ENERGY & ENVIRONMENT
aspen institute

IMO POLICY BRIEF

ISWG-GHG 17 and MEPC 82: Progress, Critical Questions, and What's Next

November 14, 2024

AUTHORS

Dr. Alison Shaw, Senior International Policy Adviser, Ocean & Climate, Energy & Environment Program, *Aspen Institute*

Kathryn Benz, Senior Policy Manager, Ocean & Climate, Energy & Environment Program, *Aspen Institute*

KEY OBSERVATIONS

The latest International Maritime Organization (IMO) meetings did not require formal policy decisions, resulting in modest progress with member states reaffirming their commitment to the timeline for adopting measures regulating greenhouse gas (GHG) emissions from shipping. Extensive technical and legal work—and significant political negotiations—will be needed to finalize and approve a cohesive regulatory framework by April 2025, in line with the schedule laid out in the 2023 Strategy on Reduction of GHG Emissions from Ships (2023 Strategy).

Key details of the regulatory framework have yet to be defined or agreed to, making it difficult to forecast the emissions reduction trajectory and the associated costs for the sector. Pending decisions on these details are critical and will impact, for example, how closely the sector will be to a 1.5°C -aligned transition, and how the measures apply a well-to-wake (WtW) scope in practice.

In addition to the pending decisions required on the overall design of measures, there remains significant work to develop the foundational processes and administrative systems that will support the implementation. Among other tasks, the IMO must finalize technically robust Lifecycle Assessment (LCA) guidelines, develop a transparent and credible fuels certification framework, and ensure that the IMO Data Collection System is ready for the data reporting requirements associated with forthcoming measures.

Stakeholders will need to wait until 2025 for clarity on the scope and strength of the regulatory signals to the market. Many issues, including how much of the policy framework will be in the legal text (MAPROL Annex VI Amendments) versus guidelines, have yet to be determined. Addressing these issues and making unambiguous decisions will help to inform regulatory clarity and certainty, and these issues need careful consideration ahead of MEPC 83 to ensure that robust demand signals allow for early investment in shipping's clean energy transition.

The IMO held its 17th session of the Intersessional Working Group on the Reduction of Greenhouse Gases from Ships (ISWG-GHG 17) from September 23-27, 2024, and the 82nd session of the Marine Environment Protection Committee (MEPC 82) from September 30-October 4, 2024. These meetings mark the latest point on the IMO's path to adopting globally-

binding measures to reduce GHG emissions from international shipping. Neither of these meetings required formal decisions, and therefore, the modest progress, while not unexpected, will leave maritime stakeholders waiting for clarity on potential outcomes until 2025.

This policy brief provides an overview of the IMO's meetings in 2024, including ISWG-GHG 17 and MEPC 82. The brief also identifies critical policy elements and highlights outstanding issues that the IMO must address to provide regulatory certainty needed to ensure a predictable, effective, and efficient transition.

1. Overview of the 2024 IMO Meetings

In 2024, the IMO held GHG Working Group and MEPC meetings in March, September, and October. At the conclusion of the IMO meetings held in March 2024 (ISWG-GHG 16 and MEPC 81), the MEPC agreed to a draft "IMO Net-Zero Framework". The purpose of this draft framework was to provide a structure to consolidate draft amendments to MARPOL Annex VI,[1] the legal instrument that will contain the forthcoming package of measures.[2] The "IMO Net-Zero Framework" is also intended to support intercessional collaboration between member states, particularly cosponsors[3] of measures, by allowing them to identify commonalities in proposals or other points of convergence.[4]

There were several notable developments following the March 2024 meetings, including:

1. **The Comprehensive Impact Assessment (CIA) process concluded in September 2024**. The CIA process involved five-tasks[5] to assist the MEPC in making evidence-based

[1] The International Convention for the Prevention of Pollution from Ships (MARPOL) covers the prevention of pollution of the marine environment by ships. Annex VI regulates air pollution from ships. IMO 2024: 'International Convention for the Prevention of Pollution from Ships (MARPOL)'.

[2] Flag states (also known as flag administrations) are generally responsible for enforcement of MARPOL: "[I]n most conventions the flag State is primarily responsible for enforcing conventions as far as its own ships and their personnel are concerned. The [IMO] itself has no powers to enforce conventions." IMO 2024: 'Conventions'.

[3] For purposes of this paper, co-sponsors are the member states and the organizations with observer status at the IMO that have written and/or endorsed the contents of that submission.

[4] For additional information about the March 2024 meetings, see our previous IMO Policy Brief.

[5] Task 1 was a systematic literature review by the World Maritime University. Det Norske Veritas (DNV) modeled the impacts of candidate measures on the international fleet for Task 2. The United Nations Conference on Trade

decisions on developing a GHG regulatory framework. The CIA process was overseen by a Steering Committee composed of member states and assessed the potential impacts of candidate measures on the global fleet and on States.

