POSEIDON PRINCIPLES

FOR MARINE INSURANCE

A global framework
for responsible marine insurance

Version 2.0

August 2024*

* Appendix 6 added October 2024

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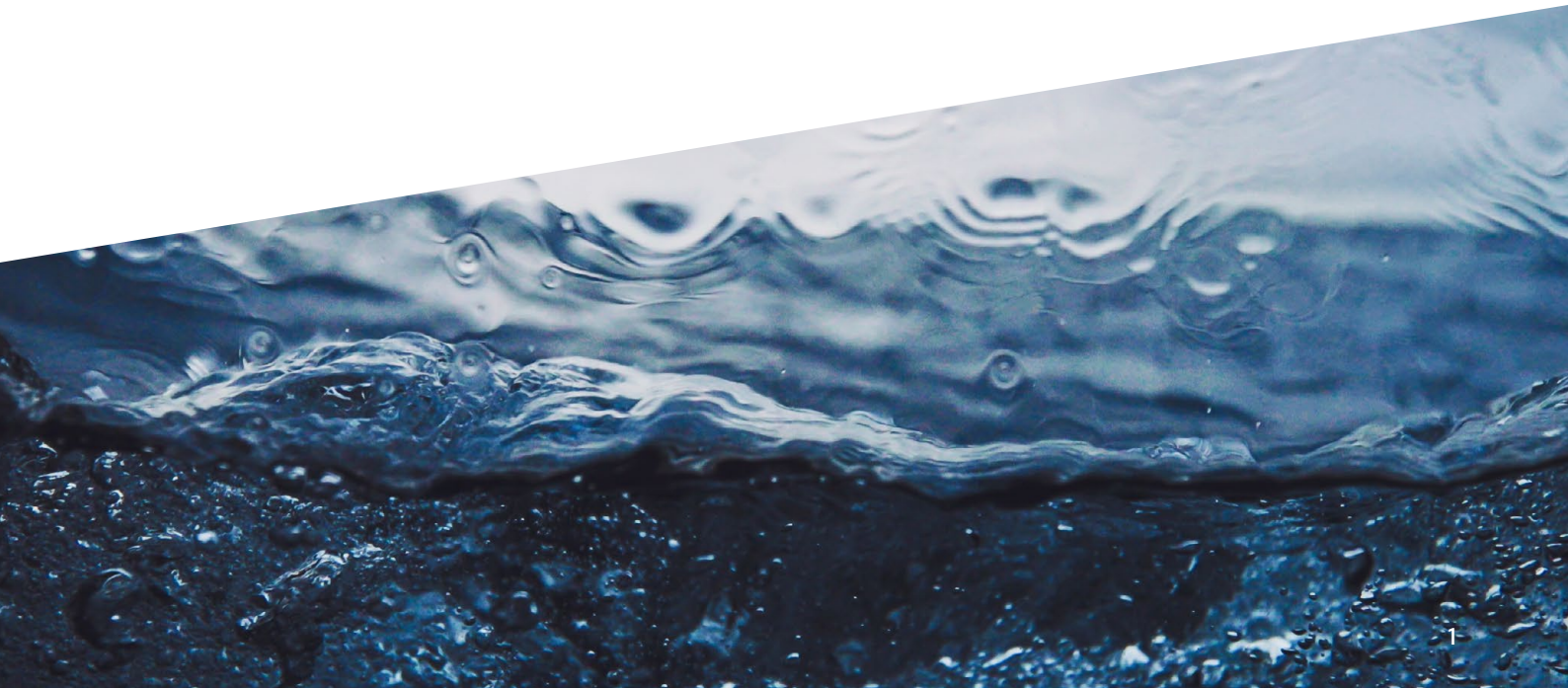
Cover letter

As signatories and affiliate members, we are proud to announce our commitment to assess and improve transparency on the environmental impacts of global seaborne trade.

Inspired by the launch of the Poseidon Principles in June 2019, and the Sea Cargo Charter in October 2020, the Poseidon Principles for Marine Insurance were developed in recognition of our role as insurance providers in promoting responsible environmental stewardship throughout the maritime value chain. We believe that industry-wide change is possible when we all take responsibility for contributing to meeting the greater goals of the society that we serve.

The Poseidon Principles for Marine Insurance are consistent with the policies and ambitions of the International Maritime Organization (IMO), including its ambition for greenhouse gas (GHG) emissions to peak as soon as possible and to reduce shipping's total annual GHG emissions to net zero by or around 2050 compared to 2008. In May 2024, signatories agreed to align methodology with the ambitious outcome of MEPC 80, including a well-to-wake perspective and interim emissions reduction targets in 2030 and 2040. The trajectories will be reviewed and improved over time to maintain the robust nature of the initiative and remain in step with the demands of our society.

The Principles support the transition of global shipping, as well as the work of the Partnership for Carbon Accounting Financials (PCAF). As such, the Principles set a pioneering framework for reporting emissions for the shipping industry, thus enhancing accountability and transparency and creating a global baseline to support and work towards the greater goals for our society and the goal to align our maritime activities so that they are environmentally responsible.



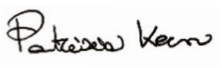
The Poseidon Principles for Marine Insurance are applicable to underwriters and insurers who provide marine vessel hull and machinery coverage and is supported by our insurance brokers and our business partners. They apply globally to all shipping activities where a vessel or vessels fall under the purview of the IMO.

Currently, climate alignment is the only factor considered by the Poseidon Principles for Marine Insurance. We recognise that they are intended to evolve over time and agree to contribute to a review process to ensure that the Principles are practical and effective, aligned with the goals set by society and that further adverse impacts are identified for inclusion in due course. While the Principles establish a methodology for measuring emissions within the shipping industry, we recognise that some signatories may wish to go beyond this through other commitments,and we encourage their public disclosure through this framework.

As signatories, we commit to implementing the Poseidon Principles for Marine Insurance in our internal policies, procedures and standards, and to work in partnership with our business partners on an ongoing basis to implement the Principles. As affiliate members, we commit to supporting the Poseidon Principles for Marine Insurance. This will not only serve our institutions to improve decision-making at a strategic level but will also support a better future for the shipping industry and our society.

What began with 10 members in 2021 is now around 20 strong, a testament to the importance of transparency in propelling the maritime industry towards decarbonisation. We invite you to join us.

August 2024



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Preamble

The maritime sector has provided efficient economic services that have played a key role in enabling the growth of global trade and global economic development. However, this has not been without some adverse consequences unique to the maritime sector. The continued success of the maritime sector is intrinsically linked to the well-being and prosperity of the society we serve. Therefore, all industry participants must play a role in addressing adverse impacts. Financial institutions took the first step in June 2019 with the establishment of the Poseidon Principles; in October 2020, charterers took the next step with the Sea Cargo Charter. We fully support these initiatives and wish to join our colleagues in increasing transparency across the maritime sector.

