

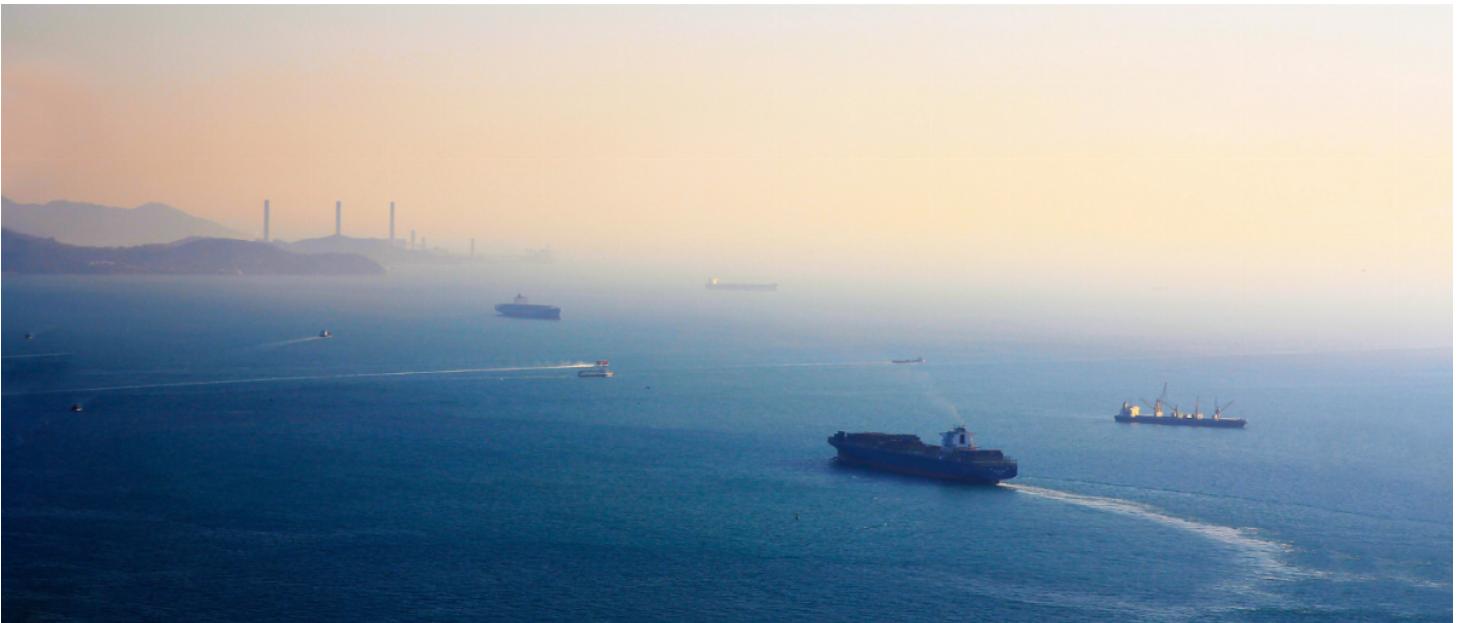
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A new legally binding deal for shipping: what was decided and why it matters

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The International Maritime Organization (IMO) took a historic step at the 83rd session of the Marine Environment Protection Committee (MEPC 83), marking the culmination of years of negotiation on mid-term measures to tackle greenhouse gas (GHG) emissions from international shipping ([IDDRI, 2025](#)). Even if substantial uncertainties remain about the scale of emissions reduction, the equity of the transition, and the consequences for investment in the sector, the agreement reached in early April 2025 is a major achievement given the current geopolitical context: it provides a legal regulatory framework which can be reviewed towards more ambition to meet the IMO emissions reduction targets, and could therefore reshape the maritime energy transition.

What was agreed?

The core outcome is the approval of a set of new legally binding measures, referred to as the “net-zero framework.” This framework includes a dual compliance system combining both technical and economic elements—specifically, fuel intensity targets and a hybrid mechanism involving both a carbon price (effectively a levy on a small part of the emissions) and credit trading.

Under this system, ships must comply with annual fuel intensity thresholds that become more stringent over time. There are two thresholds:

- Base Target Annual GHG fuel intensity (GFI): the minimum level all ships must meet.
- Direct Compliance Target Annual GFI: a stricter level that rewards early adopters and more efficient vessels.

