

Introduction to MARPOL Annex VI

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Content

- Overview of MARPOL Annex VI
- Annex VI Reg 14 and 18
- 2019 Guidelines for consistent implementation of the 0,50% S limit
- Guidance document on the consistent implementation of the 0,10% Sulphur limit in the MED SOX ECA
- Latest development on new ECA's



Five beneficial changes from
IMO's **Sulphur Limit** for ships' fuel oil

Sulphur 2020



Cleaner air

77% drop in overall sulphur oxide (SOx) emissions from ships – annual reduction of approximately 8.5 million metric tonnes of SOx.



Positive impacts on human health

Premature deaths, cardiovascular, respiratory and pulmonary diseases will all be reduced.



Higher quality fuels

The majority of ships will switch to higher quality, low sulphur fuel oil to meet the limit.



Ship operators, owners + refineries have adapted

Guidance issued by IMO and other stakeholders to enhance preparedness ahead of the entry into force of Sulphur 2020.



Changes for enforcement authorities

Flag and port State control will be making sure ships are compliant.

IMO INTERNATIONAL MARITIME ORGANIZATION



Annex VI Main Regulations

1. Reg 12 Ozone-depleting substances (ODS)
2. Reg 13 Nitrogen oxides (NO_x)
- 3. Reg 14 Sulphur oxides (SO_x) and PM**
4. Reg 15 Volatile Organic Compounds (VOCs) (from certain tankers)
- 5. Reg 18 Fuel Oil availability and quality**
6. Reg 19 Carbon dioxide (CO₂) (through energy efficiency measures)
7. Reg 22 Attained EEDI and Reg 23 Attained EEXI

Reg 10 / 11 PSC and Detection of violations and enforcement

- Port State Control inspections
- Port / Flag State responsibilities
- Sulphur detection and inspections
- Analyses of samples
- Detention and Penalties

Figure Presentation Brus May 2022



Reg 14 Sulphur limits on fuel

- **Global cap:**
 - 4,5% m/m before 2012
 - 3.5% m/m before 2020
 - **0.50% m/m from 1 January 2020**
- **Emission Control Area (S)ECA**
 - **0.10% m/m from 1 January 2015**

Alternative compliance:

- Use of Exhaust Gas Cleaning Systems (scrubbers)
- Use of low-sulphur fuels or LNG

Key Provisions of Regulation 14 and 18 SOx and PM

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Reg 14.1 Sulphur Content Limits in Fuel Oil

- **Global Sulphur Cap** (as of 1 January 2020):
- **Ships must not use or carry fuel oil with sulphur content exceeding 0.50% m/m**
- Unless using approved equivalent methods (e.g., exhaust gas cleaning systems or scrubbers).

Reg 14.2 Sulphur Content Limits in (S)ECA's

- **(Sulphur) Emission Control Areas**
- In designated (S)ECAs, stricter limits apply
 - **0.10% m/m** sulphur content limit.
- Current (S)ECAs include:
 1. The Baltic Sea area
 2. The North Sea area
 3. The North American ECA (U.S. and Canadian coastal waters)
 4. The U.S. Caribbean Sea ECA (around Puerto Rico and the U.S. Virgin Islands)
 5. **The Mediterranean sea**

Reg 14.8 Fuel Oil Sampling and Testing

- In-use fuel oil sampling and testing
- On board fuel oil sampling and testing
- In use fuel oil sampling point