2. **The number of member state proposals before the MEPC decreased** as Japan, previously a sole sponsor of its feebate measure proposal, joined the European Union (EU) as a co-sponsor on a newly combined measures proposal. The EU package now incorporates a feebate system within its GHG pricing mechanism.

Subsequently, the IMO autumn meetings offered the opportunity for further progress. **Table 1** below outlines discussions and outcomes during ISWG-GHG 17 and MEPC 82.

Week 1: ISWG-GHG 17 (held September 23-27, 2024)	Week 2: MEPC 82 (held September 30-October 4, 2024)
• Rounds of negotiations on the package of regulatory measures, framed by guiding questions from the Working Group Chair • Consolidation of draft MARPOL amendment text • Discussion on the scope of the 5th IMO GHG Study • Presentation of the Chair's summary on the developments of draft text and finalizing the Working Group's report to MEPC 82	• Extensive discussion on the outcome of the CIA process • Further negotiations to consolidate and streamline draft MARPOL amendment text • The GHG Working Group drafted Terms of Reference[6] for: - Additional analysis on the impact of potential measures on food security, to be presented during an expert workshop (Date: *TBD*) - ISWG-GHG 18 (*February 2025*) - ISWG-GHG 19 (*April 2025*) • Drafting and approval of the GHG Working Group and the Committee reports

Table 1: Summary of ISWG-GHG 17 and MEPC 82 discussions and outcomes

and Development (UNCTAD) led Task 3, by modeling impacts of candidate measures on member states. Task 4 was a qualitative/quantitative stakeholders analysis provided by Starcrest that focused on impacts on ten case study countries and their chosen commodities. Task 5 was the quality control and assurance process.

[6] Terms of Reference are drafted to guide the work of correspondence groups or working groups by organizing the work under several agenda items.

The outcome of the CIA process was discussed at length during MEPC 82, with much of the discussion centered on the assessment of impacts on states from candidate GHG reduction measures. There was divergence between member states that accepted the process as methodologically robust and view the outcome as a basis upon which to progress decisions on GHG measures, and a minority of member states that did not hold this view. Additionally, two proposals to conduct further assessment on potential impacts of candidate measures on food security gathered a majority of support from an array of member states. As a result, an analysis on this topic will be undertaken before MEPC 83, with an expert workshop to be scheduled ahead of ISWG-GHG 18. There was a general agreement that this analysis should be complementary and not delay the existing timeline for measures agreed to in the 2023 Strategy. See the policy timeline at the end of this brief for future IMO meeting dates and the timeframe for adopting the measures.

2. Active GHG Measures Proposals

The IMO's work on the GHG measures is framed by commitments in the 2023 Strategy that require the development and finalization of regulations comprised of:

- ".1 a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and
- .2 an economic element, on the basis of a maritime GHG emissions pricing mechanism."[7]

Table 2 presents an overview of member state proposals, highlighting features of the proposals that co-sponsors consider sufficient to satisfy the technical and economic elements required by the 2023 Strategy.[8]

[7] International Maritime Organization, 2023 Strategy on Reduction of GHG Emissions from Ships (Resolution MEPC.377(80).

[8] Note that this table was drafted based on the proposals in submissions to ISWG-GHG 17 and MEPC 82. Proposals may be subject to future intercessional changes by co-sponsors at their discretion.

Co-sponsors	Measure Proposal	Features of the Proposal
EU and **Japan**	Greenhouse Gas Fuel Standard with Flexibility Mechanism and Universal GHG Contribution	**Technical element:** • A goal-based marine fuel standard • A flexibility mechanism for compliance with the fuel standard that is effectively an emissions unit trading system **Economic element**: • A GHG emissions price starting at $100 USD per tonne of CO_2e emitted • A feebate[9] system that allocates a portion of the revenues received from the GHG emissions price for rewarding use of eligible fuels
Angola, **Argentina**, **Brazil**, **China**, **Ecuador**, **Norway**, **South Africa**, **United Arab Emirates**, and **Uruguay**	International Maritime Sustainable Fuels and Fund (IMSF&F)	**Technical element:** • A goal-based marine fuel standard **Economic element:** • A flexibility mechanism for compliance with the fuel standard that is effectively an emissions unit trading system. Some revenues may be allocated to reward use of eligible fuels and technologies.
Fiji, **Kiribati**, **Marshall Islands**, **Nauru**, **Palau**, **Samoa**, **Solomon Islands**, **Tonga**, **Tuvalu**, and **Vanuatu**	Global GHG Fuel Standard and Universal Global GHG Levy	**Technical element:** • A goal-based marine fuel standard • A surcharge payable when ships do not comply with the fuel standard **Economic element:** • A GHG emissions price starting at $150 USD per tonne of CO_2e emitted. Some revenues may be allocated to reward use of eligible fuels and technologies.
Bahamas, **Liberia**, and the **International Chamber of Shipping (ICS)**	Integrated IMO Net-Zero Framework[10]	**Technical element:** • A goal-based marine fuel standard • A surcharge payable when ships do not comply with the fuel standard **Economic element:** • A GHG emissions price (co-sponsors do not propose a price but give an example of $18 USD per tonne of CO_2e emitted). Some revenues may be allocated to reward use of eligible fuels and technologies.