We recognise that our role in the industry affords us opportunities to promote responsible environmental stewardship throughout the maritime value chain. Thus, we have established the Poseidon Principles for Marine Insurance, which serve as a framework for creating common, global baselines that are consistent with and supportive of industry climate goals. This will enable us to better align our portfolios with responsible environmental impacts.

The Poseidon Principles for Marine Insurance are consistent with the policies and ambitions of the International Maritime Organization (IMO), including its Strategy on Reduction of GHG Emissions from Ships (2023 IMO GHG Strategy), which calls for emissions from international shipping to drop to net-zero around 2050 compared to 2008 levels with interim targets in 2030 and 2040 on a well-to-wake basis.[1] Furthermore, the emissions boundary now includes the impact of non-CO_2 GHG species namely methane (CH_4) and nitrous oxide (N_2O).[2] The trajectories will be reviewed and improved over time to maintain the robust nature of the initiative and remain in step with the demands of our society.

The Principles for Marine Insurance trajectories are aligned with the Poseidon Principles for Financial Institutions and the Sea Cargo Charter, and are also intended to support other initiatives, such as the Carbon Disclosure Project (CDP), the Task Force on Climate-related Financial Disclosure (TCFD), and UNEPFI Principles for Sustainable Insurance (UNEP PSI).

As signatories, we commit to implementing the Poseidon Principles for Marine Insurance in our policies, procedures, and standards. We will work in partnership with our clients and partners on an ongoing basis to implement the Poseidon Principles for Marine Insurance. As affiliate members, we commit to supporting the signatories, and working with our partners and clients to improve transparency across our business activities.

Together, we welcome the establishment of global baselines through the methodology established in the Poseidon Principles for Marine Insurance, and recognise that some signatories may choose to go beyond them. Signatories are encouraged to disclose other environmental commitments and use the framework to promote transparency. This offers significant benefits to us as signatories, as affiliate members, to the global maritime industry, and to society as a whole.

We recognise that the Poseidon Principles for Marine Insurance are intended to evolve over time as access to data and improved methods becomes available and agree to contribute to a review process when we as signatories decide to undertake it. This process will ensure that the Poseidon Principles for Marine Insurance remain practical and effective, are linked to and supportive of industry goals, and that further factors are identified for inclusion.

1 Well-to-wake emissions are a combination of tank-to-wake (operational) and well-to-tank (upstream) emissions. This accounts for both the emissions from upstream activities and operation of a vessel, or the "full lifecycle".

2 IMO MEPC. (2023). 2023 Strategy on reduction of GHG emissions from ships MEPC.377(80).

Scope

The Poseidon Principles for Marine Insurance must be applied by signatories in all business activities where:

1. The insurance products cover hull and machinery (H&M).
2. The signatory is the leading insurer, as well as in cases where the signatory is a follower, but the lead is also a fellow signatory.
3. A vessel or vessels which have an established Poseidon Principles trajectory whereby the emissions intensity can be measured with IMO Data Collection System (DCS) data.[3]

Climate alignment is currently the only environmental factor considered by the Poseidon Principles for Marine Insurance. Climate alignment in this context refers to the degree to which a vessel, product, or portfolio's emissions intensity is in line with a specified decarbonisation trajectory.

The scope will be reviewed and may be expanded by signatories on a timeline that is at their discretion, with the support of affiliate members. The scope of coverage, as well as additional environmental factors, can be added to this initiative over time.

3 Where a vessel or vessels fall under the purview of the IMO and is required to submit data to the IMO DCS i.e. vessels 5,000 GT (gross tonnage) and above, not solely engaged in voyages within waters subject to the sovereignty or jurisdiction of the State the flag of which the ship is entitled to fly (MARPOL Annex VI, Chapter 4, Reg. 19).

Signatories are to use the ship type classification as submitted to the IMO DCS. For clarification of classification of ship types or individual ships, please refer to:

(1) StatCode5 Ship Type Coding System **document**, and

(2) IMO Global Integrated Shipping Information System (GISIS)

(3) If still in doubt, please contact the Secretariat

About the scope

As seen with the evolution of the voluntary efforts of private financial institutions leading to the launch of the Poseidon Principles, there has been a shift from avoiding the adverse climate and ecological impacts of business activities to becoming actively involved in driving solutions for the sector. The Poseidon Principles for Financial Institutions were the first sector-specific climate alignment framework for ship finance, just as marine insurance does the same by adapting the same methodology for the assessment and disclosure of climate alignment of their hull and machinery portfolios.

Hull and machinery (H&M) represents the second largest part of marine insurance coverage (with marine cargo as the largest portion), which means that this first step offers the greatest coverage and potential for impact across marine insurance. In terms of data availability to measure emissions, H&M offers a comparable starting point to the Poseidon Principles for Financial Institutions as a tangible first step to assess and disclose climate alignment.

The Poseidon Principles for marine insurance are the next step for the insurance sector to implement transparency and disclose the climate alignment of their portfolios, in order to assess the environmental and climate impact of their business. For consistency across initiatives and simplicity for both insurance providers and shipowners, this initiative shares the methodological foundation with its predecessor, the Poseidon Principles for Financial Institutions, and establishes the same data requirements and information flow for signatories and their clients to follow. By following the framework and common baseline, valuable asset- and policy-level climate alignment data is available for signatories to better enable the alignment of their portfolios with responsible environmental impacts.

The Poseidon Principles for marine insurance aim to be voluntary, verifiable, clear and implementable. Assessment of the portfolio where a signatory is a follower, and where the lead is not a signatory, could create a burden on the signatory to obtain the required data from a client. It is recommended that signatories agree to work with clients to try to collect and process this information to the best of their ability. To support this process, it is recommended that signatories include the wording provided in the Standard Covenant Clause to be used in agreements to obtain consent for data use. This is further elaborated in Section 3.

PRINCIPLES OVERVIEW

Principle 1

Assessment

We will annually assess climate alignment in line with the Technical Guidance for all business activities.

Our commitment:

Signatories willmeasure the emissions intensity of their H&M portfolios on an annual basis and assess their climate alignment relative to established decarbonisation trajectories. This assessment is based on a robust industry-appropriate methodology outlined in the Technical Guidance. The requirement to assess climate alignment takes effect the calendar year after an organisation becomes a signatory. Affiliate members are not required to calculate climate alignment, but support signatories in the process.

PRINCIPLES OVERVIEW

Principle 2

Accountability

We recognise the important role that unbiased information plays in data collection and reporting fuel consumption from ships to meet the decarbonisation goals of the sector. We will rely on trusted entities and mandatory regulations as explicitly identified in the Technical Guidance for the provision of information used to assess and disclose climate alignment.

Our commitment:

For each step in the assessment of climate alignment, signatories will exclusively rely on the data types, data sources and service providers identified in the Technical Guidance.