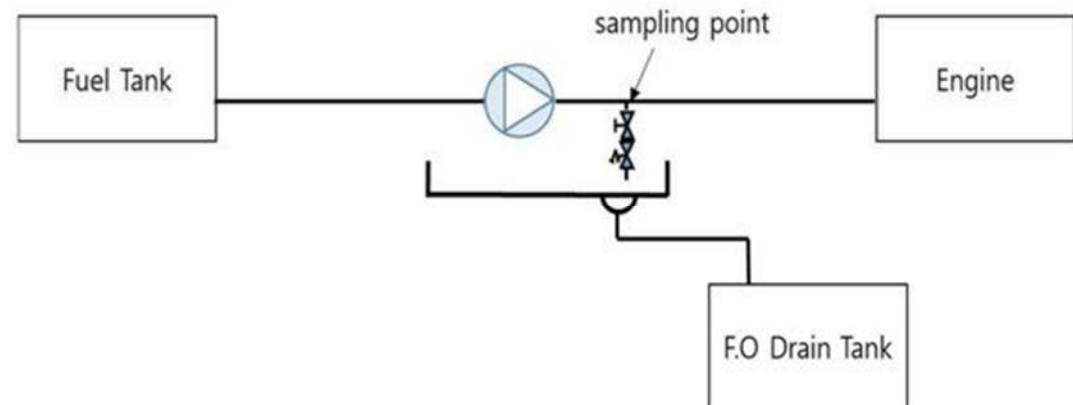


Figure IBICON Solutions for shipping

Reg 18.1 Fuel Oil Availability

- **Fuel oil availability requirements**
- Each Party shall take all reasonable steps to promote the availability of fuel oils
- If compliant fuel is not available, the ship must document attempts to obtain compliant fuel and notify the flag State and port State.
- FONAR document (Res MEPC.320(74))

Reg 18.3 Fuel Oil quality

- **Fuel Oil Quality Requirements**
- Fuel oils used onboard ships **must not contain inorganic acid or chemical waste** that could jeopardize the operation of the ship.
- Fuel must be **free from any substance or additive** that would jeopardize the safety of the ship, personnel, or adversely affect machinery performance.

Reg 18.5.2 Responsibility of Suppliers

- Fuel oil suppliers must:
 - Provide fuel oil that complies with **Regulations 14 and 18**.
 - Deliver a **bunker delivery note (BDN)** with each supply.
 - Ensure **sampling** of fuel oil is conducted in accordance with the guidelines.



Figure Dimensi Pelaut Indonesia

Reg. 18.8 Representative Sample

- A MARINE FUEL SAMPLE or MARPOL sample (sealed and signed) must be taken during bunkering.
- This sample is to be retained onboard for at least 12 months.
- The sample may be used to verify compliance if questions arise.
- Verification procedure as in appendix VI





Reg 18.9

Flag / Port state Responsibility

- Must ensure that ships flying their flag or entering their ports comply with the fuel sulphur limits and that fuel suppliers provide compliant fuel.
- Maintain a register of fuel suppliers
- Require local suppliers to provide the BDN
- Require local suppliers to retain a copy of the BDN for at least 3 years
- Take action against fuel suppliers that have been found to deliver non compliant fuel
- Inform the Administration of any ship receiving non compliant fuel
- Inform the Organization of all cases where fuel suppliers have failed to meet the requirements

Reg 18 summary

Responsibility	Details
Promote fuel availability	Ensure port can supply compliant fuel
Register suppliers	Maintain and monitor an official list
Enforce supplier compliance	Act against suppliers delivering off-spec prohibited fuel
Verify onboard compliance	Through PSC inspections (BDN, sampling, logs)
Report to IMO	Notify of fuel unavailability or supply issues
Assess FONARs	Evaluate ships non-availability claims

2019 Guidelines for consistent implementation of the 0.50 % sulphur limit under MARPOL Annex VI Res MEPC.320(74)

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Purpose & Scope

- Ensure **global consistency** in implementing the new 0.50 % m/m sulphur limit for fuel oil outside ECAs from **1 January 2020**
- Supports planning, enforcement, sampling, reporting, and safety considerations.

