



Carbon Accounting in the Maritime Sector

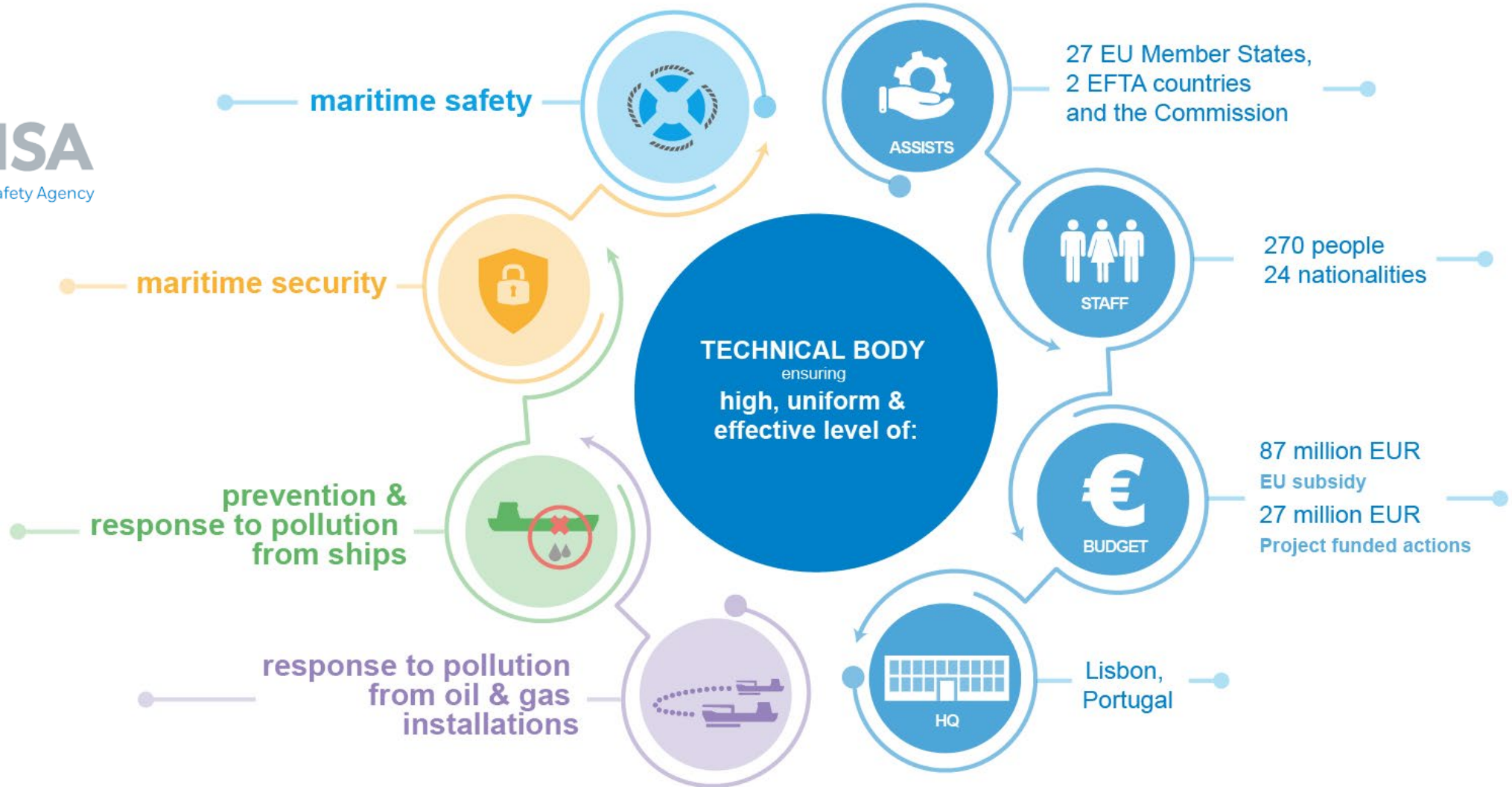
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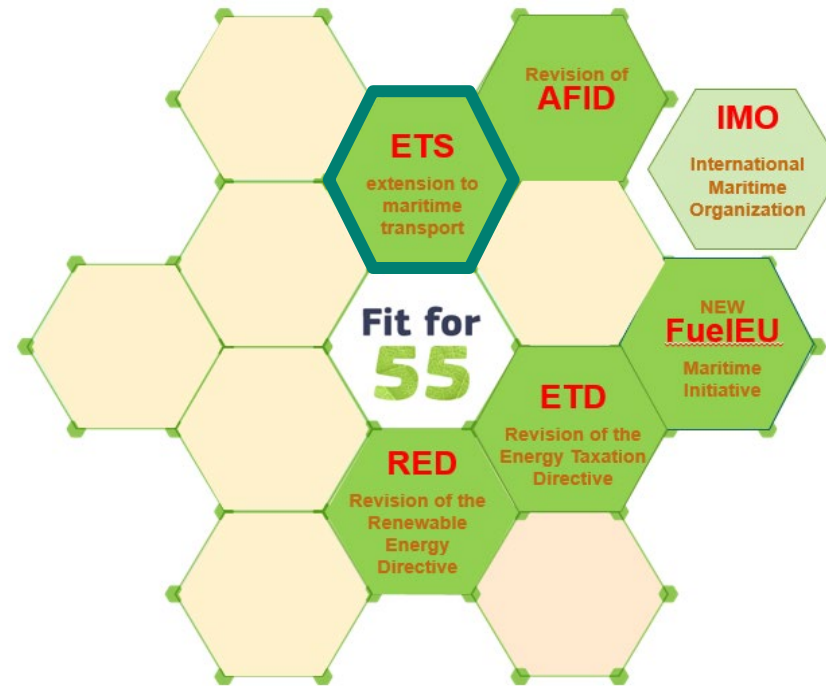
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IMO GHG Revised GHG Strategy:

