



VESSEL PERFORMANCE MANAGEMENT

Emission compliance & operational excellence in shipping

IMO Net-Zero Framework

– April 2025





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IMO Net-Zero Framework

April 2025

OVERVIEW

The IMO Net-Zero Framework (NZF) establishes a legally binding global strategy to decarbonize international shipping, targeting **net-zero greenhouse gas (GHG) emissions by or around 2050**. It introduces both **mandatory emissions limits** and a **carbon pricing mechanism**. While the IMO NZF received approval in principle at MEPC 83 in April 2025, it is **not yet legally binding**. The framework's final adoption is still pending and is scheduled for an extraordinary session of the Marine Environment Protection Committee (MEPC/ES.2) in October 2025. **Subject to formal adoption in October 2025**, the framework would enter into force **on March 1, 2027**, with the first compliance year beginning **January 1, 2028**, aligned with the IMO Data Collection System (DCS) reporting cycle.

APPLICABILITY

- **Scope:** Applies to **all ships of 5,000 gross tonnage (GT) and above** engaged in international voyages, excluding FPSOs, FSUs and Semi-Submersible vessels, certain exceptions to vessels in cabotage services.
- These vessels represent approximately **85% of international shipping GHG emissions**.

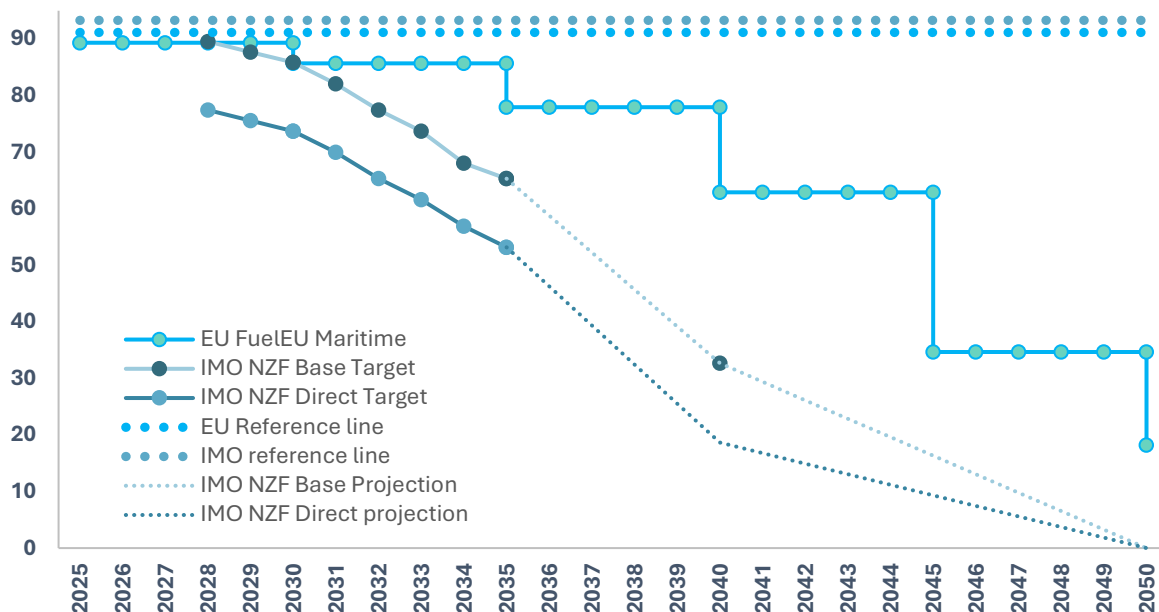
EMISSION REDUCTION TARGETS

- **Net-Zero Goal:** Achieve net-zero GHG emissions from international shipping by or around 2050.

COMPLIANCE MECHANISM

The framework introduces a dual-tier compliance system based on the GHG Fuel Intensity (GFI) of marine fuels, measured on a Well-to-Wake basis from the 2008 baseline of 93.3 gCO₂eq/MJ.

Comparison IMO NZF and fuelEU maritime



Under the IMO NZF, vessels that exceed the **Direct Compliance Target (Tier 1)** or **Base Target (Tier 2)** must purchase **Remedial Units (RUs)** at different price levels. This tiered pricing mechanism financially penalizes higher emissions while incentivizing early adopters and over-performers.

Vessels that surpass the **Direct Compliance Target (Tier 1)**—meaning they achieve greater emissions reductions than required—generate **Surplus Units (SUs)**. These SUs can be:

- **Banked:** Stored for future use within a 2 year time frame.
- **Transferred:** Sold or given to other ships, but can be transferred once only.