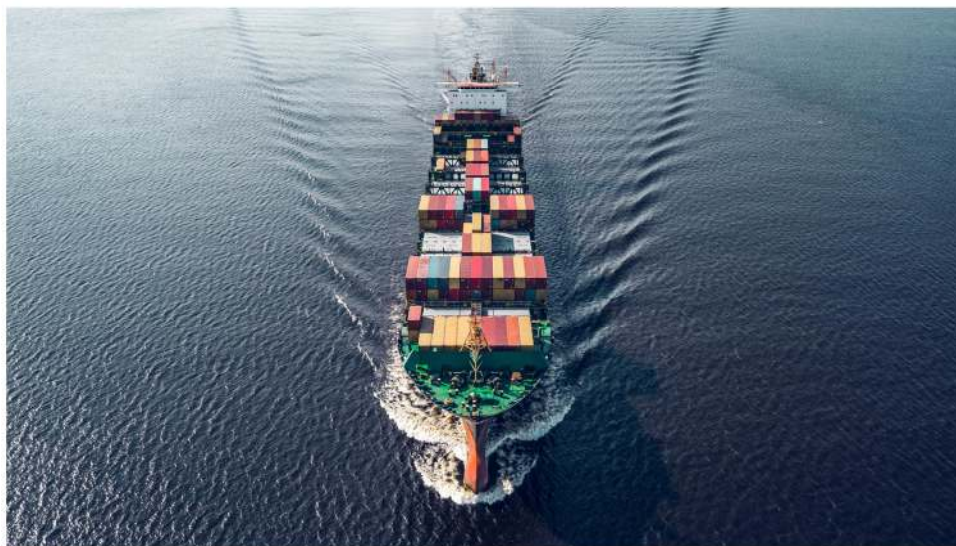


Figure site European Commission

Key Components



- **Ship Implementation Plan (SIP)**

Ships are encouraged to prepare SIPs outlining how they will transition to compliant fuels.

- **Fuel & Machinery Impacts**

Addresses fuel characteristics of new 0.50 % blends, potential effects on engines, lubrication and general machinery compatibility



Key Components

- **Verification & Control Measures**

Guidance for flag States, Class organisations, PSCs, bunker suppliers, and operators on sampling, certification, and enforcement.

- **Fuel Oil Non-Availability Report (FONAR)**

Includes a standard FONAR template for circumstances when compliant fuel isn't available

- **Safety Considerations**

Identifies potential hazards with new fuel types and outlines risk mitigation practices

Guidance document on The consistent implementation of the 0,10% Sulphur limit in the MED SOX ECA

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Guidance Document on
The Consistent Implementation
of the 0.10% Sulphur Limit
under MARPOL Annex VI in the
**Mediterranean Sea Emission
Control Area for Sulphur Oxides and
Particulate Matter (MED SO_x ECA)**

Guidance Document

Serves as a tool to support consistent and effective implementation of the 0.10% sulphur limit across all affected territories and stakeholders.





Structure & Scope

- **Chapter 2:** Introduces relevant provisions of MARPOL Annex VI
- **Chapter 3:** Offers a detailed overview of the Med SOx ECA and its designation background
- **Chapter 4:** Identifies necessary national actions, such as ratification procedures for MARPOL Annex VI
- **Chapter 5:** Focuses on required domestic legislation and administrative measures.

Structure & Scope

- **Chapter 6:** Details enforcement mechanisms in both flag and port States covering vessel certification, inspections, non-compliance handling, and the use of EGCS or alternative fuels.
- **Chapter 7:** Discusses readiness and responsibilities of all stakeholders administrations, ports, shipowners, fuel suppliers, and environmental organizations.
- **Chapter 8:** Addresses consultation, feedback, and multistakeholder collaboration, with an emphasis on REMPEC's coordinating role among Contracting Parties

