The IMO’s GHG strategy: A Step Toward Meeting the 2° Target?

Giulio Corsi

May 2018
1. Introduction

Today, maritime shipping is responsible for nearly 100 million tons of CO2 emissions per year, equivalent to 2.2% of global greenhouses gases (GHG) emissions. While this may appear as a relatively small share of total GHG emissions, emissions from maritime shipping are expected to rise between 50% and 250% by 2050 in absence of significant mitigation policies. Despite significant international efforts to contain GHG emissions, maritime shipping emissions have long remained the only emission source not covered by sectoral decarbonization objectives, and even the 2015 Paris Agreement left the responsibility to regulate them to the International Maritime Organization, which has long proved reluctant to undertake significant regulatory action.

On April 13, 2018, the International Maritime Organization’s (IMO) Marine Environment Protection Committee (MEPC) approved the organization’s first ever greenhouse gases (GHG) strategy, aimed at reducing emissions for international maritime shipping. This resolution established a number of quantitative GHG emission reduction targets for 2050 and proposes a set of policy measures that should be evaluated to achieve these goals. This document, signed by over one hundred member states, represents a milestone in the control of maritime shipping emissions, which puts an end to the IMO’s long-standing reluctance to regulate this source of GHG emissions.

While the approval of the GHG strategy represents a starting point, uncertainties remain as to whether it is ambitious enough to level the playing field in reducing international emissions, and to meet the relevant emissions reduction targets. This article presents and evaluates the IMO’s greenhouse strategy and assesses the future implications of the resolution.

2. Background to the Resolution

Global movement of goods is a pillar of modern economic systems, with goods normally traveling across borders to reach customers all over the world. Compared to other methods of transporting goods, maritime transportation is a relatively clean one, particularly if compared with ground transport.
or airfreight. The lower environmental impact, along with contained operational costs, makes maritime shipping an attractive form of international goods transportation. It is expected that the sector will grow steadily in the coming years. Although relatively clean, emissions from international maritime shipping are not negligible. In fact, exhaust gases from burning fuels in ships’ engines are responsible for the emissions of numerous GHG gases, including carbon dioxide (CO₂), carbon monoxide (CO), sulphur oxides (SOₓ), black carbon (BC) and methane (CH₄). Moreover, nearly 70% of ships’ emissions occur within 400 kilometers of land, with potential impacts on air quality.

At an institutional level, regulating maritime shipping is the exclusive competency of the International Maritime Organization, a sectoral UN Body established in 1948. However, the IMO has consistently failed to consider GHG emissions from shipping. Already in the 1997 Kyoto Protocol, it was requested that the IMO members develop a comprehensive strategy to address shipping emissions, but this appeal went unheard. It was only in 2011, as a result of significant international pressure, that the parties to the MARPOL, the IMO Convention for the reduction of maritime pollution, approved an amendment to Annex VI, a set of design efficiency standards (EEDI) aimed at reducing maritime shipping emissions. The amendment requires new ships to meet an energy efficiency design index which specifies maximum CO2 emissions per mile per type of vessel, and to adopt ship-specific efficiency management plans.

During the 2015 Paris Agreement negotiations, which established the current framework of international climate change governance, maritime emissions were again left out, waiting for IMO to tackle the issue. Among growing international pressure, which included the EU threatening to place shipping emissions under the ETS, in 2016, the IMO finally agreed on a 7-years GHG roadmap, which laid the basis for the document approved on April 13, 2018. The remainder of this article will be dedicated to the analysis of the aforementioned resolution.

3. **International Maritime Organizations’ GHG strategy: Analysis**
3.1 Quantitative Emissions Reduction Targets

The Third IMO GHG Study published in 2014 estimated that GHG emissions from international maritime shipping accounted for 2.2% global CO2 emissions in 2012, and they are expected to grow between 50% and 250% by 2050. With this statistic in mind, IMO’s GHG strategy establishes quantitative emissions reduction targets and carbon intensity targets for shipping up to 2050. The targets are structured as follows:

1. Carbon intensity of new ships should decline through the implementation of further phases of the energy efficiency design index (EEDI), first approved in 2011. This measure is subject to the review of the MEPC.
2. The CO2 intensity of international maritime shipping should decline on average by at least 40% by 2030, pursuing efforts towards 70% compared to 2008 levels.
3. Greenhouse gases emissions from international shipping should peak and decline as soon as possible. Total annual GHG emissions should decline by at least 50% by 2050 compared to 2008 levels, while pursuing efforts to phase them out, in line with the Paris Agreement CO2 emissions reduction targets and temperature goals.