Table 2: Overview of member state proposals

[9] A feebate refers to a policy that applies a fee and distributes rebate(s) based on defined criteria. In this context, the fee would be a price per tonne of CO_2e emitted and the rebate would be a financial reward for the use of eligible fuels and technologies.

[10] The latest submission covers only the emissions pricing economic element of the proposal but based on comments made in interventions at the meetings, the co-sponsors appear to support the broader package shown in the table.

It is critical to note that the Angola et al. proposal does not add a separate GHG pricing mechanism to all GHG emissions from ships. Rather, it considers the flexible compliance mechanism for the fuel standard sufficient to satisfy the 2023 Strategy's requirement for an emissions pricing mechanism. It is equally essential to highlight that even with similarities in their design at a high level, the reality is there are a myriad of differences between the proposals when examined in detail. These distinctions could lead to different results in terms of environmental integrity, implementation, and ability for the proposal to satisfy the aims of the 2023 Strategy. Ultimately, these differences produce a series of outstanding issues and pending decisions for the IMO that will be discussed in the next section.

3. Outstanding Issues and Pending Decisions

Many critical policy matters are still unresolved following the IMO autumn meetings, leaving both the shipping sector and stakeholders guessing about the ultimate nature and scope of the forthcoming measures and how they might be implemented. How the IMO addresses these issues will determine how closely the international shipping community comes to achieving the objectives of the 2023 Strategy and will provide the sector with a cohesive regulatory framework directing an effective transition. This section highlights some of the outstanding issues and pending decisions before the IMO and describes why it is important for stakeholders to stay engaged on these issues.

Unknown Emissions Reduction Trajectory

Outstanding issues: The reduction of GHG emissions from international shipping will be largely determined by the fuel standard. This fuel standard will set mandatory GHG Fuel Intensity (GFI) limits for marine fuels and reduce the GFI over time. Following the recent meetings, the IMO must still make critical decisions about the following issues:

- the required GFI reductions from 2027 to 2050
- whether to decrease required GFI reductions on an annual basis or in five-year increments (or a combination of options)

- whether to align the GFI trajectory with the "striving for" or "base" ambitions contained in the 2023 Strategy. This decision would determine how closely aligned to a 1.5°C trajectory the regulations will be.[11]

To date, few member states have provided details on their preferred GFI reductions. The EU and Japan have submitted a partial table of required reductions that offers alignment to both the "base" and "striving for" ambitions.[12] There was also no consensus on the issues identified above at the most recent IMO meetings. Thus, there is still not sufficient information or clarity on the most critical parameters of the fuel standard and, by extension, the total emissions reductions that would be generated by the various proposals.

Why this matters: Based on modeling carried out by DNV that evaluated the impacts of candidate measures on the shipping fleet, all policy combinations have the potential to increase the cost of shipping, including the IMO fuel standard.[13] Yet, it is not possible to ascertain from the current proposals what emissions reductions the sector will achieve in return for these additional costs. Put simply, there is evidence that candidate measures will increase costs, but no clarity on the environmental integrity of various aspects of the package at this time.

As a key determinant of emissions reductions, each decision on the fuel standard has consequential implications for shipping, fuel producers, and those reliant on maritime shipping. Determining the GFI reductions and including this trajectory in the forthcoming MARPOL amendment offers the sector long-term regulatory certainty, which, in turn, sends signals to the energy market and spurs the investment in long-term fuel solutions and infrastructure. Further, aligning GFI reductions with the "striving for" rather than the "base" ambitions would create the market signals needed for e-fuels earlier in the transition, potentially accelerating the business case for their use by several years. Furthermore, it would keep the sector from drifting

[11] The 2023 Strategy set two trajectories for the 2030 and 2040 checkpoints: the "base" trajectory and the "striving for" trajectory (see *2023 IMO Strategy at a Glance* table at the end of the document). Neither checkpoint is perfectly aligned to a proportional 1.5°C trajectory, but the "striving for" ambition levels would keep the sector significantly closer. See Smith and Shaw (2023), 'An overview of the discussions from IMO MEPC 80 and Frequently Asked Questions' and Bullock, Mason and, Larkin (2024), 'Are the IMO's new targets for international shipping compatible with the Paris Climate Agreement?').

[12] EU and Japan submission (ISWG-GHG 17/2/2).