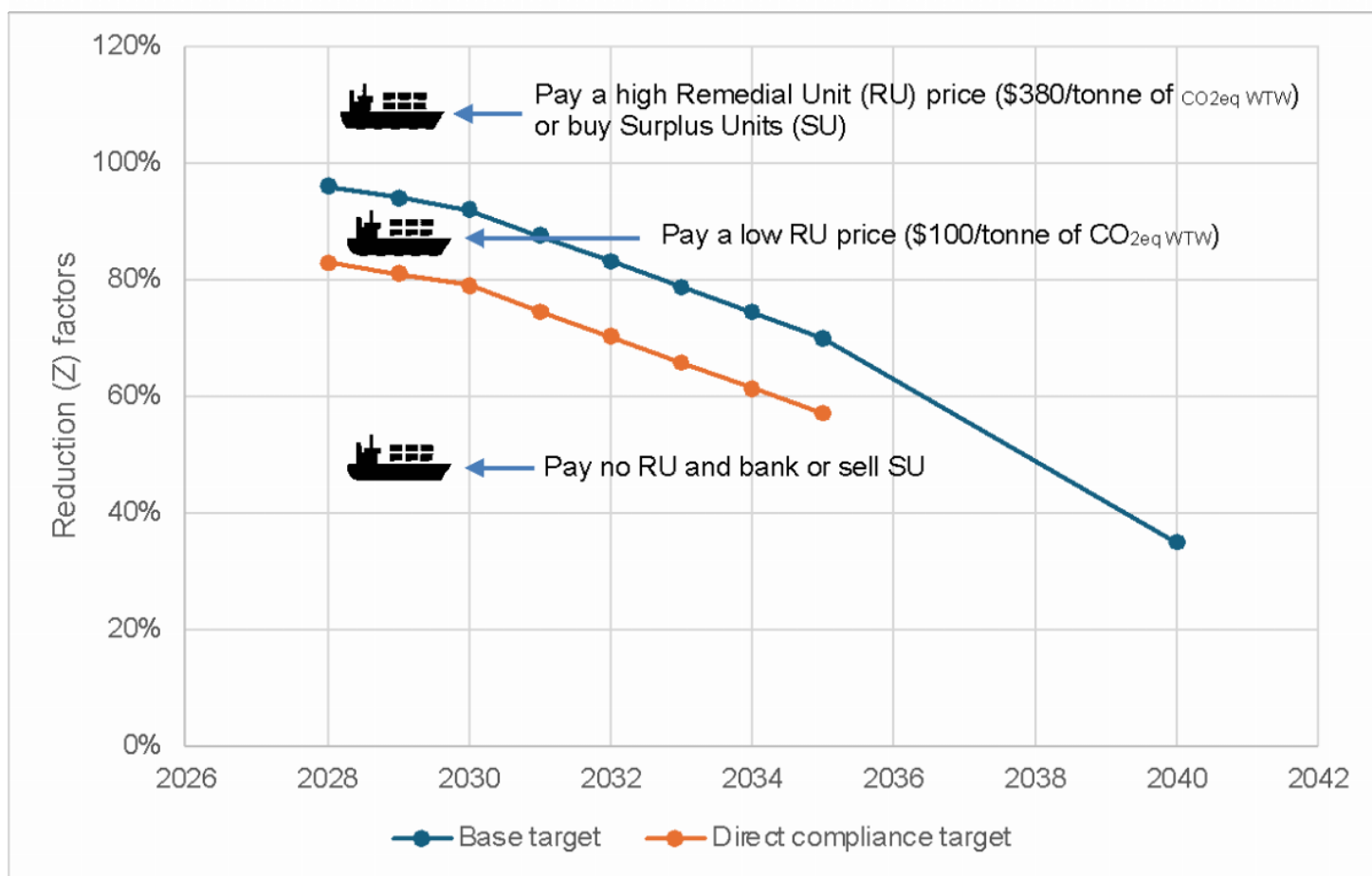
Compliance is determined *via* a tiered system:

- Over-compliant ships earn surplus units (SUs), which can be sold or banked.
- Partially compliant ships, whose carbon intensity lies between the two GFI, pay what is effectively a levy (“remedial units”) at a lower rate (\$100/tCO₂eq) for their emissions above the direct compliance target.
- Non-compliant ships also pay the lower rate (\$100/tCO₂eq) for their emissions between the two GFIs; however, they have several choices for the emissions above the base target: pay a higher carbon price (\$380/tCO₂eq), purchase SUs from others, or use previously banked units.

The hybrid mechanism is supported by the creation of the IMO Net-Zero Fund, expected to collect \$10-15 billion annually in the initial years, if most of the fleet chooses to operate on the base target. This fund will support the deployment of zero and near-zero (ZNZ) GHG fuels and energy sources and enable a just and equitable transition, including through national projects and capacity-building efforts.

The agreement passed with 63 votes in favour and 16 against. It is now subject to a six-month consideration period before formal adoption, expected in October 2025. Entry into force is likely in 2028.

