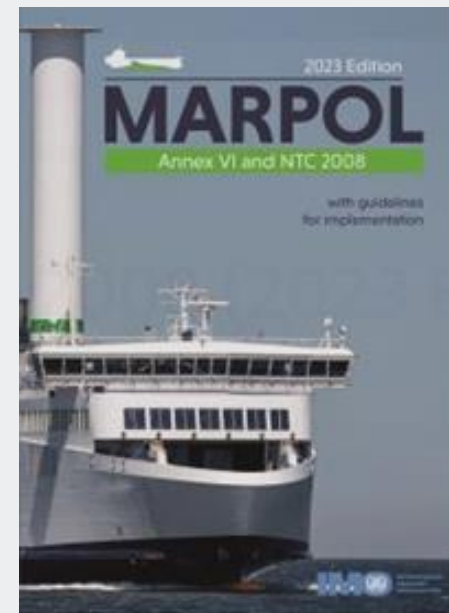
Chapter 3 regulates **air pollution**: sulphur content of bunker fuels (“**IMO2020**”) - emission control areas (**ECAs**) - **NOx** emissions from engines, fuel quality, etc.



Chapter 4 regulates **GHG** emissions of ships: **carbon intensity** - **energy efficiency** – fuel consumption reporting



Guiding principles: non-discrimination - no-more favourable treatment of ships - common but differentiated responsibilities and respective capabilities



Existing IMO instruments are already driving innovation and energy efficiency improvements to reduce GHG emissions from ships...

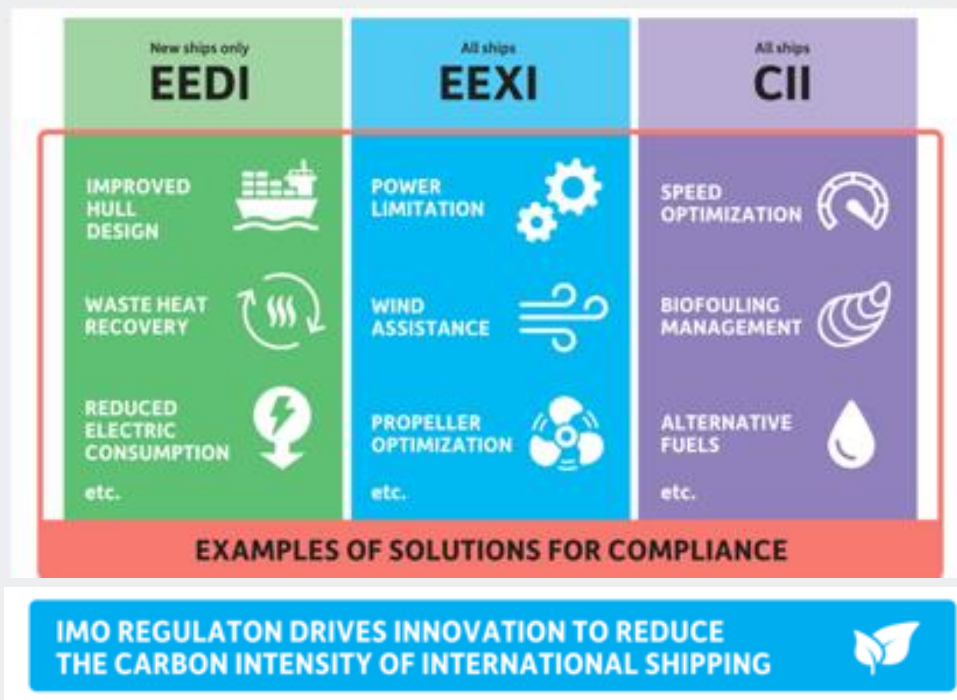
IMO's existing framework of mandatory energy efficiency regulations

Design requirements for new builds (EEDI)

Technical energy efficiency requirements (EEXI)