Indeed, these quantitative emissions reduction targets represent a compromise among IMO’s Member Countries. The United States, Saudi Arabia and Brazil strongly opposed the targets, claiming that the IMO should wait for significant technological developments before establishing mandatory targets. On the other hand, small island developing states (SIDS) demanded emissions reduction targets between 70% and 100%, in line with their greater ambition to fight climate change. In this sense, 50% by 2050 appears as a reasonable compromise. Furthermore, if compared to BAU emissions pathways predictions, these emission reduction pledges appear as extremely significant, as they are expected to cut nearly 1000 tons of GHG emissions per year by 2050 against BAU levels.

It is also important to mention that the document itself acknowledges that this is merely an initial strategy within IMO’s 7-year roadmap, and that greater levels of ambition may be necessary in the future, in accordance with updated emission estimated and with the International Panel on Climate Change’s (IPCC) findings.
3.2 List of Candidate Measures to Achieve Emission Reduction Goals

In a quite innovative fashion, IMO’s GHG strategy lists a number of short-term (2018-2023), medium-term (2023-2030) and long-term (2030 onwards) measures that should be evaluated to reduce emissions from international maritime shipping. Although several measures are worded vaguely, this section still presents interesting ideas for future emission abatement.

In the short-term, the resolution suggests a number of measures centered on improving shipping efficiency. These include the initiation of research into improving energy efficiency performances and into the use of low-carbon fuels, the use of speed optimization to reduce emissions, and the development of more efficient ports. Moreover, the document also suggests the development of national action plans to address GHG emissions and the undertaking of additional GHG emission studies, which may help to inform future policy measures.

In the medium-term, one policy alternative significantly stands out. The document proposes innovative emissions reduction mechanisms, which may include market-based measures (MBMs) aimed at incentivizing GHG emissions reduction. While this is only a candidate measure, it is striking that such an ambitious policy measure made it onto the final document, particularly given the historical reluctance of IMO to be subject to a market-based emissions reduction scheme. However, such a market-based measure would be a global nature, and its implementation would be extremely challenging.

In the long-term, the document presents less defined alternatives. These include the pursuit of zero-carbon fuels to allow full decarbonization in the second half of the century, while encouraging the broadest adoption of innovative emission reduction mechanisms. While vague, this provision embodies the intention to virtually decarbonize the shipping sector in the long-run.

3.3 Common but Differentiated Responsibilities

A further salient point in the resolution regards the assessment of the impact of possible policies on
states - particularly developing ones - and the adoption of common but differentiated responsibilities as a guiding principle.

The resolution demands that the impact of each policy be assessed before its implementation, paying particularly attention to the needs of SIDS and less developed countries (LDCs). These considerations should consider the remoteness of a state’s location, food security, and socio-economic development, among other considerations. In addition, the Committee clearly recognizes that developing countries, particularly SIDS and LDCs have special needs in terms of capacity building and technical cooperation and demands that developed countries assist SIDS and LDCs by promoting public-private partnerships, information exchange, technology transfer and capacity building.

This is indeed a very strong view of common but differentiated responsibility, which was demanded by the developing countries group within the IMO. While this is in line with the international formulation of the principle of common but differentiated responsibility (CBDR), it remains to be seen the impacts that this will have on future maritime shipping emission abatement strategy. As the Kyoto Protocol proved in the past, an excessive weight on common but differentiated responsibilities may hamper effective regulation, and there is indeed a risk that this may lead to complete inaction on behalf of SIDS and LDCs. It will be up to the IMO to take adequate measure to balance the need to reduce emissions with a correct application of the principle of CBDR.