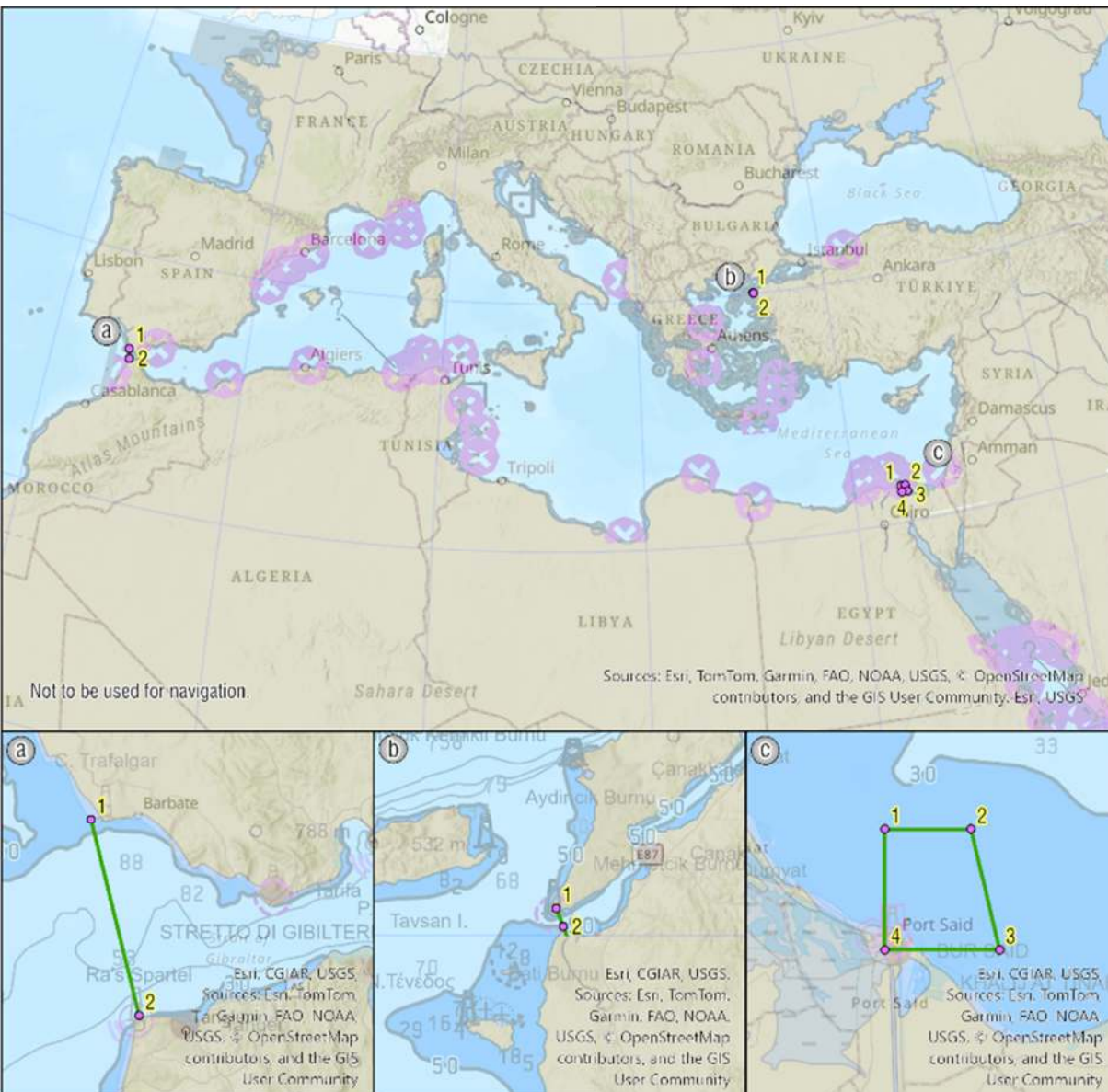
Latest developments on new ECA's

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the numbered points relate to the corresponding coordinates given in the regulations.