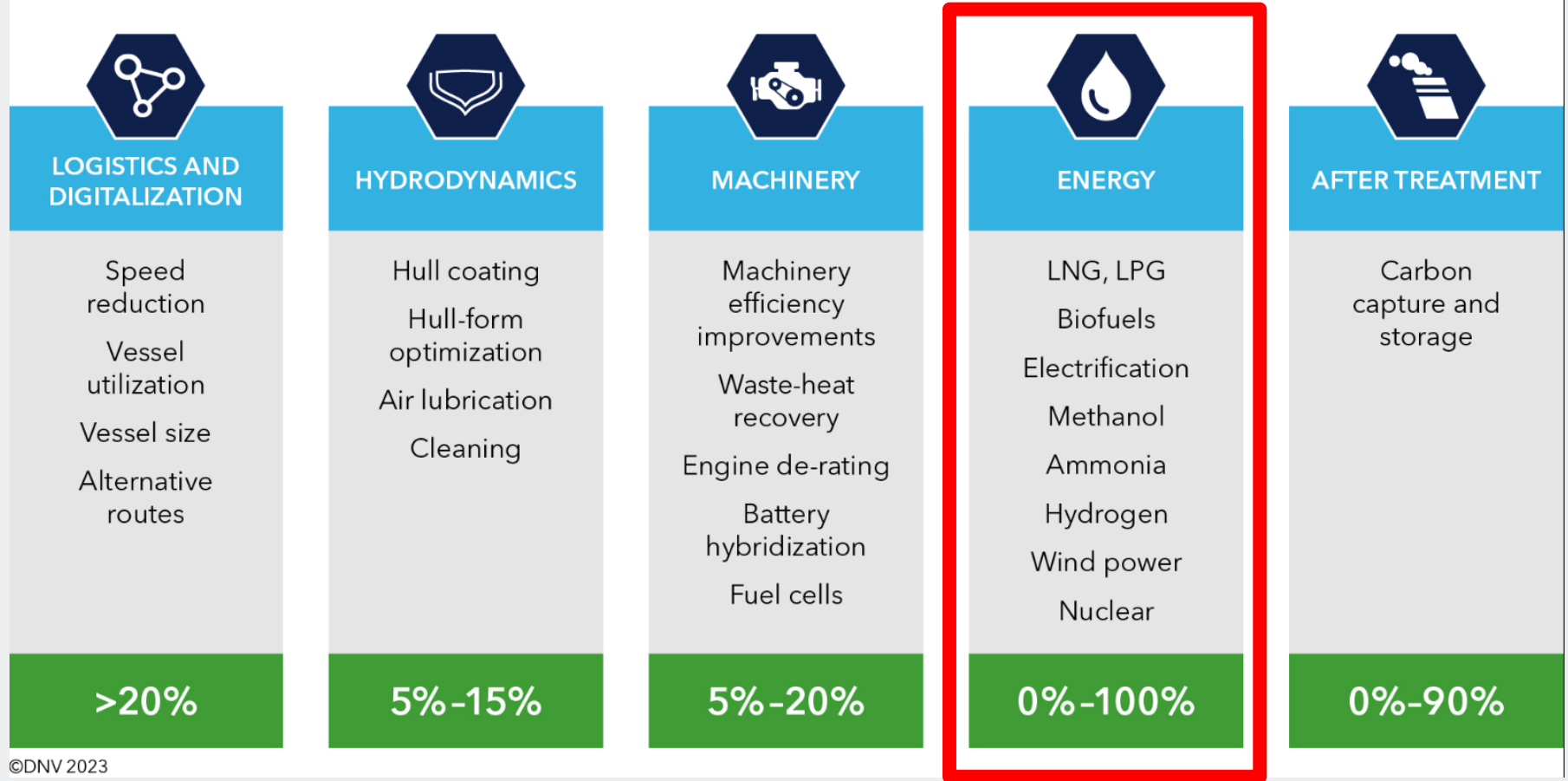
Operational energy efficiency requirements (CII)

Annual fuel consumption reporting (IMO Data Collection System)