[13] Submission (MEPC 82/INF.8/Add.1).

further from a proportional 1.5°C aligned trajectory—critical where national climate commitments are falling far short of this aim.[14]

Requiring GFI reductions on an annual basis could send a stronger signal to fuel producers, potentially unlocking a more predictable level of supply. It may also discourage ships from delaying investments until the next reduction in the GFI requirement for the fuel standard—a potential risk if limits are set for five-year increments. Without careful consideration of these critical parameters between now and when the measures are approved at MEPC 83, there is the risk that the fuel standard ends up a product of political compromise rather than the result of scientific and technical calibration.

Will the Measures Reflect a Lifecycle (Well-to-Wake) Scope?

Outstanding issues: Calculating emissions on a lifecycle basis,[15] is critical to ensure that the shipping sector does not shift its emissions onshore during decarbonization. The 2023 Strategy commits to "take into account the [WtW] GHG emissions of marine fuels as addressed in the Guidelines on the Life Cycle GHG Intensity of Marine Fuels (LCA Guidelines) developed by the Organization."[16] This statement is often assumed to mean that a WtW scope for the measures is assured, but the language "take into account" provides an opening for different interpretations.

One area where this issue arises, and where member states' proposals differ, is the calculation of the GFI, which is important for both setting the required GFI limits for the sector, and for calculating the annual attained GFI for ships as the determinant of compliance with the fuel standard. While there has been an enduring preference from most member states to formulate

[14] The UN Emissions Gap 2024 Report finds that, "A continuation of the mitigation effort implied by current policies is estimated to limit global warming to a maximum of 3.1°C […] The full implementation and continuation of the level of mitigation effort implied by unconditional or conditional NDC scenarios lower these projections to 2.8°C […] and 2.6°C […] respectively." United Nations Environment Programme (2024), 'Emissions Gap Report 2024: No more hot air … please! With a massive gap between rhetoric and reality, countries draft new climate commitments.' Nairobi. https://wedocs.unep.org/handle/20.500.11822/46404.

[15] This is also known as a well-to-wake assessment. A lifecycle assessment comprises the well-to-tank and tank-to-wake emissions. A well-to-tank assessment includes evaluating GHG emissions related to, inter alia, the extraction/cultivation, processing and refining, and transport, distribution, and bunkering of marine fuels while tank-to-wake is the point at which fuels are consumed onboard.

[16] International Maritime Organization, 2023 Strategy on Reduction of GHG Emissions from Ships (Resolution MEPC.377(80).

regulations on a WtW basis,[17] the Angola et. al proposal offers an adjusted tank-to-wake (adjusted TtW) formula for the attained GFI of ships that, in the view of the co-sponsors, captures "the WtW GHG emissions performance while keeping the regulations being set on a TtW basis."[18] This leaves member states with a choice between a WtW option and an adjusted TtW option for the annual attained GFI of ships.

Why this matters: Determining the GFI is the linchpin of the fuel standard and critical for determining compliance. [19] Furthermore, the quantification of GFI may also be linked to other key parts of the overall measures package. It may, for example, be intertwined with the calculation of payment in the case of non-compliance with the fuel standard, payment in the case of an additional GHG emission price, and rewards given for the use of eligible fuels.[20]

The fuel standard and the attained GFI formula are highly directive signals to fuel and technology producers about what types of fuels and technologies could be part of the compliant mix for this sector. Careful consideration must be given to the choices around a WtW or adjusted TtW formula in order to maintain the necessary environmental stringency of the fuel standard to drive the emissions reductions needed by the sector.

The Price of Non-Compliance with the Fuel Standard

Outstanding issues: Each member state proposal has an alternative option to comply with the fuel standard. These alternative compliance options are based on the rationale that in the early years of shipping's transition, compliant fuel supplies may be scarce, prohibitively expensive, or available only in certain geographies. These circumstances could lead segments of the sector to struggle to comply with the fuel standard. Alternative compliance options, therefore, are a design feature to avoid these potential scenarios while encouraging a compliance-first approach for any ship.

There is a split in how the proposals have chosen to address non-compliance with the fuel standard. The EU/Japan and Angola et al. proposals incorporate an emissions unit trading

[17] Based on submissions and comments made over a number of IMO meetings.

[18] Angola et al. submission (ISWG-GHG 17/2/7). Note that this submission also embeds in the attained GFI formula "a correction factor for ships serving eligible ports of developing countries that are expected to be negatively impacted by the measures" that serves to reduce the attained GFI of ships serving eligible ports. This element did not receive support from member states and there is no information on a possible list of eligible ports.

[19] Ships may use different fuels and energy sources over a year, and it is the total mix of fuels and energy that must be calculated as compliant with the fuel standard. This is called the attained annual GFI for the ship.

[20] Based on the assumption that these elements are in the final adopted package of measures.

system, known as a flexibility mechanism, while the Fiji et al. and Bahamas et al. proposals opt for charging non-compliant ships a surcharge fee.

