Climate change: Is shipping finally on board?

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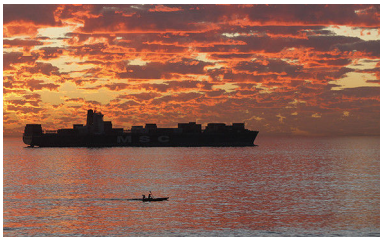
Last update: 29 January 2020



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Trade is on the rise again globally, and ships are back trawling our seas, connecting places and people. But ships don't just drive trade, they unfortunately contribute to climate change too. In fact, global shipping is responsible for about 2.5% of global greenhouse gas (GHG) emissions, and these are projected to rise by between 50% and 250% by 2050 if nothing improves. And yet, maritime transport was excluded from the Paris Climate Agreement struck two years ago.

Why?

One problem lies in deciding which country to assign carbon emissions to when ships are almost always outside national borders. The issue is further complicated by the fact that the actual nationality of ships is often different from that of their owners, operators or crew.

Because of this, regulation of the international maritime sector's greenhouse gas emissions falls to the International Maritime Organization (IMO), a specialised agency of the United Nations whose 172 member countries set global shipping standards.

Has the IMO made any progress on reducing emissions in the past two years? Well, it depends on whether you are the kind of person who sees the glass half full or half empty.

Half-empty types feel the organisation has lost time embarking on a process to define a greenhouse gas emissions reduction strategy rather than just adhering to the targets of the Paris agreement right away. This process is intended to yield an "initial strategy" in April 2018 and a "revised strategy" in 2023, eight years after the Paris Agreement. The one publicly available outcome two years after COP21 is a seven-line draft outline and a decision to start collecting data on the fuel consumption of ships.

Half-full types, however, see this as a thorough approach. By establishing the "how" first, the IMO sets and adheres to targets they are sure can be met. Whether these are sufficient to reduce shipping's footprint remains a matter of discussion.

Different greenhouse gas emissions strategies

What is clear is that the highly divergent positions of the IMO's member countries will make it harder to achieve a unified strategy on reducing those greenhouse gases. At one end of the spectrum, we have a group of Pacific Island states, most notably the Marshall Islands, home of the world's third largest shipping registry but also threatened by rising sea levels. They want the shipping sector to reach zero emissions as early as 2035.

The other end of the spectrum is mostly dominated by emerging economies such as Brazil who want to postpone decarbonisation efforts of the sector to the second half of this century. They have not specified preferred targets for shipping emissions.

In between lie most of the OECD countries. A group of EU countries has proposed reducing maritime carbon emissions by an absolute target of 70% by 2050. They also want to reduce carbon intensity, that is, the number of tonnes of carbon emission emitted per kilometre, by 90%, using the 2008 rate as baseline.

The shipping sector itself, represented by the International Chamber of Shipping (ICS), has officially proposed reducing carbon intensity by 50% to 2050, but not suggested an absolute reduction target.

Whatever carbon reduction strategy the IMO settles on, to keep the planet's temperature "well below" a 2°C rise, as spelt out in the Paris Agreement, requires that shipping's greenhouse gas emissions peak as early as possible and descend to zero by the third quarter of this century. The aforementioned IMO projection of an increase in emissions of 50-250% by 2050 makes that target difficult to attain, to say the least. Efficiency by design

Efficiency by design

One of the ways IMO member states have agreed on to reduce greenhouse gas emissions is to increase the energy efficiency of ships. The IMO's Energy Efficiency Design Index, known in shipping circles simply as EEDI, entered into force in 2013. But its effects are limited and very gradual: the new energy

efficiency standards get stricter in stages. They also apply only to new ships, with the average lifetime of a ship being approximately 26 years. And two thirds of new container and general cargo ships already comply with the stricter standards that will enter into force after 2025, which has raised questions about their effectiveness.

Besides energy efficiency, other measures that have been suggested include speed optimisation for ships, retrofitting existing ships to make them more energy-efficient and use of alternative energy sources (see below).

But there is no agreement on targets or measures, and, in a larger context, there are two stumbling blocks to consensus on how to lower shipping emissions: one which concerns principles and the other, economic effects.

Developing and emerging economies argue that developed countries should carry a greater financial burden in lowering greenhouse gas emissions from shipping. They base their argument on the United Nations Framework Convention of Climate Change (UNFCCC) principle of "common but differentiated responsibilities and respective capabilities". But how does this sit with the IMO's principle that all ships should be treated equally, otherwise known as the "no more favourable treatment" principle?

The second stumbling block is also financial in nature. Several countries that are located far from the world's main consumer markets are worried that decarbonisation of shipping will raise transport costs and affect the competitiveness of their exporting sectors. While the concern is legitimate, it is far from clear how trade flows will change in the future and what the impact will be. Dynamic modelling of global trade flows could help project the possible effects of decarbonising shipping, which, in turn, might provide a basis for some sort of compensation mechanism.

Looking ahead

More effort is needed as the basis for consensus on an effective Initial Greenhouse Gas Strategy for shipping by April 2018.

An unambitious target and postponement of any policy measure until 2023 could stifle innovation and increase the likelihood of a patchwork of uncoordinated, potentially ineffective, regional and national measures. It might even lead to the unravelling of the global framework as public patience is tried. The European Union has already indicated that shipping will be integrated into its emissions trading scheme by 2023 if no significant progress is made at the IMO. China has embarked on an ambitious national programme to decarbonise its shipping sector, including via carbon pricing.

Front-runners in the maritime sector are beginning to embrace emissions-reducing technologies. There are already ships roaming the oceans that are propelled by electricity, methanol, hydrogen, biofuels and–as the OECD Observer

reported as long ago as in 2010–wind (see references). The innovations to help keep greenhouse gases down are available, and an ambitious, agreed-upon emissions strategy in April will put extra wind in the sails of a cleaner, more efficient maritime industry. The glass is still half full; shipping nations should take care not to accidentally knock it over.

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