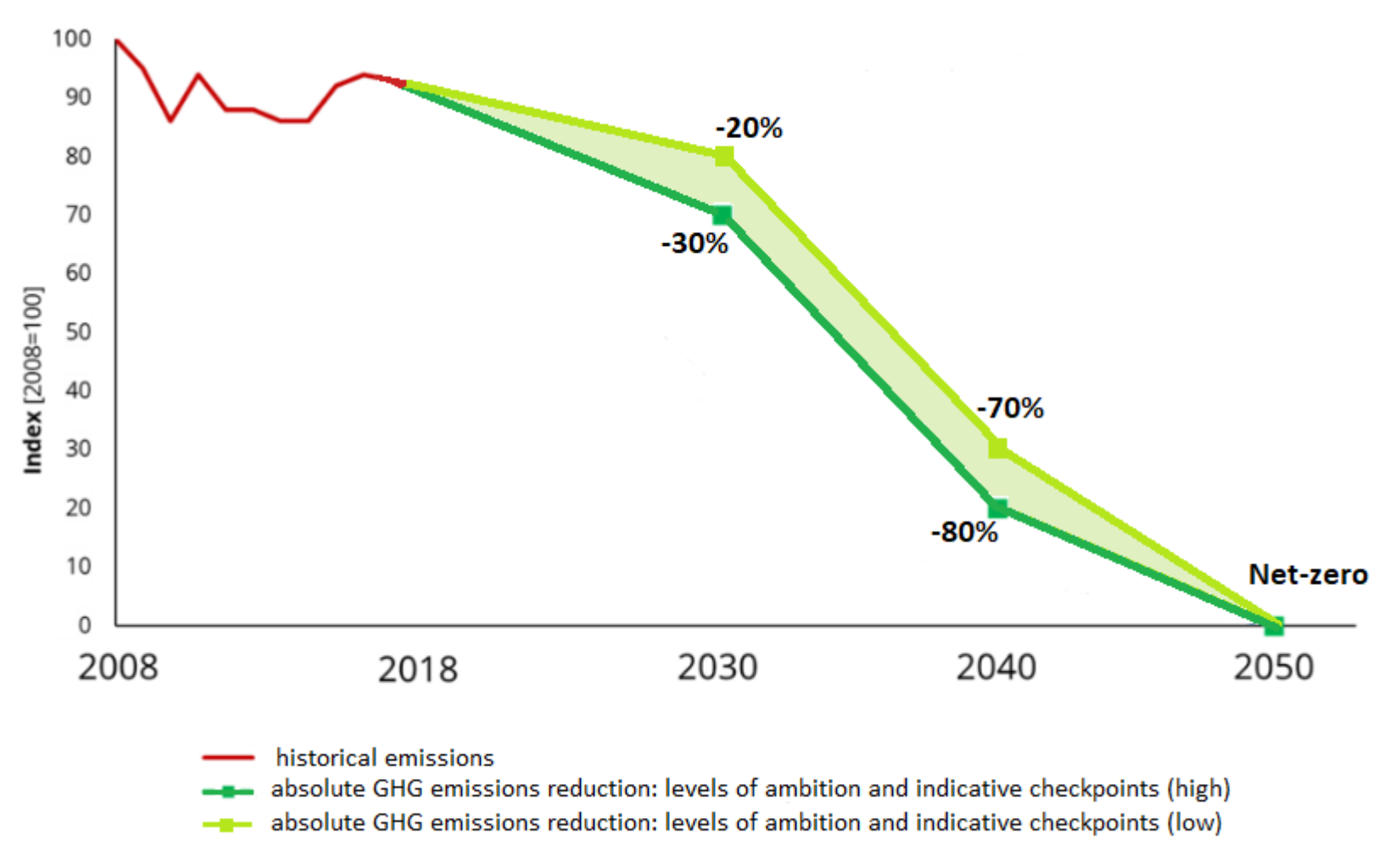
...However, to achieve IMO's ambitions, most of the GHG reduction effort will come from a change in the energy system of shipping

Solutions that can contribute to decarbonize shipping, and their GHG reduction potential



©DNV 2023

2023 IMO GHG Strategy: outlining the pathway to net-zero emissions



2023 IMO GHG Strategy: accelerating the uptake of zero-carbon solutions by 2030

The 2023 IMO GHG Strategy contains the following level of ambition:

zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030

This strengthened level of ambition :

- requires a significant deployment of zero- and near-zero GHG fuels
- requires rapid action from the shipping sector in the coming years
- incentivizes investments in the production and supply of zero-carbon solutions
- will inform the development of fuel standards and other similar regulations
- requires a definition of the term “zero or near-zero GHG emission technologies, fuels and/or energy sources”