PRINCIPLES OVERVIEW

Principle 3

Enforcement

> We will require that ongoing compliance with the Poseidon Principles for Marine Insurance is made contractual in all business activities using standardised covenant clauses. We will contribute to the update and addition of standardised clauses through the annual review process.

Our commitment:

Signatories will agree to work with shipowners, clients, brokers and business partners to collect and process the information necessary to calculate emissions intensity and to assess climate alignment.

PRINCIPLES OVERVIEW

Principle 4

Transparency

We will publicly acknowledge that we are a signatory to the Poseidon Principles for Marine Insurance, and we will publish the results of our assessment on an annual basis in line with the Technical Guidance.

Our commitment:

Climate alignment scores will be published on an annual basis.

1. Upon becoming a signatory or an affiliate member, the organisation will publicly acknowledge that it is a signatory to or an affiliate member of the Poseidon Principles for Marine Insurance.
2. On an annual basis, each signatory will report the overall climate alignment of its shipping portfolio and supporting information, as per the Accountability requirements, to the Secretariat no later than 9 December. This requirement takes effect for each signatory in the calendar year after the year in which it became a signatory. Additionally, claims leader signatories are expected to share data with followers signatories by November 30 to enable those followers to proceed to calculations.
3. On an annual basis, each signatory will publish the overall climate alignment of its shipping portfolio in relevant institutional reports on a timeline that is appropriate for that signatory. This requirement takes effect for each signatory in the calendar year after the calendar year in which it became a signatory.

Overview for affiliate members

Under the current scope, the Poseidon Principles for Marine Insurance are applicable to insurers with H&M policies. However, we recognise that the ecosystem of key players extends beyond this limit, and the framework must be inclusive of these perspectives and their support. Therefore, affiliate membership is applicable to insurance brokers and collective groups (such as insurance associations, unions, captives and P&I Clubs), and we welcome such support. Information on the activities and requirements for affiliate members is available throughout the Technical Guidance where appropriate.

It is the intention that over time, and with increasing access to reliable data and information for public disclosure of climate alignment, the scope of the Principles will expand to include more affiliate members as signatories.

This section outlines the requirements for the affiliate members. Specific guidance for each Principle is found in the corresponding section of the Technical Guidance.

1. Assessment

Affiliate members will support signatories by sharing knowledge about the Assessment principle and climate alignment methodology with relevant stakeholders, in line with the Technical Guidance.

2. Accountability

Affiliate members will, for each step of the assessment and as necessary, support signatories by sharing knowledge about the Accountability principle and data collection process with relevant stakeholders, in line with the Technical Guidance.

3. Enforcement

Affiliate members will agree to work with signatories, shipowners, other marine insurance providers, brokers and business partners where possible, to support signatories by sharing knowledge about the Enforcement principle and standardized clauses with relevant stakeholders, in line with the Technical Guidance.

4. Transparency

1. Upon becoming an affiliate member, the organization will publicly acknowledge that it is an affiliate member of the Poseidon Principles for Marine Insurance.
2. On an annual basis, no later than 30 November, the affiliate members will:

    a. Complete the annual self-assessment for affiliate members, which includes public disclosure requirements for inclusion in the Annual Report;
    b. And include the disclosure requirements in relevant institutional reports on a timeline that is appropriate for that institution.

    These requirements take effect for each affiliate member in the following calendar year in which it becomes a member.

Technical Guidance

1

Introduction

The Poseidon Principles for Marine Insurance are consistent with the IMO's ambition for GHG emissions from international shipping to peak as soon as possible and to reach net-zero around 2050 compared to 2008 levels with interim targets in 2030 and 2040 on a well-to-wake basis.

It is recognised that some signatories may choose to both fulfil their obligations under the Poseidon Principles for Marine Insurance, as well as go beyond those obligations. Some signatories may choose to do this through assessing their portfolios relative to a steeper decarbonisation trajectory or additional target setting, on their own.

It is recommended that, where possible, these additional efforts rely on the assessment, accountability enforcement, and transparency practices established by the Poseidon Principles for Marine Insurance to ensure that these further efforts are robust in their demonstration of industry leadership.

The Poseidon Principles for Marine Insurance are not envisioned to be a static set of transparency requirements for insurance providers over time. Rather, they will be improved and strengthened over time with the availability of new data, research, regulations and internationally set standards for the maritime sector, and for society as a whole. The ambition will be reviewed and may be extended by signatories on a timeline that is at their discretion.

2

Assessment

PRINCIPLE

> We will annually assess climate alignment in line with the Technical Guidance for all business activities.

REQUIREMENTS

Signatories will, on an annual basis, measure the emissions intensity and assess climate alignment of their hull and machinery portfolios (emissions intensity relative to established decarbonisation trajectories). This requirement takes effect for each signatory in the following calendar year after the calendar year in which it became a signatory.

This section provides a step-by-step guidance for measuring the climate alignment for insurers and their shipping portfolios.

Shipping's governing body, the IMO, approved a revised GHG Strategy (the 2023 IMO GHG Strategy) in July 2023 to reduce GHG emissions generated by international shipping activity to net-zero by or around 2050, which represents a significant shift in climate ambition for a sector that currently accounts for 2%–3% of global GHG emissions.[4] This strategy sets out the following absolute reduction levels of ambition:

1. to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008
2. to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.
3. GHG emissions from international shipping to peak as soon as possible and to reach net-zero GHG emissions by or around, i.e. close to 2050
4. carbon intensity of international shipping to decline to reduce CO_2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008.

Additionally, the 2023 IMO GHG Strategy specifies that any activity related to emission reduction and climate alignment in shipping will need to consider well-to-wake emissions as well as all the relevant GHG species as specified by the IMO:

"The levels of ambition and indicative checkpoints should take into account the well-to-wake GHG emissions of marine fuels as addressed in the Guidelines on lifecycle emissions intensity of marine fuels (LCA guidelines)[5] developed by the Organization with the overall objective of reducing GHG emissions within the boundaries of the energy system of international shipping and preventing a shift of emissions to other sectors."

4 Faber, J., Hanayama, S., Zhang, S., Pereda, P., Comer, B., Hauerhof, E., Schim van der Loeff, W., Smith, T., Zhang, Y., Kosaka, H., Adachi, M., Bonello, J. M., Galbraith, C., Gong, Z., Hirata, K., Hummels, D., Kleijn, A., Lee, D. S., Liu, Y., ... Xing, H. (2020). Fourth Greenhouse Gas Study 2020. International Maritime Organization.

5 The Committee adopted Resolution MEPC.376(80) containing the Marine Fuel life Cycle GHG Guidelines (LCA Guidelines) and agreed on a work program for further enhancement of the guidelines on specific areas via the existing correspondence group.