*Gibraltar
Dardanelles
Port Said*

Figure LR Class-news 05-25
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Canadian Arctic & Norwegian Sea NO_x & SO_x

Adopted via amendments at **MEPC 82, effective from 1 March 2026**; sulphur limits enforced from **1 March 2027**

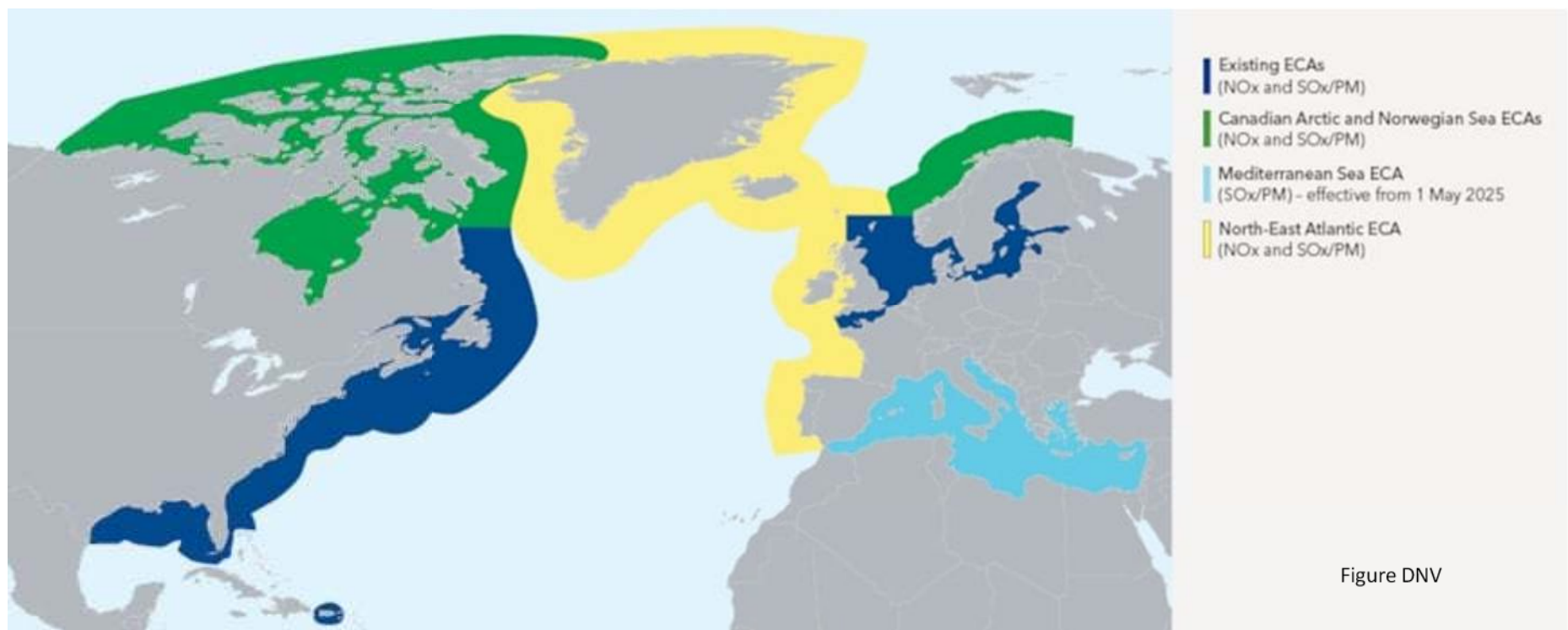
Region	NO _x Tier III Requirements	SO _x limit Requirement
Canadian Arctic	Keel laid ≥ 1 Jan 2025	0,10% from 1 Mar 2027
Norwegian Sea	Contracts ≥ 1 Mar 2026 or keels ≥ 1 sep 2026 or delivery ≥ 1 Mar 2030	0,10 % from 1 Mar 2027



North-East Atlantic Ocean – ECA

- Approved at **MEPC 83**, pending final adoption in **October 2025**, with entry into force likely in **2027**
- Covers EEZs of **Portugal, Spain, France, UK, Ireland, Iceland, Faroe Islands, Denmark (Greenland)**, **excluding** archipelagos like Madeira, Azores and Canary Islands
- SO_x limit ($\leq 0.10\%$) from **2028**;
- NO_x Tier III for ships built or contracted from early-to-mid 2027, delivered from 2031

North-East Atlantic Ocean – ECA



Question about (S)ECA