Member states must first decide which approach to take and then agree on a price for non-compliance, meaning either the price of the remedial units that may be purchased through the emissions trading systems or the surcharge level. While a surcharge represents a simpler option, indications from both the submissions and meetings suggest that the emissions trading mechanism currently has more support to be part of the final measures package approved at MEPC 83.

Why this matters: An alternative compliance option may be important for the sector in the initial phase of the transition, becoming less so as the supply of compliant fuels increases over time. However, it is unclear how much of the sector would need to rely on an alternative compliance option at any point during the transition. Realistic projections of the level of non-compliance would depend on having more clarity on the critical parameters of the fuel standard and other elements of the measures (discussed below), coupled with the impacts of the measures on future fuel availability.

Moreover, the choice between alternative compliance options, with a simple surcharge on one side and an emissions trading system on the other, would produce radically different future scenarios for the sector. Important questions for the IMO to address if the package of measures includes an emissions trading system are:

- How will the sector handle the complexity of an emissions trading system and how will small operators fair?
- At what price should the remedial units be set?
- How will the IMO address the elements that govern the system, including unit trading and banking, vessel pooling, reporting, and unit tracing? How likely is the prospect of a secondary market?

Alternatively, if the IMO chooses to incorporate the surcharge alternative compliance option into the regulatory framework, the main question is what is the optimum level for the surcharge? Both alternative compliance options need to be carefully designed to avoid incentivizing pay-to-pollute behavior and to maintain the integrity of the fuel standard to which they are added.

Should the Regulatory Framework Include a Universal GHG Emissions Price for Shipping?

Outstanding issues: Despite the 2023 Strategy committing the IMO to finalize measures containing an economic element based on emissions pricing, one of the most politically contentious questions is whether to incorporate a GHG emissions price on all emissions from ships (hereafter referred to as "GHG price").[21] Only the Angola et al. proposal abstains from incorporating a GHG price, instead viewing the emissions unit trading mechanism within their proposal as sufficient to satisfy the commitment in the 2023 Strategy for an emissions pricing mechanism.

It appears that a majority of member states support a GHG price based on co-sponsorship of proposals and comments from those who spoke during the autumn meetings. Equally, there is some support from the shipping sector itself,[22] as well as a strong contingent of environmental non-governmental organizations with observer status at the IMO. However, while member states opposing a GHG price at the recent meetings were in the minority, the strength of their opposition across several meetings has remained robust. As a result, whether the final framework will include a GHG price remains an open and divisive question that must be resolved. Other outstanding design issues include level of the opening price,[23] how the GHG price would increase over time, and how the revenue would be managed and disbursed from a fund.

Nevertheless, the discussions at the autumn meetings yielded the following points of convergence:[24]

- Any fund containing revenues generated from measures should be established within the IMO's remit.

---

[21] Note that this is also referred to as a "universal GHG contribution" or a "universal GHG levy" in some proposals, but all terms are referring to a policy that requires a price to be applied to the GHG emissions of ships on a per tonne of CO_2e emitted basis.

[22] For example, the International Chamber of Shipping (ICS), a large association of ship owners that co-sponsor a measures proposal with Bahamas and Liberia.

[23] The opening GHG price was not the focus of the recent negotiations. Proposals range from 18 USD per tonne of CO_2e emitted (Bahamas et al., ISWG-GHG 17/2/5) to 150 USD per tonne of CO_2e emitted, with increases over time (Fiji et al., ISWG-GHG 17/2/13). See **Table 1** for additional information on other proposals.

[24] It is important to note that some member states find these discussions premature as decisions around the economic element of the regulations have not yet been agreed to. These points of convergence can therefore be considered as a conceptual concurrence at this time.

- Any group overseeing such a fund should have geographic and economically diverse representation.
- The governance of any fund, and the disbursement of revenues from it, should be transparent and subject to the highest level of integrity.
- A portion of any revenues distributed from a fund should be allocated to research, development and deployment and rewarding use of eligible fuels.

Why this matters: Whether to include a GHG price in the final regulatory package will be another key determinant of the transition. Adding a GHG price may drive the sector towards higher energy efficiency and lower emissions in the immediate term. While a GHG price may increase transport costs in the near term,[25] it may also, as the CIA modeling suggests, lead to a lower cost transition overall.[26] GHG pricing could also result in an opportunity to strategically direct finance towards an efficient and equitable transition, thereby facilitating the achievement of commitments made in the 2023 Strategy.

For the moment, however, we do not know if GHG pricing will be part of the final package of measures. Nor do we have clarity on what the actual cost per tonne of CO_2e emitted will be, or how any revenue would be used. This leaves the sector, and those stakeholders who will also be affected by the measures, uncertain about a major part of the policy puzzle. Due to political concerns about this issue, the decisions on GHG pricing will likely to go down to the wire. In the meantime, member states must focus on determining the optimum calibration between the different elements of the package of measures—a crucial endeavor since the interplay between measures has the potential to drive faster emissions reductions and send stronger signals to fuel producers.