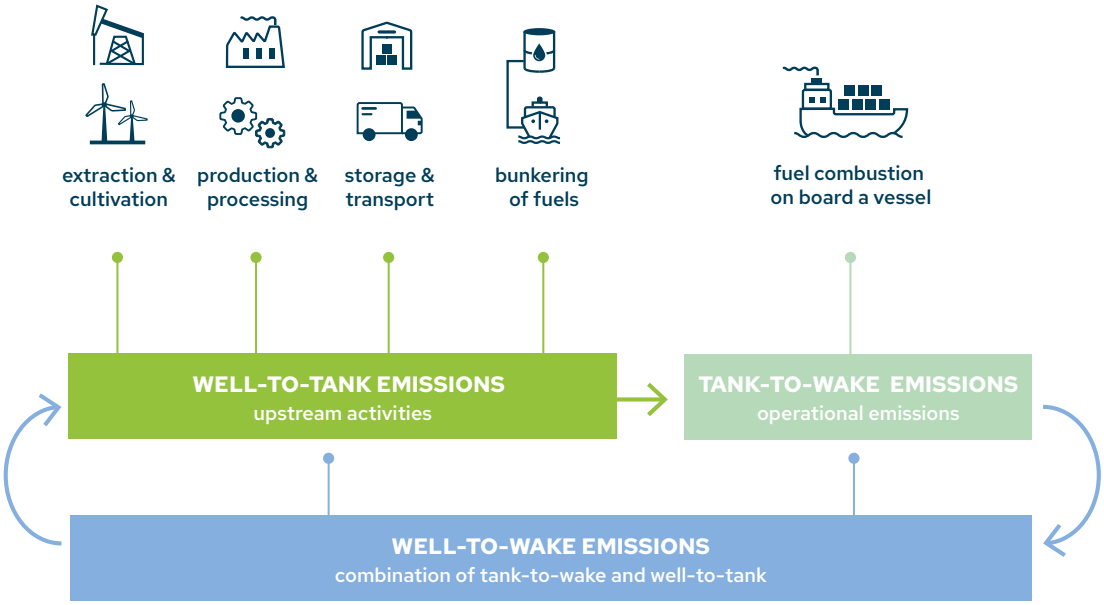

Figure 1.
Visual representation of the differences between tank-to-wake, well-to-tank, and well-to-wake emissions

Tank-to-wake, well-to-tank, and well-to-wake emissions: What is the difference?

Tank-to-wake emissions: from fuel combustion on board a vessel, or "operational emissions".

Well-to-tank emissions: from upstream activities including extraction, cultivation, production, processing, storage, transport, bunkering of fuels.

Well-to-wake emissions: a combination of tank-to-wake and well-to-tank. This accounts for both the emissions from upstream activities and operation of a vessel, or the "full lifecycle".

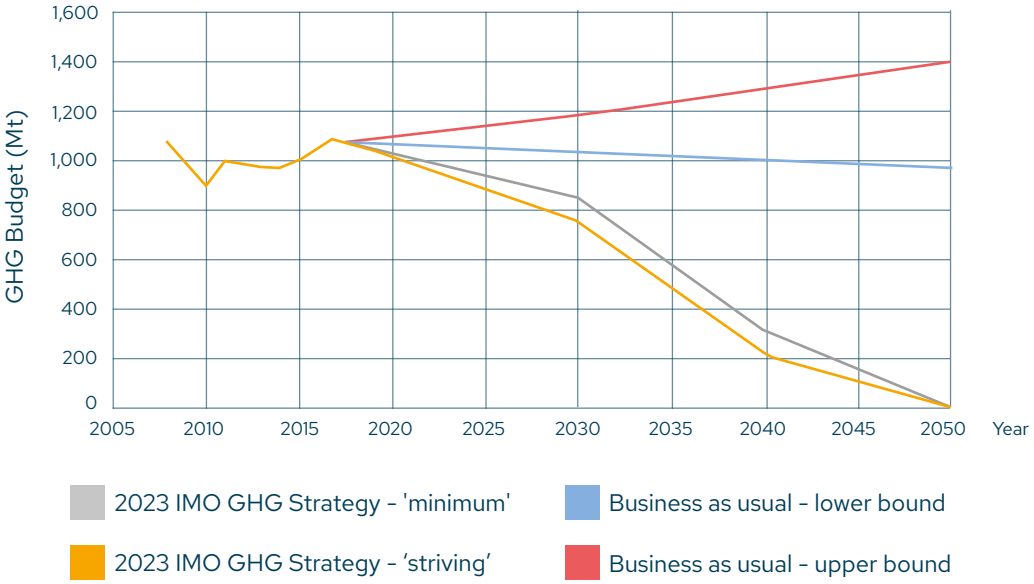

Figure 2.
Global fleet's CO_2e targets and trajectories defined by the 2023 IMO GHG Strategy (million metric tonnes of well-to-wake CO_2e)

The IMO absolute targets can be converted into an emission intensity target. Figure 3 shows intensity trajectories consistent with the 2023 IMO GHG Strategy compared to the pathway drawn using the IMO legacy intensity target.

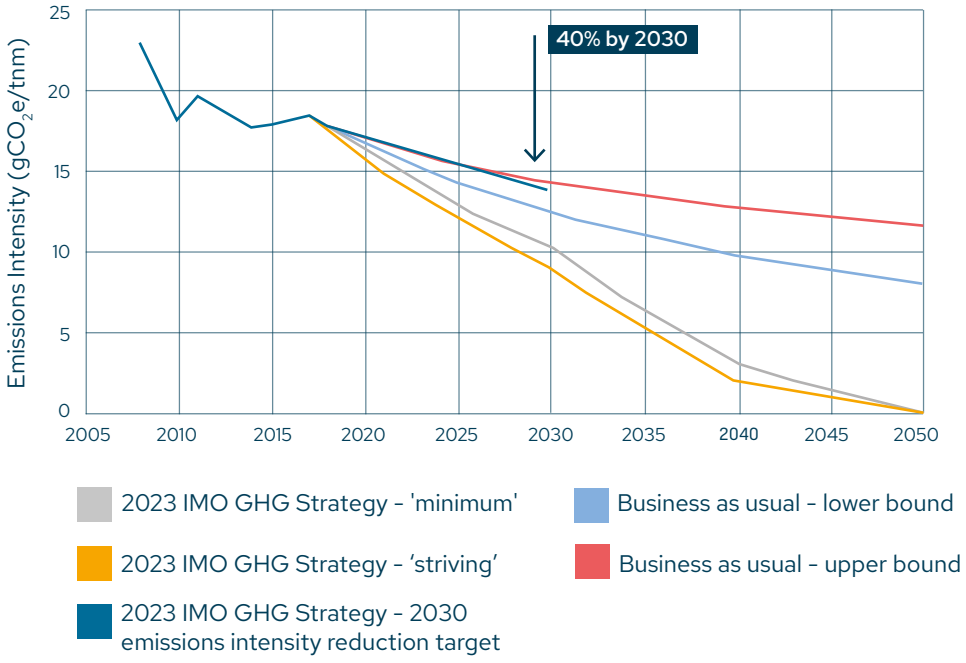

Figure 3.
Global fleet's emission intensity targets and trajectories defined by the 2023 IMO GHG Strategy (grams of well-to-wake CO_2e per metric tonne-nautical mile [gCO_2e/tnm])

The IMO 2030 emissions intensity reduction target was not updated to match the absolute targets, and as such is not aligned with, and significantly less ambitious than the 2023 IMO GHG Strategy - 'minimum' and 2023 IMO GHG Strategy - 'striving' emissions intensity reduction trajectories in figure 3. In addition, the wording of the 2023 IMO GHG Strategy does not state that meeting the 2030 emissions intensity reduction target means compliance with the IMO absolute targets. For these reasons, the Poseidon Principles for Marine Insurance will be linked to the IMO absolute target.

