Insight

A Global Carbon Tax on Shipping Emissions

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Executive Summary

- In April 2025, the International Maritime Organization, a United Nations agency that regulates global shipping, reached an agreement on a pending global carbon tax to decarbonize the industry.
- The proposal is a mechanism that includes a fuel standard and a two-tiered carbon tax at $100 and $380 per metric ton of carbon dioxide equivalent emissions, and awarded, transferable tax credits that can be carried forward to offset a shipping company's tax liability.
- There may be some challenges to implement the policy, as the carbon tax and fuel standard combination would introduce complexity and uncertainty, as well as increase the administrative and compliance burden for the regulator and shipping companies.

Introduction

Last month, the International Maritime Organization (IMO), a United Nations agency that regulates global shipping, reached an agreement on measures to decarbonize the industry as part of its efforts to meet its net-zero emissions goals. Sixty-three countries voted in favor of the proposal, while 16 other countries vetoed it. The United States did not participate in the negotiations.

The new IMO policy is a combination of a fuel standard and a carbon tax aimed at reducing maritime emissions. It is expected to be formally adopted in October 2025 and go into effect starting in 2027. If implemented, it would be the world's first global carbon tax on a specific industry.

The proposal is a complex mechanism that includes a fuel standard and a two-tiered carbon tax at $100 and $380 per metric ton of carbon dioxide equivalent, or CO_{2e}, emissions, and awarded, transferable tax credits that can be carried forward to offset a shipping company's tax liability.

There may be some challenges to implement the proposed shipping carbon tax combined with a fuel standard, as it would introduce complexity and uncertainty, as well as increase the administrative and compliance burden for the regulator and shipping companies.

Analysis

Carbon emissions from maritime transport account for about 3 percent of global emissions. The shipping sector is challenging to decarbonize because it relies heavily on fossil fuels such as diesel. The IMO started to address climate change in 2011 by requiring shipping companies to improve their energy efficiency.

The IMO global shipping carbon tax is a complex proposal that includes a fuel standard and a two-tiered carbon tax, as well as awarded, transferable tax credits that can be carried forward. This section breaks down the mechanism into tax base, tax rate, compliance options, and use of revenue.

Tax Base

The carbon tax will be levied on greenhouse gas (GHG) emissions from large ships that are over 5,000 gross tonnage, which emit 85 percent of the total CO_2 emissions from global shipping.

Tax Rate

Covered ships are subject to a two-tiered tax rate mechanism at $100 and $380 per metric ton of CO_{2e} emissions, depending on the ship's greenhouse gas fuel intensity (GFI), which measures the amount of GHG emitted per unit of energy used.

The shipping carbon tax is more complex than a conventional carbon tax, which taxes each unit of carbon emissions at a flat rate. The IMO proposal layers a fuel standard on top of a carbon tax. It works by setting two levels of fuel standards, a "Base Target" and "Direct Compliance Target," the latter of which is stricter. The two-tiered fuel standard divides vessels into three levels of tax liability:

- **Best performers:** Vessels that are most fuel efficient, using fuels that are less carbon intensive than the stricter standard, the Direct Compliance Target, would not pay any carbon tax.

- **Middle performers:** Vessels that use fuels that are less carbon intensive than the Base Target, but more carbon intensive than the Direct Compliance Target, would be required to pay a carbon tax at $100 per metric ton of CO_{2e} for the portion of emissions that exceed the Base Target.
- **Worst performers:** Vessels that fail to meet the Base Target and use fuels that are most carbon intensive would be required to pay a carbon tax at a higher rate of $380 per metric ton of CO_{2e} for the portion of emissions that exceed the Base Target.

Compliance Options

The proposal includes three ways in which shipping companies can pay the carbon tax:

- **Purchasing "remedial units":** This option allows vessel companies to pay the tax via buying these units from IMO. This is essentially a mechanism that requires regulated shipping companies to contribute to the IMO Net-Zero Fund.
- **Using awarded tax credits:** A best-performer shipping company would be rewarded with a "surplus unit" that recognizes its fuel efficiency. The "surplus unit" is like a general business credit in the U.S. tax code, which can be carried forward to future years to offset a shipping company's tax liability.
- **Transferring the awarded tax credits:** The surplus unit is transferable, which is a feature that allows the shipping companies that have the awarded credits to sell them to another shipping company for cash. This mechanism is the same as the transferability feature in the 2022 Inflation Reduction Act added to energy credits, which enable energy developers with little or no tax liability to monetize the credits.

Use of Revenue

The IMO estimates that the proposal would raise between $11 billion and $13 billion in revenue annually. It plans to use the carbon tax revenue it would collect to reward best-performing ships through distributing the "surplus unit," support innovation and research in developing countries, fund decarbonization technology initiatives, and provide financial assistance to small island developing states and least-developed countries.

Potential Challenges

The University College London estimated that the IMO proposal would lead to an 8 to 10 percent reduction in the global shipping industry's emissions by 2030. While the proposal is intended to encourage large shipping companies to improve their fuel efficiency and reduce their emissions, there may be some challenges to implement the carbon tax.

Tying the carbon tax to a fuel efficiency standard would introduce complexity and uncertainty. The IMO may not always have the most up-to-date information on the technologies available to improve the carbon efficiency of shipping fuels. As a result, it may not be able to set effective fuel standards. This is a common problem with energy efficiency standards or other command-and-control regulations. Shipping companies may not have any incentives to share with the regulator the latest technological developments, which could lead to even more stringent fuel standards.

The complex combination of a two-tiered carbon tax and a fuel standard would increase the administrative and compliance burden. The regulator would need to set fuel efficiency standards and the carbon tax rates, validate taxpayers' reported data, and keep track of their fuel efficiency over time. Covered shipping companies may incur more compliance costs under the IMO proposal than a conventional carbon tax, since they would have to navigate the complex policy and find the least costly way to comply with the regulation.

Looking Forward

The global shipping carbon tax is expected to be adopted by IMO's Marine Environment Protection Committee formally in October 2025. Once adopted, IMO is planning to approve detailed implementation guidelines in Spring 2026. The measure is expected to go into effect in 2027.

In early April, the Trump Administration released a letter aimed at blocking the global IMO carbon tax discussions and threated to retaliate by levying "reciprocal measures." If the global shipping carbon tax goes into effect, it is unclear whether the administration would enact the retaliatory measures, and if it did, what impact that might have on the implementation of the policy.

It is also important to monitor the IMO proposal's potential impact on European Union (EU) policy making. The EU extended its emission trading system's (ETS) coverage to the maritime sector in January 2024. Currently the ETS covers emissions from large ships leaving from and arriving at ports in the EU. One key development to watch is whether large vessel companies would be required to comply with both the IMO global carbon tax and the EU ETS going forward.