Since all measures contain an element of revenue generation, member states were able to concur on the need for high-integrity governance of revenues in a fund. If the final package includes a GHG price, the revenues requiring collection, management, and disbursement increase substantially, meaning that these governance details become even more critical. It is possible that some of the details on the operation of a fund will be negotiated after MEPC 83 leading to the question: when will we know the true course of shipping's transition?

---

[25] All policy measures were found to increase transport costs by modeling in the CIA analysis in submission MEPC 82/INF.8/Add.1.

[26] This result may be determined by a number of factors, including the interplay between different measures and the disbursement of revenue.

Criteria for Rewarding Zero- and Near-Zero Fuels and Technologies

Outstanding issues: Shipping is often highlighted as a compelling demand case for the production of hydrogen derived e-fuels. The combination of a fuel standard with financial rewards for ships using eligible fuels or emission reduction technologies appears to be widely held as the most promising combination for unlocking both the production and uptake of these fuels on the necessary timeline for shipping's clean energy transition. Despite enduring support for rewarding eligible fuels, member states have yet to agree on the reward level for eligible fuels and other emission reduction technologies, and the qualifying criteria for these rewards.

Why this matters: Rewarding ships that use zero- and near-zero fuels and technologies is a key signal for the producers of those fuels and technologies. Rewards should be geared to incentivize long-term solutions that can achieve economies of scale. When combined with the fuel standard, this mechanism has the potential to bring an earlier supply of e-fuels and other long-term solutions to the market. A poorly calibrated reward risks diminishing its effectiveness and ultimate uptake of these fuels and technologies, potentially adding further cost to the transition overall. Further, considerations must be given to the types of technologies that will be rewarded in additional to compliant fuels. For example, the IMO is considering questions around if, and how, the use of onboard carbon capture and storage or wind propulsion will be rewarded under the forthcoming regulatory framework.

The reward amounts may be dependent on the IMO's decision to add a GHG price to the package of measures, and the criteria for reward may be linked to the formula quantifying GFI in the fuel standard, highlighting the intertwining decision points in policy design that must be addressed by MEPC 83.

Mandatory MARPOL Amendments Versus Guidelines

Outstanding issues: Member states held an initial discussion during the autumn meetings to begin identifying the components of the measures that should be included in the MARPOL amendments and those better suited to the guidelines. While the MARPOL amendments are legally binding, they are subject to a formal and lengthy development process.[27] Guidelines, while not legally binding, can be updated more quickly, allowing them to be adapted to address

[27] It can take years to go through the stages of initial submission of a proposal, negotiation, amendment drafting, approval, circulation, adoption, deemed acceptance, and entry into force. Further details on the tacit acceptance procedure for MARPOL amendments are available on the IMO's website: IMO 2024: 'Conventions'.

implementation issues. During the IMO's autumn meetings, the MEPC compiled a list of new guidelines to draft and potential updates to current guidelines.

Why this matters: Determining how much of the policy framework will be in the MAPROL Annex VI amendments versus in guidelines requires careful consideration at this point in the process. As the time available to design the details of the measures grows short, the possibility that more of shipping's regulatory framework will be developed later in guidelines increases. However, it is imperative that the MARPOL amendments and guidelines are ultimately a cohesive package, creating a framework that avoids introducing regulatory uncertainty, ambiguity,[28] or loopholes. If some guidelines are likely to be finalized after measures are agreed to at MEPC 83, it may take some time before the full picture of the transition trajectory becomes clear, increasing the potential for delays and a less efficient transition.

Ensuring Robust Supporting Systems

Regardless of the high-level pending decisions discussed above, the measures must be supported by credible foundational elements, including the Guidelines on the Life Cycle GHG Intensity of Marine Fuels (LCA Guidelines), and transparent frameworks for verification and certification of fuels, data collection and reporting. These issues are explored below.

LCA Guidelines

Outstanding issues: Development of the LCA Guidelines continues to progress "offstage" between meetings through the work of three groups: the GESAMP-LCA[29] group composed of appointed scientific experts, and two correspondence groups composed of member states and organizations with observer status at the IMO.[30] As such, there was limited discussion related to the LCA guidelines during the autumn meetings, and all groups will submit reports to MEPC 83.

Why this matters: As noted in our previous brief, "[f]inalizing a complete and comprehensive set of LCA Guidelines will be critical to the implementation of the measures. The LCA Guidelines will be used to calculate the GHG intensity of fuels and the attained GHG intensity of ships on an annual basis. In turn, the annual GHG intensity will be the metric of compliance with the

[28] Ambiguity in the implementation of regulations is addressed through the adoption of a Unified Interpretation by the International Association of Classification Societies that is then circulated to its members and flag administrations as appropriate. See IACS Unified Interpretations for more details.
[29] Although referred to in the IMO by this abbreviation, GESAMP-LCA refers to the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection that are specifically focused on the LCA Guidelines.
[30] See section 5 of our previous Policy Brief for more details on these groups and their tasks.