The Poseidon Principles for Marine Insurance fully supports the increased level of ambition set up by the new IMO GHG Strategy and therefore includes global decarbonisation trajectories that are aligned with the outcome of the 80th Marine Environment Protection Committee (MEPC 80). In order to take into account for this change, the Poseidon Principles for Marine Insurance now comprises of two trajectories for reporting:

- **2023 IMO GHG Strategy - Minimum**: defined by the 'minimum' requirement of the revised strategy with a 20% reduction in 2030, a 70% reduction in 2040 (compared to 2008 emissions) leading to net-zero by 2050.
- **2023 IMO GHG Strategy - Striving**: defined by the higher level of ambition set in the revised strategy with a 30% reduction in 2030, a 80% reduction in 2040 (compared to 2008 emissions) leading to net-zero by 2050.

2.1 Selecting a metric for measuring climate alignment

The Annual Efficiency Ratio, or AER, will be used as the emissions intensity metric to measure climate alignment, due to the availability of existing data and IMO DCS regulation.

Both absolute and intensity measurements of GHG emissions are useful for meeting the IMO level of ambition, and both measurements are recommended by other initiatives. Absolute emissions are important as they represent the total emissions figure that will ultimately need to be reduced to mitigate climate change. However, an absolute emissions measure is not well-suited to the management or comparison of emissions/decarbonisation at the level of individual vessels or a group of vessels because vessels have different production units and need to be compared on a like-for-like basis. For this reason, the relative intensity-level metric is used in both the Poseidon Principles for Financial Institutions and the Poseidon Principles for Marine Insurance.

Due to the changes in the 2023 IMO GHG Strategy, emissions intensity now has to represent the total GHG emissions (well-to-wake) to satisfy a supply of transport work (grams of well-to-wake CO_2e per metric tonne-nautical mile [gCO_2e/tnm]), meaning considering a full lifecycle approach. Emissions intensity is typically quantified for multiple voyages over a period of time (e.g., a year). To provide the most accurate representation of a vessel's climate impact, the emissions intensity of a vessel should be measured from its performance in real operating conditions instead of using a design specification metric (e.g., the Energy Efficiency Design Index).

The selection of this single metric is guided by an ambition that the Poseidon Principles for both Financial Institutions and Marine Insurance use an emissions intensity metric which produces the closest measure of the vessel's true emissions intensity, while ensuring a consistency with the policies and regulations of the IMO, the IMO DCS regulation, and associated guidelines.

The IMO DCS is an amendment to MARPOL Annex VI that entered into force in March 2018 and mandates shipowners to collect and report certain data each calendar year. Data is collected for ships which are 5,000 GT and above engaged in international trade. The data submitted to the IMO DCS includes:

1. the amount of fuel consumption for each type of fuel in metric tonnes
2. distance travelled
3. hours underway
4. technical characteristics of the ship including DWT at maximum summer draught

Prior to reporting to the IMO, the data must be checked so that it is in accordance with the regulation by the relevant flag state or any organisation duly recognised by it (e.g., RO). A Statement of Compliance (SoC) will be issued by the relevant flag state or RO no later than five months from the beginning of the following calendar year (e.g., for the calendar year 2024, it would be issued by the end of May 2025) provided the data is in accordance with the regulation. The reported data is transferred to the IMO Ship Fuel Oil Database no later than one month after issuing the relevant SoC.

The data reported to the IMO is anonymised and confidential, and therefore it cannot be accessed from the IMO by the signatories. However, because the regulation requires that all shipowners annually collect and report parameters relevant to the calculation of emissions intensity, the administrative burden placed on shipowners is minimised and simplifies the application of the Poseidon Principles for both Financial Institutions and Marine Insurance.

The IMO DCS enables the calculation of the AER,[6] using the parameters of fuel consumption, distance travelled and deadweight at maximum summer draught (DWT). AER is reported in unit grams of CO_2 per tonne-mile (gCO_2/dwt-nm):

$$AER = \frac{\sum_i C_i}{\sum_i dwt D_i}$$

Equation 1

where ***Ci*** is the carbon emissions for voyage ***i*** computed using the fuel consumption and carbon factor of each type of fuel, ***dwt*** is the deadweight at maximum summer draught of the vessel and ***Di*** is the distance travelled on voyage ***i***. The AER is computed for all voyages performed over a calendar year.

This metric is calculated using an approximation of the total annual transport work performed by a ship, obtained from its total distance travelled and DWT (in metric tonne units). It is recognised that AER is less accurate at estimating a vessel's emissions intensity than some other metrics (e.g., Energy Efficiency Operational Indicator (EEOI)) because the actual cargo carried by a ship is often less than its maximum capacity, and many ships (e.g. tankers and bulkers) operate with ballast voyages where for several voyages a year they have no cargo on board.

Currently, data on the mass of cargo carried on individual voyages is not globally collected through the IMO DCS or available globally from publicly accessible data sources to enable the calculation of EEOI. Should the IMO amend the DCS regulation to include data on the mass of cargo carried, or this data becomes available elsewhere at appropriate coverage and accuracy, the metric used to calculate climate alignment under the Poseidon Principles for Marine Insurance may be adapted to reflect this. Additional information on metric considerations is available in Appendix 2.

6 IMO MEPC RESOLUTION MEPC.352(78) recommends the use of cgDIST as a metric for cruise, ferry ro-pax, ferry pax-only and vehicle carriers which is the same formula as AER, except gross tonnage is used in place of deadweight in the denominator of Equation 1

2.2 Calculating vessel emissions intensity

Following the adoption of the 2023 IMO GHG Strategy, the emissions boundary for reporting against the IMO's level of ambition has changed from a tank-to-wake CO_2 to a well-to-wake CO_2e perspective. It is expected that the IMO DCS regulation will be updated to align with the 2023 IMO GHG Strategy in due course to reflect this change in data collection required.

In May 2024, the Poseidon Principles for Marine Insurance decided to pro-actively change its reporting methodology to include well-to-wake CO_2 e emissions by providing a set of emission factors that can be applied to the existing IMO DCS data and AER calculation:

$$AER = \frac{\sum_i Ce_i}{\sum_i dwtD_i}$$

Equation 2

In Equation 2, well-to-wake emission factors replace the carbon factors used to calculate ***Ci*** in Equation 1. ***Cei*** is the carbon equivalent emissions for voyage ***i***, meaning the units of measurement are gCO_2e/DWTnm and gCO_2e/GTnm respectively.