- **2030** – Reduce carbon intensity by at least 40% compared to 2008
- **2030** – Uptake of zero GHG technologies to represent 5-10% energy by 2030
- **2050** - Net zero emissions by or around, i.e. close to 2050



EU targets on Climate change:

- **2030** - Reduce emissions by at least 55% when compared to 1990
- **2050** - Europe to become the world's first climate-neutral continent

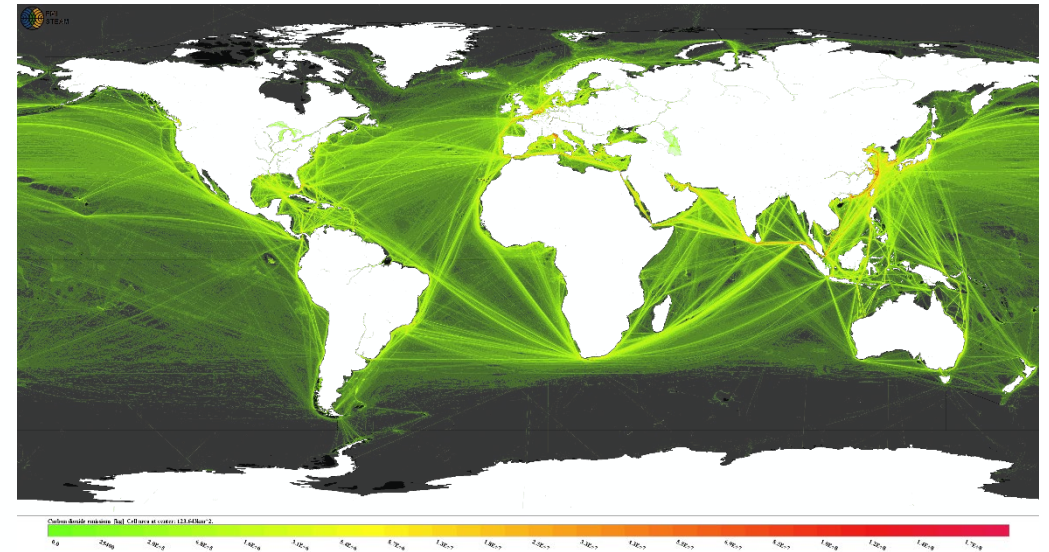
- **The existing EU ETS** (Directive 2003/87/EC) will cover **maritime transport emissions as from 1 January 2024**.
- **Same key principle as the other ETS sectors:** shipping companies monitor their emissions and purchase and surrender ETS emission allowances for each tonne of GHG emissions to be reported under the EU ETS.
- **Equal treatment** on routes, flag neutrality.
- **Phase-in period** for 2024 and 2025 emissions (40% and 70%, respectively) and then full price signal as from 2026 reported emissions.
- Each shipping company **attributed to the administering authority** of one EU Member State
- Builds on the already existing monitoring, reporting and verification of emissions (MRV System)

What needs to be reported?

- **Geographical scope of ETS:**
 - 100% of emissions from voyages within the EU & when ships are within EU ports.
 - 50% of the emissions from voyages starting or ending outside of the EU.
- **GHG scope for ETS:**
 - CO₂ emissions as from 2024.
 - CH₄ and N₂O emissions as from 2026.
- **Ships covered under ETS:** large ships (i.e. above 5,000 Gross Tonnage) transporting passengers or cargo for commercial purposes, large offshore ships as from 2027, and possibly smaller ships (above 400 GT).

- **Independent validation & verification** of the reported data at company level: i.e. data on individual vessel emissions.
- **Development of monitoring and risk-based targeting tools:** risk tools to support the work of MSs, the EC and potentially the verifiers.
- **Monitoring of evasion risks:** establish a service within EMSA in order to monitor changes in port traffic and shifts of transshipment hubs.
- Ultimate objective: **ensure a robust implementation of the legal requirements** by all stakeholders involved.

How can EO help?



Very small point sources

Moving targets

Complex emitting sources

Relatively small concentrations



- **Challenge:** can we harness and integrate EO remote sensing & in-situ technology, with vessel traffic data, with model outputs & inventories, and artificial intelligence to provide ship CO2 emission data at a high[er] spatial and temporal resolution?
- **Opportunity:** ETS maritime is now, we need to act soon!
- **Collaboration:** multi-sectoral and multi-technological.
- **Partnership:** users (national maritime and environmental administrations); the shipping industry, which can act as both user and technology provider; space & big data providers.

Thank you!



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