[global fuel standard] and may also be used for calculating payments due under an emissions pricing system." The LCA Guidelines are also critical for determining how the WtW scope is translated to practice. Thus, the guidelines are a cornerstone of implementing the forthcoming measures and it is critical that they are cohesive, unambiguous, and scientifically and technically robust. [31]

Certification of Fuels

Outstanding issues: Criteria for fuels certification required for the implementation of measures have not yet been developed. A submission[32] to ISWG-GHG 17 proposed including a definition of "certification" in existing regulations and guidelines alongside developing new guidelines on the recognition of certification schemes and their reporting procedures. The MEPC invited member states and interested organizations to work together to develop a sustainable fuels certification framework and submit updates to future meetings.

Why this matters: Development of a certification framework for fuels is now of paramount importance as the LCA Guidelines require third party certification of different parts of a fuel's lifecycle.[33] Certification must be carried out in a credible manner and will involve a process that must consider the multi-fuel future predicted for shipping and the variety of feedstocks that will contribute to the emissions profile of a fuel. The certification of fuels is also essential to implementation of the regulatory framework as ships will be required to report fuel use to determine annual compliance with the fuel standard. Furthermore, fuel producers will be reliant on this framework to ensure that they are providing certified fuels to the sector.

Data Collection and Reporting

Outstanding issues: As measures are implemented, the collection and reporting of fuel data and technology use will be critical. Much of this will depend on the reporting from the ship to their flag administration, and from there to the IMO Data Collection System (IMODCS). However, a review of the IMODCS is required to confirm it is fit-for-purpose to support the implementation of new measures, capable of collecting new data required under the

---

[31] For additional information about the importance of the LCA Guidelines, see Aspen Institute EEP (2024), 'Catalyzing Demand for Decarbonized Shipping Solutions: Reflections and Insights from the Zero Emission Maritime Buyers Alliance's Inaugural Tender', which was annexed to submission MEPC82/INF.13.

[32] Brazil et al. submission (ISWG-GHG 17/3/1).

[33] Resolution MEPC.391(81) (adopted on 22 March 2024), '2024 Guidelines on Life Cycle GHG Intensity of Marine Fuels (2024 LCA Guidelines)'.

implementation of forthcoming measures, and that guardrails are in place to address the risks of data gaps, errors, fraudulent reporting, and unverified data.

A recent submission by the IMO Secretariat to MEPC 82[34] highlights some potential issues. In reviewing the IMODCS data, the Secretariat found that reported data covers only 90.5% of the ships within scope,[35] meaning there is a reporting shortfall of approximately 10%. The Secretariat also carried out a quality control and verification process for the data submitted to the system, and found as of July 23, 2024, there were 2,780 instances of multiple reporting entries for a single ship.[36] At the same time, data for 229 ships show errors that have not been corrected by the responsible flag administrations.

Why this matters: The Secretariat's submission demonstrates that there are existing issues with the data reported to the IMODCS. Considering that compliance with the fuel standard, payment of any fees or GHG price, and granting of financial rewards for use of eligible fuel and technology will depend on the data reported from the sector, the readiness of the IMODCS—and the integrity of the data reported—raises significant concerns. In addition, the 5th IMO GHG study, which has yet to be initiated, will likely only cover the years 2018-2024, leaving policy makers and maritime stakeholders dependent on information from the IMODCS to evaluate the impact and effectiveness of the regulations once they enter into force in early 2027. Add to this that cargo owners and other maritime stakeholders may need information from the IMODCS to track their Scope III shipping emissions but lack access to this database, and it becomes clear this issue warrants further discussion during the negotiations.

4. Conclusion

In the wake of the autumn meetings, we are still waiting for clarity on the final regulatory package and many of the outstanding questions from our previous Policy Brief remain. Yet, this was not an entirely unexpected result given there is still time to reach agreement: measures

[34] Secretariat submission (MEPC 82/6/38).