However, these **SUs** can only be used to help vessels that do not comply with the **Base Target (Tier 2)**. They cannot be used to offset deficits in meeting the **Direct Compliance Target (Tier 1)**.

IMO NET-ZERO FUND

The IMO Net-Zero Fund is a centralized international financial mechanism established as part of the NZF. It is designed to manage the revenue generated from the carbon pricing system, specifically through the purchase of Remedial Units (RUs) by ships that exceed emissions thresholds under the GHG Fuel Intensity (GFI) standard. The carbon pricing mechanism is projected to generate approximately \$10–13 billion annually.

Carbon Pricing and Credits.

Ships exceeding emission thresholds must purchase Remedial Units (RUs)

- **Tier 2 RUs:** \$380 per tonne of CO₂ equivalent.
- **Tier 1 RUs:** \$100 per tonne of CO₂ equivalent.

Ships surpassing the direct compliance targets

- can trade **Surplus Units (SUs)** if they surpass the direct compliance targets (Tier 1).
- **Zero and Near-Zero Emission Fuels** Ships utilizing fuels with a GFI below specific thresholds (19.0 gCO₂eq/MJ until the end of 2034 and 14.0 gCO₂eq/MJ from January 2035) are eligible for financial rewards from the IMO Net-Zero Fund.

This mechanism incentivizes ships to exceed their mandatory reduction targets, as doing so provides them with tradable credits that can assist other vessels in meeting their base-level compliance requirements. It is designed to accelerate the adoption of cleaner fuels and technologies.

Revenue Allocation

These funds are intended to be disbursed across four primary areas:

- Incentivizing Low-Emission Shipping
- Supporting Innovation and Infrastructure in Developing Countries
- Capacity Building and Training
- Mitigating Negative Impacts on Vulnerable States

Governance

The fund will be managed centrally by the IMO with governance details and operational procedures to be finalized by **March 2027**, ahead of the framework's entry into force.

RESPONSIBLE ENTITY FOR THE NZF COMPLIANCE

Following the ISM Code, the responsible entity under the IMO net Zero Framework will be the Document of Compliance (DoC) holder.

The regulation acknowledges that the entity making operational decisions—such as fuel type or voyage profile—may not be the one legally responsible for compliance. Therefore:

- Ships can seek cost recovery from charterers or cargo interests when non-compliance arises from operational choices made by those parties.
- This opens a pathway for contractual clauses in charter parties to assign carbon cost responsibilities (e.g., purchase of Remedial Units).

Implication: Ship Managers, Ship Owners and operators should ensure that contractual agreements (shipman / charter parties) clearly define responsibility for compliance-related costs, particularly in time charters or voyage charters where the charterer controls fuel and routing.

IMPLEMENTATION TIMELINE

- **April 2025 (MEPC 83):** Approval of draft amendments to MARPOL Annex VI, introducing the Net-Zero Framework.
- **October 2025 (MEPC/ES.2):** Scheduled formal adoption of the amendments
- **March 1, 2027:** Expected entry into force of the regulations, 16 months post-adoption, in accordance with MARPOL procedures.
- **January 1, 2028:** First compliance year begins (aligned with IMO DCS)
- **2029 Reporting Deadlines:**
 - March 31: Submit 2028 data
 - June 30: Verification completed and annual GFI data to be reported to the IMO GFI database
 - One month after data reported to IMO GFI database but Latest by July 31: Declare compliance via SUs or RUs
 - August 31: Account statements issued
 - September 30: Statement of Compliance issued

BESTSHIP ROLE IN NZF COMPLIANCE

GHG Intensity Assessment & Reporting

- Ensure accurate and timely data collection, monitoring, and reporting in line with the IMO GHG Fuel Intensity (GFI) framework and DCS protocols.

Compliance Strategy & Credit Management (in connection with HECLA)

- Advise shipowners on meeting the Direct Compliance Target (Tier 1) and Base Target (Tier 2).
- Help manage Surplus Units (SUs) and Remedial Units (RUs) — including tracking, banking, trading, and compliance submissions via the IMO GFI Registry.

Technology & Fuel Transition Support

- Provide guidance on fuel switching, retrofits, and technology upgrades (e.g., energy-saving devices, dual-fuel engines, carbon capture).
- Recommend the most cost-effective decarbonization pathways based on vessel type, route, and operational profile.

Capacity Building & Training

- Train crew and compliance officers on regulatory requirements and onboard fuel/emission monitoring systems.

Carbon Strategy & Risk Advisory

- Develop a GHG compliance roadmap for fleets through to 2050, including financial modelling of RU/SU needs and exposure.
- Advise on climate risk disclosures, aligning with ESG expectations

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