

BACKGROUND: The IMO Net-Zero Framework & U.S. Strategic Energy Interests

Overview

In June 2025, the International Maritime Organization (IMO), the UN agency responsible for regulating global shipping, agreed to a draft Net-Zero Framework (NZF) intended to achieve net-zero greenhouse gas (GHG) emissions in the sector by approximately 2050. This framework represents the first attempt worldwide to combine mandatory emissions limits with a pricing mechanism across an entire industry sector.ⁱ The NZF applies to ships over 5,000 gross tonnage, representing roughly 85-90% of maritime CO₂ emissions, and establishes both a fuel standard and a global economic measure to incentivize compliance.ⁱⁱ

On August 12, 2025, the U.S. Departments of State, Commerce, Energy, and Transportation issued a joint statement expressing unequivocal opposition to the NZF, framing it as a “global carbon tax” that would unduly burden U.S. shipping, energy, and tourism industries, while benefiting China as a major supplier of expensive, next-generation fuels.ⁱⁱⁱ On October 17, 2025, under sustained U.S. diplomatic pressure, a majority of IMO member states voted to postpone by one year the decision on implementing a global carbon pricing for shipping, reflecting both the contentious nature of the NZF and the strategic importance of U.S. engagement.^{iv}

The IMO Framework

The NZF introduces a dual compliance system. The fuel standard sets progressively stricter lifecycle emissions intensity thresholds, while the global economic measure establishes a pricing mechanism for ships failing to meet these thresholds. Compliance begins in 2028, with an initial base target of a 4% reduction in emissions and a higher direct compliance target of 17%, relative to 2008 levels.^v Ships exceeding these targets may purchase surplus units from other vessels, while those falling short must acquire remedial units from the IMO Net-Zero Fund, prices at \$380 per tonne of CO₂ for missing the lower target and \$100 per tonne for missing the higher goal.^{vi}

Critics note that the NZF’s penalties may be insufficient to drive meaningful decarbonization, particularly given the high cost of transitioning to zero- or low-carbon fuels. The framework also lacks explicit safeguards to ensure that small island developing states and least-developed countries (LDCs) are not disproportionately impacted.^{vii}

U.S. Policy Position

The Trump administration’s opposition is rooted in concerns over the economic burden, inflation, and competitive disadvantage. The joint statement framed the NZF as a tool that could increase energy and transportation costs for American consumers and businesses while allowing China to capture first-mover advantages in low-carbon fuel production and export.^{viii} Yet, these concerns also highlight a potential strategic opportunity: by investing in and exporting U.S. next-generation fuels, the United States could assert global energy dominance and influence IMO standards to favor American technologies.

Low-Carbon Fuels and the U.S. Advantage

Two fuels are central to U.S. strategic interests: liquified natural gas (LNG) and blue ammonia. The United States possesses abundant natural gas feedstock, advanced carbon capture and sequestration (CSS) technology, and the industrial know-how to construct and operate large-

scale facilities. Several blue ammonia projects have been proposed along the U.S. Gulf Coast, though many have faced delays, cancellations, or hold status in 2025 due to rising costs and policy uncertainty. These projects, if realized, could represent significant investment and employment opportunities in next-generation fuels.^{ix}

Blue ammonia is particularly complementary to U.S. oil and gas exports, sharing upstream and midstream infrastructure with LNG. With most ships ordered in 2024-2025 fueled by LNG, the transition to ammonia can leverage existing U.S. energy assets while positioning the country as a leading supplier of low-carbon shipping fuels.^x

Technical and Safety Considerations

While LNG and ammonia offer strategic advantages, both require careful risk management. LNG's flammability and ammonia's toxicity and corrosive properties demand advanced storage, handling, and crew safety protocols.^{xi} Ships must be designed with materials compatible with these fuels, redundant detection systems, and contingency plans for accidental releases. Lifecycle assessments and hazard analyses, including HAZID, HAZOP, and FMEA should guide the integration of these fuels into newbuilds, enabling safe operational transitions.^{xii} The U.S., with expertise in industrial safety standards and maritime engineering, is well-positioned to develop compliant and efficient vessels that meet these requirements.

Strategic Implications

The IMO NZF represents not only a climate initiative but also a geopolitical and trade inflection point. China has aggressively promoted its low-carbon fuel exports to Europe, aiming to dominate the emerging global market. The U.S. can counter this influence by exporting LNG and blue ammonia while encouraging allied nations, such as Japan and South Korea, to construct next-generation vessels compatible with these fuels. This integrated approach – encompassing energy production, fuel exports, and shipbuilding – strengthens U.S. economic and strategic positioning, mitigates dependency on Chinese supply chains, and supports a gradual, market-driven decarbonization of maritime transport.^{xiii}

Conclusion

The IMO Net-Zero Framework, while imperfect, presents a unique opportunity for the United States to assert global energy leadership. By leveraging domestic LNG and blue ammonia production, promoting allied shipbuilding, and integrating safety and technical best practices, the U.S. can turn a regulatory challenge into a strategic advantage. Proactive engagement, rather than outright rejection, enables the United States to shape IMO standards in alignment with national interests, fortify energy dominance, and counter competitive threats from China.

ⁱ Katie Kouchakji, “International Maritime Organization’s Historic Agreement to Decarbonise Shipping,” *International Bar Association*, February 6, 2025, <https://www.ibanet.org/International-Maritime-Organizations-historic-agreement-to-decarbonise-shipping>

ⁱⁱ Michael Liebreich, “IMO Members Choose between the U.S. and the Deep Blue Sea,” *Thoughts of Chairman Michael*, October 14, 2025, <https://mliebreich.substack.com/p/imo-members-choose-between-the-us>

ⁱⁱⁱ Rubio Marco et al., “Joint Statement on Protecting American Consumers and Shipping Industries by Defeating the International Maritime Organization’s ‘Net-Zero Framework’ Aka Global Carbon Tax,” August 12, 2025, <https://www.state.gov/releases/2025/08/joint-statement-on-protecting-american-consumers-and-shipping-industries-by-defeating-the-international-maritime-organizations-net-zero-framework-aka-global-carbon-tax>

^{iv} Enes Tunagur and Jonathan Saul, “UN Shipping Agency Delays Decision on Carbon Price under US Pressure,” *Reuters*, October 17, 2025, <https://www.reuters.com/sustainability/boards-policy-regulation/us-singapore-call-un-delay-carbon-shipping-price-vote-amid-splits-2025-10-17/>

^v Kouchakji, “International Maritime Organization’s Historic Agreement.”

^{vi} Ibid.

^{vii} Ibid.; Liebreich, “IMO Members Choose between the U.S. and the Deep Blue Sea.”

^{viii} Rubio et al., “Joint Statement on Protecting American Consumers.”

^{ix} Zane Gustafson, “The Ammonia Industry Expansion Begins To Falter,” *Ohio River Valley Institute*, September 25, 2025, <https://ohiorivervalleyinstitute.org/the-ammonia-industry-begins-to-falter/>

^x Ibid.; Liebreich, “IMO Members Choose between the U.S. and the Deep Blue Sea.”

^{xi} “Switching Safely to Low-GHG Fuels and Technologies,” *Det Norske Veritas*, Maritime Impact, September 8, 2025, <https://www.dnv.com/expert-story/maritime-impact/switching-safely-to-low-ghg-fuels-and-technologies/>

^{xii} Ibid.

^{xiii} Liebreich, “IMO Members Choose between the U.S. and the Deep Blue Sea.”