A goal-based marine fuel standard in the basket of mid-term measures

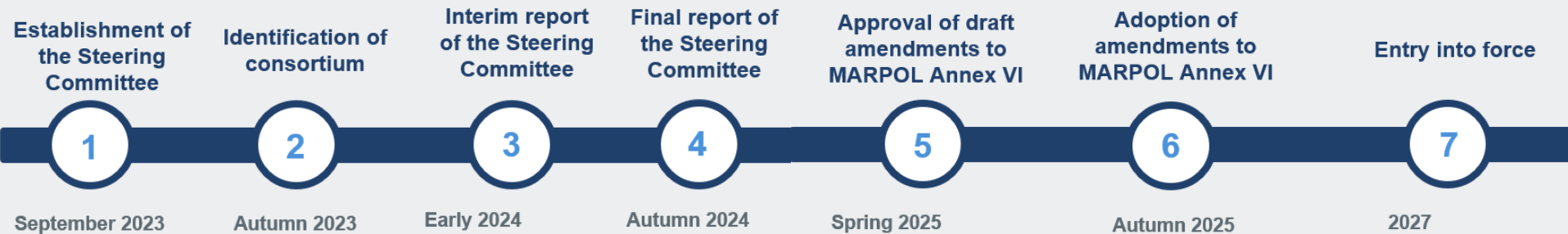
MEPC 80 agreed to develop a basket of candidate measure(s), delivering on the reduction targets, comprised of both:

- a **technical element**, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and
- an **economic element**, on the basis of a maritime GHG emissions pricing mechanism.

The mid-term GHG reduction measures should:

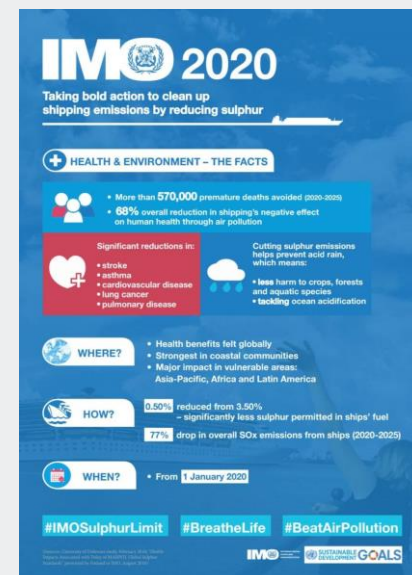
- effectively promote the energy transition of shipping
- provide the world fleet a needed incentive
- while contributing to a level playing field and a just and equitable transition

Comprehensive impact assessment and measure development timeline:



IMO has already developed fuel standards to reduce air pollution: lessons learnt from IMO 2020: global 0.50% sulphur limit in marine fuels

- 1 January 2020: The **0.50% global sulphur cap in bunker fuels** - “**IMO 2020**” - took effect
- Reduction of max. 3.50% to 0.50% sulphur content resulted in a **77% drop** of total **SO_x emissions** from international shipping = significant **health benefits**
- IMO developed a **comprehensive set of guidelines** to support Member States (flag, port and coastal States), ship owners, ports, refinery/bunker industry with preparing for IMO2020
- Excellent cooperation and preparation by IMO Member States and industry: **key to successful implementation of IMO 2020**
- Limited number of Fuel Oil Non-Availability Reports (**FONARs**) received
- Important **lessons learnt** from IMO 2020 for the development of the GHG fuel standard



Delivering the IMO net-zero pathway with all hands on deck: joint efforts across the maritime value chain



IMO and Member States

- Develop additional **global regulatory instruments** to ensure a **global-level-playing field** in availability and uptake of low-zero fuels/technologies
- IMO to **adopt by 2025** a basket of measures consisting of a **technical element** (reducing fuel's GHG intensity) and an **economic element** (based on GHG emissions pricing)

Ensuring a just and equitable transition

- **Support developing States and seafarers** in ensuring affordable access to global markets through capacity building, technology cooperation, carbon revenues, ...

Maritime industry

- **Demonstrate leadership and innovation** through early action (new-build orders, first-movers, green corridors, ...)
- Engage in **partnerships** with ports, fuel producers, financial sector