References to AER/cgDIST in the Poseidon Principles for Marine Insurance refer to a well-to-wake carbon equivalent emissions intensity metric rather than a tank-to-wake carbon intensity metric as defined by existing regulation. Complete details can be found in Appendix 4.

Vessel emissions intensity can be calculated using data provided by the shipowner as collected in the IMO DCS. This data has already been independently checked to ensure compliance in accordance with the IMO DCS but requires the shipowner to provide consent for the data as submitted to the relevant flag state to be shared with the signatory. The Poseidon Principles for Marine Insurance require that all signatories use this method for calculating emissions intensity.

There may be circumstances where it is not possible to gain access to the data as reported under the IMO DCS from shipowners. Guidance on how to address this situation is provided at the end of section 2.5 on steps for calculating climate alignment of the portfolio.

2.3 Assessing climate alignment

For the purposes of the Poseidon Principles for Marine Insurance, climate alignment is defined as the degree to which a vessel, policy or portfolio's emissions intensity is in line with decarbonisation trajectories that meets the 2023 IMO GHG Strategy ambition of reducing total annual well-to-wake GHG emissions to net-zero by 2050 on 2008 levels including interim indicative checkpoints in 2030 and 2040.

A decarbonisation trajectory is a representation of how many grams of CO_2e a single ship can emit to move one tonne of goods one nautical mile on a well-to-wake basis (gCO_2e/tnm) over a time horizon (as shown in Figures 1 and 2). The decarbonisation trajectories rely on two assumptions:

- the projections of transport demand for different shipping sectors up to 2050, including those available in the Fourth IMO GHG Study;
- the total CO_2e shipping emissions permitted to be in line with the 2023 IMO GHG Strategy

While these trajectories will be drawn and updated with the latest available research and will be aligned with or equal to the IMO's projections, there are uncertainties within them because of the two assumptions noted above.

To assess climate alignment of a single vessel, the vessel's annual emissions intensity is compared with the decarbonisation trajectory for its respective ship type and size category. To assess climate alignment at the policy and portfolio level, the vessel emissions intensities in each policy and the portfolio are aggregated. Section 2.5 discusses the method that is used.

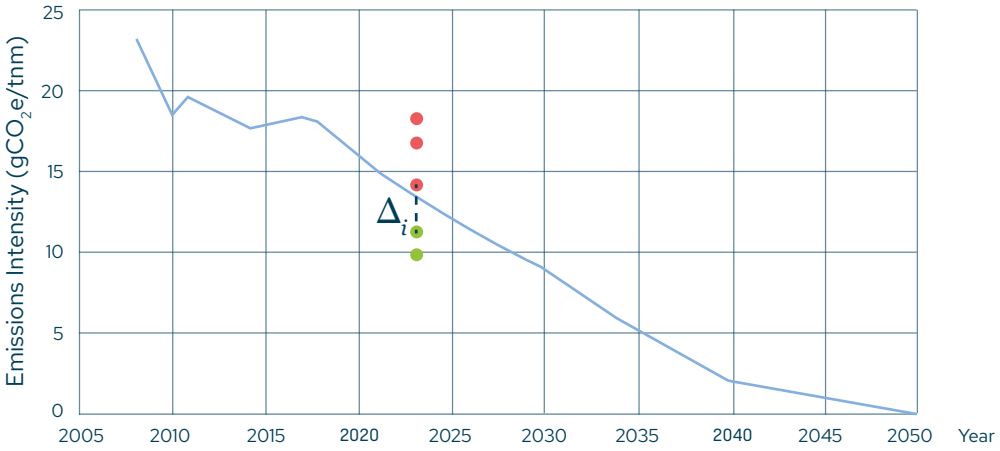

Figure 4.
Assessing alignment at the vessel level

In Figure 4, each dot represents the annual emissions intensity of a vessel. The blue curve represents the decarbonisation trajectory. The green dots are aligned, and the red dots are misaligned.

Climate alignment at the vessel level is the percentage difference between a vessel's emissions intensity and the intensity on the decarbonisation trajectory at the same point in time t (i.e. the year). It is expressed as a (+/-) %. In mathematical terms, the climate alignment of a vessel i at the reported time is:

$$\Delta_i = \left(\frac{x_i - r_s}{r_s} \right) 100$$

Equation 3

where ***xi*** is the emissions intensity of vessel ***i*** (i.e .the AER converted to well-to-wake computed in Equation 2) and ***rs*** is the required emissions intensity for the vessel for the reported year based on the decarbonisation trajectory. This is then multiplied by 100 to convert to a percentage. A positive alignment score means a vessel is misaligned (above the decarbonisation trajectory), whereas a negative or zero score means a vessel is aligned (respectively, below or on the decarbonisation trajectory).

2.4 Decarbonisation trajectories

Climate alignment is defined as the degree to which a vessel, policy or portfolio's emissions intensity is in line with a decarbonisation trajectory. For the Poseidon Principles for Marine Insurance, the trajectories measure to what degree the portfolio meets the 2030 IMO GHG Strategy. These will be produced for each ship type and size class and in a format that allows for simple weighting aggregation. This is to ensure that once the emissions intensity of vessels is understood, it is simple and practical to understand climate alignment. This also ensures that numbers are comparable between signatories.

Appendix 4 describes the method used for establishing the target emissions intensity for a given ship type and size class in a given year. This is carried out by calculating a decarbonisation-consistent emissions intensity trajectory up to 2050. The method is derived from IMO Secretariat commissioned data sources, mainly the Fourth IMO GHG Study. Assumptions for formulating the trajectory are also taken from the 2023 IMO GHG Strategy, including the use of interim targets and a 2008 baseline. As with the Poseidon Principles for Financial Institutions and the Sea Cargo Charter, the trajectories are developed and validated for the initiative by the advisory services by UMAS in their role as Advisory.

2.5 Aggregating alignment for policies and portfolio

In order to calculate portfolio climate alignment, one must first calculate the climate alignment of each vessel within the portfolio. Then, the climate alignment of the portfolio can be calculated.

Steps for calculating climate alignment of the portfolio

1. For each vessel in a relevant policy, compare the annual emissions intensity of that vessel with the required decarbonisation value.[7] The alignment delta Δ at time ***t*** is given by Equation 3.
2. A weighted average of the vessel alignment deltas is used based on the share of deadweight insured (i.e., the vessel's deadweight multiplied by the share insured for each vessel in the portfolio). Compute the portfolio alignment delta, Δp as described in Equation 4:

$$\Delta_p = \sum_{i=1}^{N} w_i \Delta_i$$

Equation 4

where ***wi*** is the vessel's weighting metric corresponding to the relative weight of a vessel in a portfolio. This is calculated by the vessel deadweight multiplied by the policy's share, divided by the total share of deadweight insured (i.e., wi = (DWTi * sharei) / (∑ DWTi * sharei)).