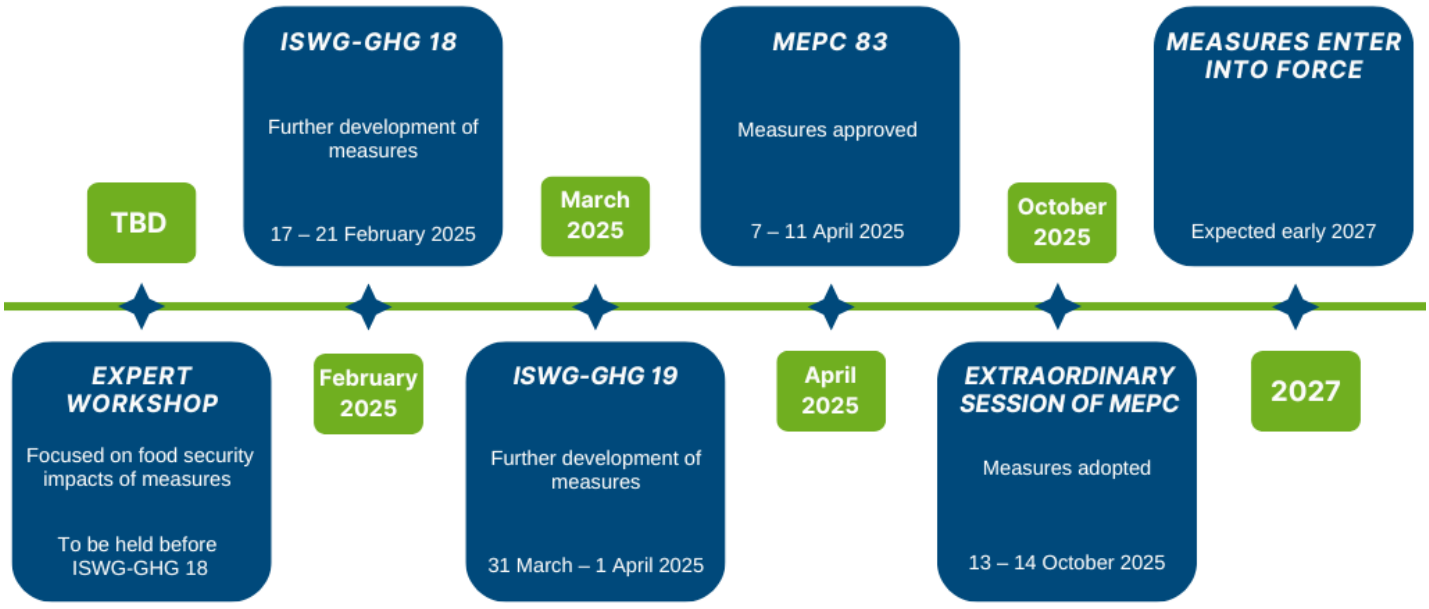
[35] Based on tonnage.

[36] The report finds that these issues were likely due to ships changing flag administrations and recognized organizations.

approval is scheduled for April 2025, with adoption in October 2025.[37] Encouragingly, at the recent meetings, many member states expressed their commitment to upholding this timeline as agreed to in the 2023 Strategy. Moreover, every pending decision, while unresolved for now, is also an opportunity to positively shape the environmental integrity and global equity of shipping's clean energy transition. Indeed, the agreement to incorporate further analysis on the impacts of measures on food security shows that member states remain open to considering all critical analyses and information as they come to their final decisions, giving maritime stakeholders and technical experts the opportunity to provide vital, real-world input to this process.

While the 2023 Strategy laid out the climate ambitions for the sector, the adoption of measures is the key to actualizing these ambitions. The package of measures has the potential to shape more than just the emissions profile of shipping and may, in fact, lead to innovation in other business-as-usual practices that could have substantial (and positive) implications for maritime stakeholders. While much has to be done before next spring, we remain hopeful that we are now on a countdown to a new era of shipping that is more sustainable, transparent, and resilient.

IMO Policy Timeline



[37] Provisional timing of meeting at which measures will be adopted may be found here: Preliminary Programme of Meetings for 2025.

IMO at a glance

Purpose: United Nations specialized agency regulating safety, security, and environmental pollution from ships

Membership: 176 Member States, 3 Associate Members, 66 intergovernmental organizations and 89 non-governmental observer organizations

Structure: Assembly, Council, Secretariat, five main committees, seven sub-committees, and several subsidiary bodies, including a number of working, correspondence, and expert groups

Process: Multilateral with consensus-based decision-making when developing regulations. Voting is possible but rare.

2023 IMO Strategy on Reduction of GHG Emissions from Ships at a glance

Vision: "IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible, while promoting, in the context of this Strategy, a just and equitable transition."

Level of ambition: net-zero GHG emissions "by or around, i.e., close to, 2050"

Indicative checkpoints:

- 2030: 20% GHG reductions, striving for 30% (baseline year 2008)
- 2040: 70% GHG reductions, striving for 80% (baseline year 2008)

Fuel uptake target: zero or near-zero GHG emissions technologies, fuels, and/or energy sources of at least 5%, striving for 10%, of the energy used by shipping in 2030

Scope: level of ambition and indicative checkpoints should take into account the well-to-wake GHG emissions of marine fuels as addressed in the LCA Guidelines

Mid-term Measures: technical element (a goal-based marine fuel standard) + economic element (maritime GHG emissions pricing mechanism) to be adopted in 2025 and implemented in 2027.