CLIMEON INSIGHTS

IS THE SHIPPING INDUSTRY READY FOR A GLOBAL CARBON TAX?

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Following lengthy debate and many calls for action, a global carbon price on shipping emissions looks increasingly likely. In our latest Insights article, we take a closer look at how the industry is likely to be affected and what shipping companies can do to reduce their carbon tax liability while increasing sustainability.

In April 2024, the International Maritime Organization (IMO) confirmed it is considering 'economic mechanism(s) to incentivize the transition to net-zero', along with a 'goal-based marine fuel standard regulating the phased reduction of marine fuel's GHG intensity' (***IMO,*** 2024).

Currently, the proposal is in its formative stages, with a 'draft outline illustration of possible IMO net-zero framework' underway. An economic mechanism, if passed, is likely to be incorporated into a proposed new chapter to MARPOL Annex VI, furthering and strengthening the sustainability of the industry in accordance with the 'mid-term GHG reduction measures' outlined in its Strategy on the Reduction of GHG Emissions from Ships (2023).

> **"A GLOBAL INDUSTRY NEEDS A GLOBAL APPROACH"**
>
> Christopher J. WERNICKI
> ABS CHAIRMAN AND CEO

WHEN WILL A GLOBAL CARBON TAX BE INTRODUCED?

The latest announcement from the IMO doesn't provide a deadline but make no mistake, a global carbon tax is not far off. Speaking about the proposed measure,

Arsenio Dominguez, the Secretary General of the maritime organization told the New York Times, "I'm very confident that there is going to be an economic pricing mechanism by this time next year."

While the exact nature of the economic pricing mechanism is yet to be confirmed, many industry professionals expect it to take the form of a global carbon price on shipping emissions. Essentially, shipping companies will be forced to pay a set fee per tonne of carbon that is emitted as a result of burning fuel. be required to pay a set fee per tonne of carbon that is emitted due to burning fuel.

$80BN

COULD BE RAISED ANNUALLY VIA A GLOBAL SHIPPING CARBON TAX - REUTERS, 2024

Known colloquially as a 'carbon tax', the global carbon price will prevent shipping companies from using savvy strategic planning to avoid regional-specific regulations and national laws. Instead, a uniform economic measure will be applicable to vessels worldwide.

WHO SUPPORTS A GLOBAL CARBON PRICE ON SHIPPING EMISSIONS?

Industry support for a global levy is increasing. Indeed, some IMO Member States have called for carbon-focused economic measures for decades. Reports suggest 47 countries support the introduction of a levy on GHG emissions – but this support is spread across four different proposals for the measure (*Reuters,* 2024).

Despite significant support for a widespread, global carbon tax, notable objectors remain. Some countries, such as Brazil and China, are against the proposed carbon fee, arguing the potential negative impact on emerging economies that are reliant on trade renders a carbon tax unfair.
While a fee for CO2 shipping emissions isn't a sure thing yet, growing support from member states makes it increasingly likely. Countries have until September to decide whether to proceed with an emissions price and/or a new fuel standard and global initiatives appear to be the only way to achieve the IMO's ambition targets and avoid fragmentation of the market with differing national policies.

So, if a global carbon tax is inevitable, what impact can shipping companies expect it to have?

HOW WILL SHIPPING COMPANIES BE AFFECTED?

First and foremost, a global carbon tax will increase the expenditure of shipping companies. To what extent their OPEX will rise is dependent on the fee that is imposed on CO2 emissions.

One proposal recommends a carbon fee of $150 per tonne of CO2, although this lies at the more ambitious end of the proposed fee structure. As CO2 shipping emissions exceed 700 million metric tonnes per year (***IEA,*** 2023), it's easy to see how even a relatively modest levy could generate a substantial amount of revenue.

Although shipping companies will be directly affected by an 'emissions price', they are unlikely to suffer in silence. In face, shipping companies could simple pass on a percentage of their additional costs to their customers, thus limiting the financial impact of the levy.

More than 90% of traded goods are transported via our oceans (OECD, 2024), which means everyone could feel the impact if shipping companies hike up their fees to account for the increased expenditure associated with the carbon tax.

KEY TAKEAWAY

A global shipping carbon tax will require shipping companies to pay a set price for each tonne of CO2 emission that is generated by burning fuel.

The levy is part of a *'basket of measures'* designed to reduce mid-term GHG emissions in accordance with the IMO's 2023 GHG Strategy.

Impact assessments on proposed measures, including a carbon tax, are due to be completed by *Autumn 2024.*

The economic mechanism could be introduced *as early as 2025.*

A global carbon tax could help the industry to achieve key net-zero goals, including a *40% reduction in CO2 emissions per transport work* by 2030 and *net-zero GHG emissions from international shipping by 2050.*

Of course, the global carbon tax isn't intended to increase costs for customers, end-users or consumers, nor is it designed to stifle fiscal activities in emerging economies. Its aim is to motivate the shipping industry to reduce its CO2 emissions – and it's likely to succeed.

20% **REDUCTION IN TOTAL ANNUAL GHG EMISSIONS IS REQUIRED BY 2030 -** IMO, (2023)

As we have seen at a national level and in other industries, regulatory and fiscal measures are arguably the most effective and efficient way to ensure environmental progress.

LOWERING CARBON TAX LIABILITY

Shipping companies will not be content with simply paying a fee on the CO2 emissions they generate. Instead, they will seek additional solutions to minimize or eliminate emissions, thus enhancing the sustainability of the sector.