Δ***i*** is the vessel alignment with respect to a specific trajectory, from Equation 2, and ***N*** is the total number number of vessels in the portfolio.

Note that this calculation needs to be done for each trajectory in order to retrieve the two portfolio alignment scores.

7 The required decarbonisation value is the maximum emissions intensity (gCO_2e/tnm) that a vessel can achieve and still be aligned with the decarbonisation trajectory. It is taken from the decarbonisation trajectory that corresponds to the specific vessel's type/class category.

Specific guidance for calculations

- The AER calculation for a vessel shall be based on a full calendar year as provided in MARPOL Annex VI Regulation 22A (i.e., 1 January until 31 December). However, where a shipowner was the owner of (or responsible for) a vessel for only part of a calendar year, and where IMO DCS data is therefore not furnished for the full year, the AER calculation may be based on a period shorter than a calendar year. The requirement for provision of an SoC and/or Verification Letter for an applicable reporting period (including a period shortened as above) shall remain unaffected.
- As seen with the implementation of the Poseidon Principles for Financial Institutions and the Sea Cargo Charter, this approach provides a snapshot in time of the emissions intensity of the portfolio, and is not intended to be a directional instrument or tool.
- When calculating alignment, the data provided by the client (as it was provided for submission to the IMO DCS, with the verification document) is for the previous calendar year. Therefore, the portfolio information used for the final aggregated climate alignment scores must also be used for the corresponding calendar year (e.g., calculations due on 9 December 2024 use emissions data from 2023, and portfolio information/weighting metric on 1 October 2023).
- When signatories are aggregating vessels' climate alignment scores to the portfolio level, necessary information is retrieved on a snapshot date of the year in which alignment is measured. The weighted average for alignment should be computed using the deadweight and the insurer's share of vessels for any policy that is in force on the snapshot date.
- The deadweight is always intended to be the deadweight at maximum summer draught of the vessel and should be the same used in the calculation of emissions intensity, including the case of Ferry-RoPax, Ferry pax-only, Cruise and Vehicle where gross tonnage is used instead of deadweight to calculate emissions intensity.

Specific guidance for Affiliate members

Affiliate members will support signatories by sharing knowledge about the Assessment principle and climate alignment methodology with relevant stakeholders, in line with the Technical Guidance.

Example:
Calculating alignment at the vessel and portfolio level

In this example, a signatory starts measuring its climate alignment in 2023. Table 1 illustrates a simple example of a portfolio with two clients/policies of two vessels each and shows the alignment deltas of each vessel and their weight in the portfolio. The portfolio alignment deltas shown in Table 1 are aggregated using a weighted average according to Equation 3. Weighting is applied as the share of deadweight insured of each vessel.

In Table 2, the portfolio is climate aligned with respect to the 2023 IMO GHG Strategy – Minimum trajectory because it is on average 13.22% below the emissions intensity required). Furthermore, it is climate aligned with respect to the 2023 IMO GHG Strategy – Striving trajectory because it is on average 7.96% below the emissions intensity required).

Policy	Year	IMO no.	DWT	Share	Actual AER	2023 IMO GHG Strategy - 'minimum'		2023 IMO GHG Strategy - 'striving'		DWT*share (metric tonnes)	Relative WEIGHT (portion of portfolio)
						Required AER	Alignment Delta	Required AER	Alignment Delta		
1	2023	######	45,000	0.2	6.81	5.23	30.39%	4.93	38.30%	9,000	20%
1	2023	######	59,000	0.2	5.20	4.42	17.69%	4.16	24.84%	11,800	26%
2	2023	######	230,000	0.1	1.46	2.75	-46.89%	2.59	-43.67%	23,000	52%
2	2023	######	8,000	0.1	32.23	29.89	7.83%	28.18	14.36%	800	2%

Table 1.
Vessel and portfolio alignment calculations

	Exposure (tonnes insured)	Climate Alignment Score (2023 IMO GHG Strategy – Minimum)	Climate Alignment Score (2023 IMO GHG Strategy – Striving)
Portfolio	44,600	-13.22%	-7.96%

Table 2.
Weighted portfolio alignment scores

3

Accountability and enforcement

This section provides information on the requirements and technical guidance for both the accountability and enforcement principles for the sake of clarity and simplicity. In terms of the implementation, both principles are closely related.

The accountability and enforcement principles are intended to ensure that the assessment and disclosure of portfolio climate alignment under the Poseidon Principles for Marine Insurance is practical, fair and accurate. The aim of this approach is to ensure the development of trust in the Principles amongst signatories.

The Poseidon Principles for Marine Insurance use emissions intensity as the metric to measure climate alignment. In order to align with the IMO DCS, which is mandatory for all ships 5,000 GT and above and engaged in international trade, the Poseidon Principles for Marine Insurance rely specifically on AER as the emissions intensity metric.

The Technical Guidance for the accountability and enforcement principles lays out the four steps in the information flow process. At each step, the assessment and enforcement requirements are clearly identified.

3.1 Accountability

PRINCIPLE

> We recognise the important role that unbiased information plays in data collection and reporting fuel consumption from ships in order to achieve the decarbonisation goals of the sector. We will rely on trusted entities and mandatory regulations as explicitly identified in the Technical Guidance for the provision of information used to assess and disclose climate alignment.

REQUIREMENTS

For each step of the assessment, signatories will exclusively rely on the data types, data sources and service providers identified in the Technical Guidance.

3.2 Enforcement

PRINCIPLE

> We will require that ongoing compliance with the Poseidon Principles for Marine Insurance is made contractual in all business activities using standardised covenant clauses. We will contribute to the update and addition of standardised clauses through the annual review process.

Signatories will agree to work with clients and partners to gather the necessary information to calculate emissions intensity and climate alignment.

3.3 Requirements at each information flow step

This section is broken into four information flow steps. The aim of this section is to provide appropriate background information that clearly demonstrates how information flows between parties. Specific accountability requirements regarding data types, data sources and service providers are stated at each step. The enforcement requirement of using the Standard Covenant Clause is referenced, and the clause itself is available from the Secretariat. The information flow process relies on data that shipowners are required to report in order to be compliant with the IMO DCS and accordingly be granted a SoC or Verification Letter by the RO as discussed in Section 2.1. Signatories are encouraged but not required to collect the SoC or Verification Letter. The IMO DCS requirements are separate from, and pre-date, the Poseidon Principles for Financial Institutions and for Marine Insurance.

Figure 5 provides an overview of the potential information flow pathways. The pathways are divided into "preferred pathways" and "allowed pathways" tracks. Preferred pathways are those that rely on IMO ROs to maintain data veracity and confidentiality.