Thank you for your attention

The screenshot shows the IMO website's 'Climate action and clean air in shipping' page. At the top, there is a navigation bar with the IMO logo, language options (English, Français, Español), and links for 'Contact us', 'Careers', and 'IMO WEB ACCOUNTS'. Below the navigation bar, there are dropdown menus for 'ABOUT IMO', 'MEDIA CENTRE', 'OUR WORK', 'PUBLICATIONS', and 'KNOWLEDGE CENTRE'. The main heading is 'Climate action and clean air in shipping'. Below the heading, there is a breadcrumb trail: 'Home -> Our Work -> Marine Environment -> Climate action and clean air in shipping'. The main content area is divided into two columns. The left column has a sub-heading 'Climate action' and a paragraph: 'In 1997, a new annex was added to the *International Convention for the Prevention of Pollution from Ships* (MARPOL). The "Regulations for the prevention of air pollution from ships" (Annex VI) seek to minimize airborne emissions from ships (SOx, NOx, ODS, VOC shipboard incineration) and the carbon intensity of global shipping in order to annihilate its contribution to local and global air pollution and environmental problems. MARPOL Annex VI entered into force on 19 May 2005 and since then it has been continuously evolving in line with the commitments that Member States make within IMO to limit the harmful effects of air pollution and GHG emissions from international shipping on human health and the environment.' Below this text are two images: one showing a green silhouette of a port with wind turbines and solar panels, and another showing a large cargo ship at sea. The right column has a sub-heading 'Clean air in shipping' and a list of topics: 'Historic background', 'IMO Strategy on reduction of GHG emissions from ships', 'IMO and UNFCCC', 'IMO GHG studies', 'Improving the energy efficiency of ships', 'IMO Data Collection System (DCS)', 'Alternative marine fuels', 'IMO's multi-donor GHG Trust Fund', and 'Media'. Below this list is another image of a green silhouette of a port. At the bottom of the page, there is a section titled 'Clean air in shipping' with a list of topics: 'Historic background', 'Equivalents (SOx scrubber, etc.)', 'Ozone-depleting substances (ODS)', 'Nitrogen Oxides (NOx)', 'Sulphur Oxides (SOx)', 'Volatile Organic Compounds (VOC)', 'Shipboard incineration', and 'Fuel oil availability and quality'.

Climate action and clean air in shipping

Home -> Our Work -> Marine Environment -> Climate action and clean air in shipping

In 1997, a new annex was added to the *International Convention for the Prevention of Pollution from Ships* (MARPOL). The "Regulations for the prevention of air pollution from ships" (Annex VI) seek to minimize airborne emissions from ships (SOx, NOx, ODS, VOC shipboard incineration) and the carbon intensity of global shipping in order to annihilate its contribution to local and global air pollution and environmental problems.

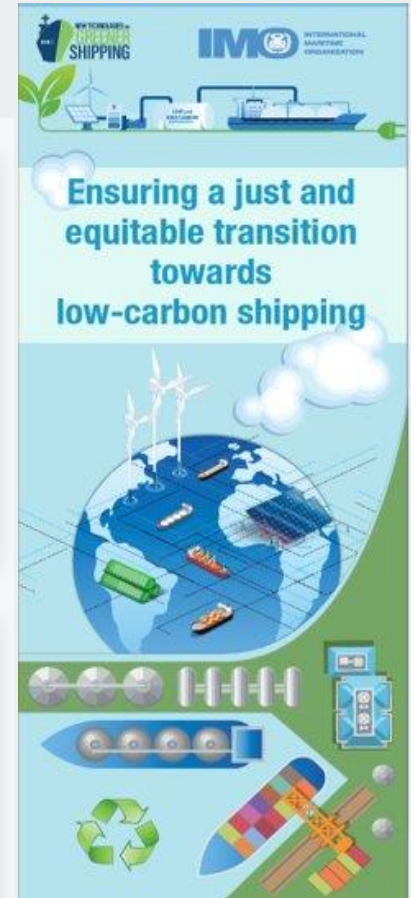
MARPOL Annex VI entered into force on 19 May 2005 and since then it has been continuously evolving in line with the commitments that Member States make within IMO to limit the harmful effects of air pollution and GHG emissions from international shipping on human health and the environment.

Climate action

- > Historic background
- > IMO Strategy on reduction of GHG emissions from ships
- > IMO and UNFCCC
- > IMO GHG studies
- > Improving the energy efficiency of ships
- > IMO Data Collection System (DCS)
- > Alternative marine fuels
- > IMO's multi-donor GHG Trust Fund
- > Media

Clean air in shipping

- > Historic background
- > Equivalents (SOx scrubber, etc.)
- > Ozone-depleting substances (ODS)
- > Nitrogen Oxides (NOx)
- > Sulphur Oxides (SOx)
- > Volatile Organic Compounds (VOC)
- > Shipboard incineration
- > Fuel oil availability and quality



For more information; www.imo.org - "Climate Action and Clean Air"