4. Is the Resolution Good Enough?

After carefully outlining IMO’s GHG strategy, it is now possible to draw some conclusions about said strategy. Clearly, the resolution is a milestone in the future of international maritime shipping, and after years of inaction on the matter, the organization managed to pass a ‘strong’, ambitious document, particularly in light of its quantitative emission reduction targets. The resolution does in fact lay down a clear framework for emissions reduction within IMO’s 7-year strategy. This bodes very well for the future. In addition, the resolution contains several references to innovative emission reduction strategies for the future, among which we find a market-based mechanism to be implemented in the medium-term. This is indeed a welcome opening to this type of policy, which would make the meeting of international targets easier.
Despite the numerous steps forward achieved during MEPC72, several flaws can however be identified in the strategy. Firstly, the document does not take steps to address the risk of non-compliance with the quantitative emission reduction targets. While this is in line with the voluntary nature of soft law international instruments, the absence of non-compliance procedures may weaken the overall functioning of the goals-system. However, it is expected that future MEPC meetings may take further measures to address this point.

Moreover, the International Council on Clean Transportation estimates that in full compliance with the targets outlined, international shipping would consume between 3.8% and 5.8% of the world remaining carbon budget under the Paris Agreement, up from 2.3% in 2015. This target is clearly aimed at meeting the 2° target, while far exceeding the emissions expected to meet the 1.5° target. This demonstrates that MEPC72 set the 2° as the benchmark for emission reduction, closing the door to the 1.5° target. Such an assumption may lead us to question the Paris Agreement’s decision to leave the IMO free to self-regulate, thus excluding maritime shipping - together with aviation - from the agreement’s framework.

A last controversial point regards the creation of a future market-based mechanism. While this would be an interesting medium-term strategy, it should be mentioned that such a policy has been under discussion within the IMO since 2004, when the organization approved Resolution A.963(23), which demanded an evaluation of technical, operational and market-based solutions. 14 years have now passed since the resolution, and the IMO has again delayed the use of market-based mechanisms for the medium-term future. This may show the lack of political willingness to adopt this type of policy, and an attempt to delay such a strong regulatory measure.

5. Final Remarks

After years of great reluctance to address greenhouse gases emissions from international maritime shipping, the IMO has finally taken a clear step to address the issue. Analyzing the document produced by MEPC72, what emerges is that the document presents two main innovative features. Firstly, it contains quantitative emission reduction targets and carbon intensity targets up to 2050: reducing CO2
The IMO’s GHG strategy: A Step Toward Meeting the 2°C Target?

intensity by 40% before 2030 and reducing total GHG emissions by 50% before 2050. In addition, the document contains a number of candidate policies to achieve such goals, which may act as a useful guide for future policy choices. Of particular importance is mention of a market-based mechanism as a possible future policy.

However, the document also appears to have flaws. In fact, the aforementioned targets are not accompanied by a non-compliance mechanism. Hence, doubts remain as to how the IMO would address cases of non-compliance by its member states. Moreover, it appears that even in full compliance with such targets, the emissions trajectory would be inconsistent with the 1.5°C target, completing closing the door on this prospect.

In conclusion, it can be said that IMO’s GHG strategy is indeed an ambitious and solid step forwards towards tackling emissions from international maritime shipping. A revised strategy will come in 2023, five years from now. This time period will with all likelihood be enough to assess whether the strategy will have a real impact on maritime emissions, and what levels of compliance can be expected.

Giulio Corsi is a Graduate Research fellow at the Climate Institute. He holds a B.A. in Politics, Philosophy and Economics from LUISS Guido Carli, Italy, and an MPhil in Environmental Policy from the University of Cambridge

Notes


3 International Maritime Organization (2018) *Adoption of the Initial IMO Strategy on Reduction of GHG Emissions from Ships and Existing IMO Activity Related to Reducing GHG Emissions in the Shipping Sector*
The IMO’s GHG strategy: A Step Toward Meeting the 2°C Target?


6 See *supra*, n.1

7 See *supra*, n.3