Figure 1. *Illustration of global fuel intensity and credit trading mechanism and reduction factors and prices agreed at MEPC 83.* From <https://www.shippingandoceans.com/post/phase-out-of-fossil-fuels-in-shipping-begins-in-earnest>



Implications for emissions reduction

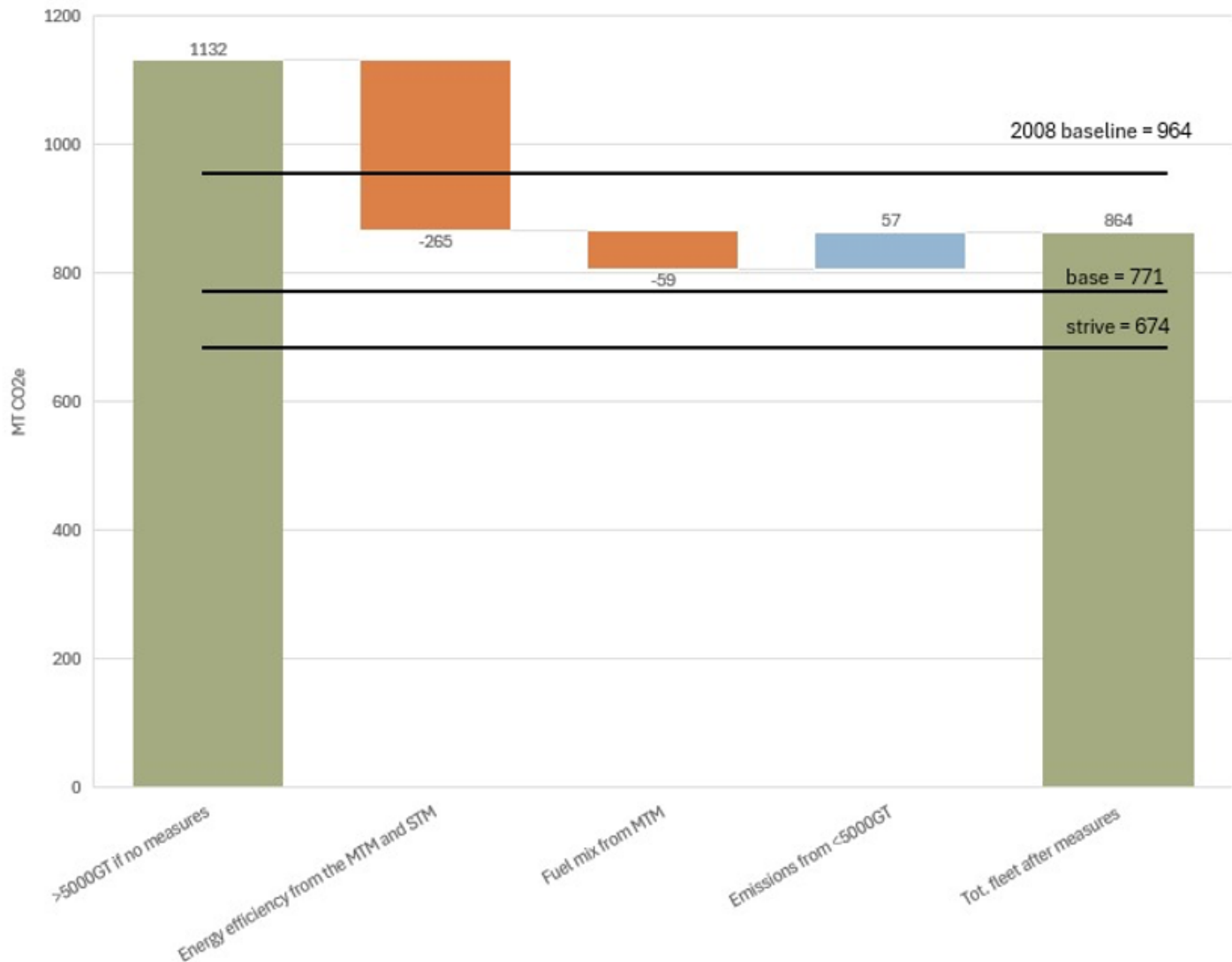
Despite being hailed as a breakthrough, the emissions reduction potential of the adopted measures is limited—an estimated 10% reduction in absolute GHG emissions by 2030 relative to 2008 levels, which falls short of the IMO's target of “at least 20%” and “striving for 30%.”¹ The reduction in emissions is expected to be driven by:

- Energy efficiency improvements arising from the increased stringency of the Carbon Intensity Indicator (CII) (a separate legally binding measure discussed in parallel)
- Energy efficiency improvements driven by the carbon pricing (either in credit trading or levy) of ships operating above the direct compliance target
- The change in fuel mix, through the uptake of incremental technologies (e.g. biofuels, LNG, CCS) or ZNZ (e.g. wind propulsion, e-fuels)

This estimate is subject to a wide range of uncertainties² (e.g. future shipping demand, operating choices of the shipowners, fuel availability). Furthermore, the ships smaller than 5,000 gross tonnage are exempted from both the CII and the mid-term measures, so that their emissions are expected to continue rising.