In fact, many shipping companies are already implementing these solutions. From LNG power to new hull designs to increase sailing speeds, there are a variety of options available to today's shipping giants. A seemingly obvious solution to the issue is a switch to alternative, low-carbon or zero-carbon marine fuels but this may prove difficult to implement in time for a global carbon tax.

Although some shipping lines are incorporating dual-fuel engines on to new-build ships, 'radical action is required to scale sustainable fuels (Wartsila, 2024). The limited availability of market-ready low-carbon marine fuels and infrastructure limitations at ports means it may be some time before alternative fuels can offer a universal solution.

By embracing new technologies and sustainable solutions, however, today's shipping companies can prepare for a cleaner tomorrow – and we can help.

REDUCING EMISSIONS AND INCREASING ENERGY EFFICIENCY WITH HEATPOWER 300 MARINE

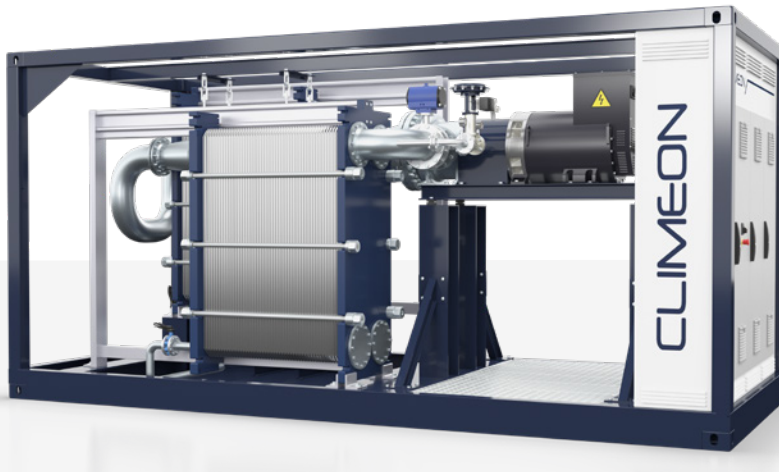
Every shipping company can benefit from increased energy efficiency, both economically and environmentally. At Climeon, we strongly believe that maximizing the utilization and value of existing assets is the most effective way to increase sustainability.

That's why our award-winning HeatPower 300 Marine technology is designed to increase energy efficiency on board, leading to reduced CO2 emissions and lower fuel consumption.

WHAT IS LOW-TEMP WASTE HEAT RECOVERY?

All marine engines produce heat as a byproduct and the majority of this heat is generated at relatively low temperatures. Until now, using this waste heat as a power source hasn't been economically viable but our revolutionary HeatPower 300 Marine system has transformed low-temp waste heat recovery (WHR) into a cost-efficient and fiscally-attractive method of emissions reduction.

With HeatPower 300 Marine producing on-board sustainable electricity, ships are less reliant on fuel-powered generators and, therefore, produce fewer emissions, thus lowering their carbon tax liability.



HEATPOWER 300 TECHNOLOGY

utilizes waste heat to generate clean, sustainable electricity via an Organic Rankine Cycle (ORC). Using waste heat as a hot input source, seawater as a cold input source and an environmentally friendly working media, HeatPower 300 can generate up to **355 kW** from a single unit.

WHY HEATPOWER 300 MARINE?

Designed by maritime engineers, Climeon's HeatPower 300 Marine technology is ideally suited to shipowners that want to enhance the sustainability of their fleet, optimize economic performance and meet current – and future – regulatory requirements:

EFFICIENT INSTALLATION PROCESS

HeatPower 300 is capable of generating sustainable electricity from a single waste heat stream, such as jacket cooling water, which accelerates the installation process and allows for fast-track implementation - even in time for a global carbon tax!

MODULAR AND SCALABLE DESIGN

A single HeatPower 300 unit can generate up to 355 kW of clean energy, but its modular and scalable design means multiple units can be integrated on board. This enables more waste heat streams to be utilized, thus increasing emissions reductions, fuel savings and sustainable power outputs.

AUTOMATED ENERGY PRODUCTION

HeatPower 300 Marine responds to fluctuations in the waste heat's flow rate and temperature to optimize performance and electricity production.

MINIMAL MAINTENANCE REQUIREMENTS

Minimal on-board maintenance requirements ensure seamless functionality, while our optional cloud-based platform, Climeon Live, offers fault diagnostics, performance monitoring and remote support.

OPTIMAL CONVERSION EFFICIENCY

Our proprietary tech boasts leading conversion efficiency rates at low temperatures, which means you'll benefit from enhanced energy efficiency, emissions reductions and fuel savings.

RETROFIT AND NEW-BUILD APPLICABILITY

HeatPower 300 might be built for the future, but it's ready for today's global fleet. As well as integrating our systems into new-build ships, HeatPower 300 Marine is suitable for retrofit integrations on board operational vessels too.

COMPATIBILITY WITH LOW-CARBON FUELS

If low carbon fuels are part of your sustainable strategy, you can increase their impact and mitigate associated costs by integrating HeatPower 300 Marine units. Engines continue to produce heat, even when low carbon fuels are used, and this waste heat can be transformed into clean, usable electricity with our HeatPower 300 system.

CONTACT OUR TEAM TO LEARN MORE

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