As a result, the emissions trajectory could remain misaligned with the target that the IMO agreed on in 2023, let alone the Paris Agreement-compatible pathway, and the sector risks missing the momentum needed to reach net zero by 2050.

Figure 2. Estimated emissions from international shipping in 2030 based on agreed outcomes. From <https://www.shippingandoceans.com/post/phase-out-of-fossil-fuels-in-shipping-begins-in-earnest>



Implications for a just and equitable transition

A key aspect of the new framework is the explicit inclusion of support for a just and equitable transition (JET). The Net-Zero Fund is mandated to dedicate a "sufficient" portion of revenues to this goal, with emphasis on the needs of developing countries, especially Small Island Developing States (SIDS) and Least Developed Countries (LDCs). To that effect, revenues can be used for 5 different purposes:

- Development of low- and zero-emission technologies, fuels and energy sources and maritime infrastructure
- Seafarers and maritime workforce
- Knowledge sharing, technology transfers & capacity building
- Supporting National Action Plans

- Relief for those that suffer from a disproportionately negative impact of the implementation of this regulation.

However, significant challenges remain. First, the expected revenues (\$11–12 billion annually) is insufficient to simultaneously fund early ZNZ's deployment and JET support. Early modelling indicates that ZNZ fuel rewards alone could consume most of the fund's budget.³ Furthermore, the regulation restricts spending to within the "boundaries of the energy transition in shipping." While these boundaries are not clearly defined, the language suggests limitations on using revenues for broader climate adaptation, such as addressing food security impacts. Finally, with all countries facing increased transport costs, the distributional impact is unclear. Nations with limited access to capital and weak industrial policies may struggle to participate in the transition, risking further inequalities in global trade and climate resilience.

Implications for investment decisions and stranded assets

The new IMO regulation is both a signal and a source of uncertainty for investors.

On the positive side, the new regulation reinforces the long-term direction of travel toward ZNZ's (e.g. fuels derived from hydrogen, wind technologies). The introduction of a fuel intensity target (base GFI), which sets to decrease by at least 65% by 2040, means that incremental solutions are unlikely to remain competitive in the mid/late 2030s, and suggests a strong business case for large volumes of ZNZ's by then. In the short term, the hybrid compliance mechanism means that ZNZ's early movers will be able to sell surplus units and receive fuel rewards.

However, the complexity of the measure and its partial reliance on market dynamics mean that the investment landscape remains highly uncertain. Moreover, the expected revenue from the IMO Net-Zero Fund is below the levels modelled to meet the target of 5-10% of ZNZs in 2030, set by the IMO in 2023. This raises concerns about whether the fund will be able to simultaneously support early deployment of ZNZs and deliver the promised support for a just and equitable transition. This may therefore lead to a cautious, wait-and-see approach.

This wait-and-see approach might favour incremental solutions which are competitive in the first few years under the new framework, but unlikely to be viable in the long term as they cannot deliver the emissions reduction spelled out in both the IMO 2023 Strategy and the agreement. In particular, while LNG is likely to benefit from slightly lower carbon emissions than conventional fuel in the first couple of years of implementation, it will quickly need to pay the lower carbon price (\$100/tonne CO₂eq) and face escalating penalty fees beyond 2033 (SU or higher carbon price of \$380/tonne CO₂eq). This means that newbuild LNG investments made today may become liabilities tomorrow. Given that the life of shipping investment spans over several decades, there is therefore a risk of carbon lock-in and/or stranded assets to public and private investors in the sector.

Biofuels will likely offer a transitional option in the short term, but their long-term role remains uncertain due to limited supply and competition from other sectors.

Looking ahead

The IMO has agreed on a foundational policy for the shipping sector's decarbonization. A standard six-month waiting period now follows before the agreed amendment can be formally adopted at a scheduled meeting in October 2025—where a straightforward yes-or-no vote is expected to confirm the decision, given the level of support already shown.

Given the current geopolitical system, this achievement is worth noting. However, it is not yet aligned with the targets set by the IMO in its 2023 Strategy, let alone a 1.5°C trajectory. It will need to be strengthened in future review

cycles, with the first review planned in 5 years. In the meantime, many of the important details of the design will be finalized in the guidelines which will be developed in the coming 2 years. Among others, they will establish the governance mechanisms for the Net-Zero Fund, detail how the rewards will be allocated and indicate the lifecycle carbon emissions of the various marine fuels.

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<https://www.shippingandoceans.com/post/phase-out-of-fossil-fuels-in-shipping-begins-in-earnest>

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