For clarity, once a signatory has chosen either the preferred or allowed pathways track, it may choose any option available for that step. For example, if a signatory chooses the allowed pathways track, it may choose to use any of the three available options for steps 2 and 3.

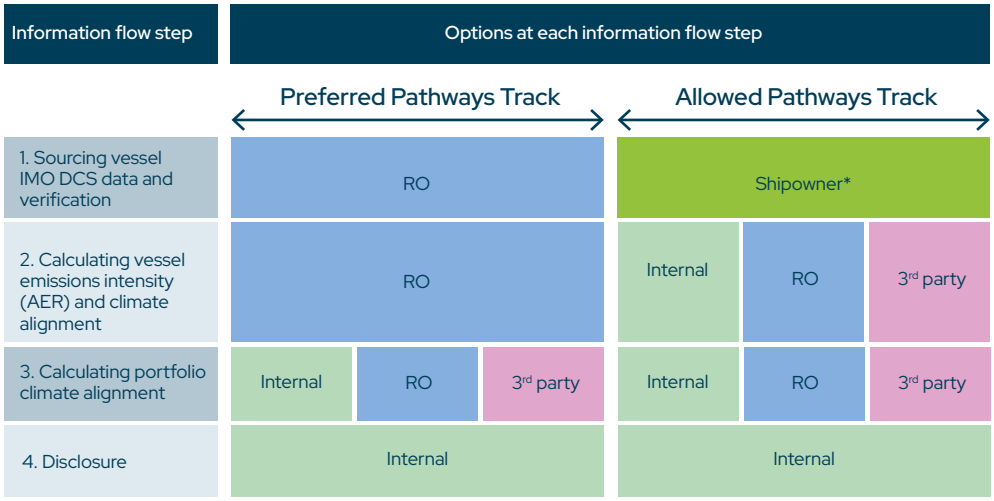

Figure 5.
Information flow pathway tracks

Step 1 Sourcing vessel IMO DCS data and verification

Step 2 Calculating vessel emission intensity (AER) and climate alignment

Step 3 Calculating portfolio climate alignment

Step 4 Disclosure

Data types

Good quality primary (actual) data is what should be used by the shipowner to calculate its Scope 1 emissions, and what stakeholders involved in the maritime supply chain aim to collect from their clients for their Scope 3 emissions accounting. This is the ideal source to further push for increased access to emissions data and for increased transparency across the shipping industry.

Estimated or default data is used when there are data gaps in the primary data or when no data whatsoever is available. To obtain estimated data, companies and commercial calculation tool providers model fuel use, and hence emissions, using the best available information (eg on cargo type and quantity, journey origin and destination, vessel characteristics, load factors). Default data is based on average industry operating practices.

Just as in the Poseidon Principles for Financial Institutions, estimated and default data is not allowed under either pathway of the Principles. Signatories to this initiative can encourage clients to provide the necessary (primary) data, and additional terms in the policy (or separate wording) will require insurers to request their clients to disclose the data reported to IMO in the previous year.

3.3.1 Step 1: Sourcing vessel IMO DCS data and verification

Step 1 requires the sourcing of IMO DCS data and a SoC for the calculation of AER. It is permissible to source data from the RO upon the consent of the shipowner or directly from the shipowner. As Figure 6 indicates, sourcing data from an RO is preferable while sourcing data from the shipowner is allowed.

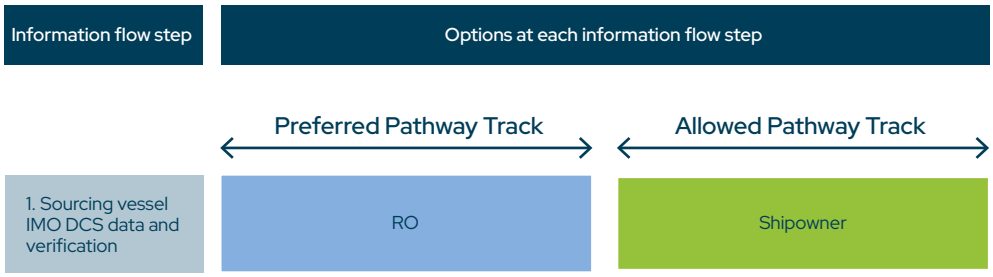

Figure 6.
Data sourcing

Figure 7 demonstrates how the Poseidon Principles for Marine Insurance interact with pre-existing requirements under the IMO DCS. Under IMO DCS requirements, the shipowner provides the specified data to the RO. The RO checks and verifies that the data is in accordance with the IMO regulation, issues a SoC/Verification Letter to the shipowner and then submits the data to the IMO Ship Fuel Oil Consumption Database.

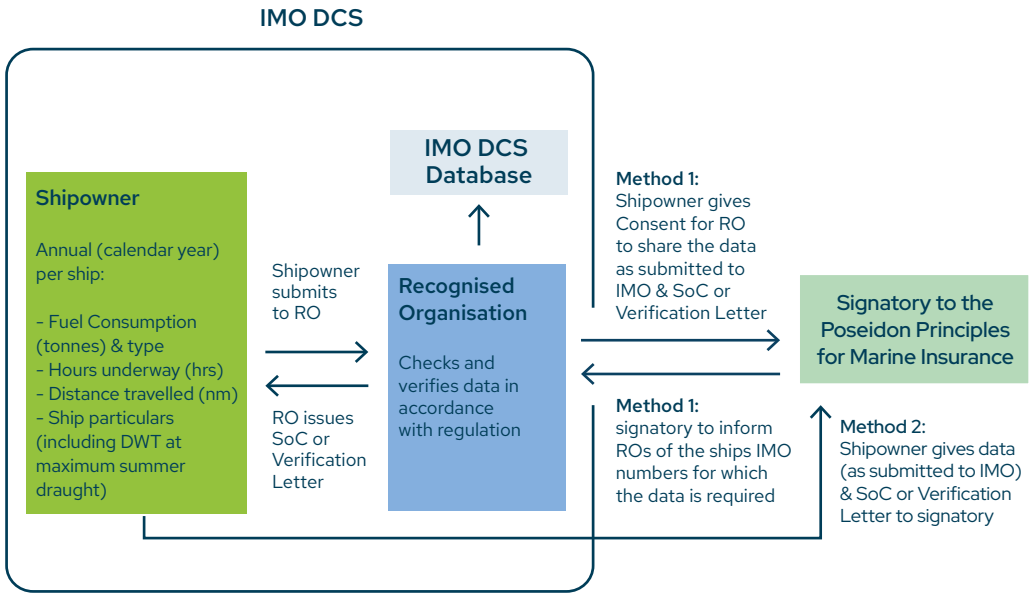

Figure 7.
Method for sourcing vessel IMO DCS data

Permissible information flow methods:

Method 1 (Preferred Pathways Track): RO(s) provide data and the SoC and Verification Letter[8] to the signatory. Consent for the RO to share IMO DCS data with the signatory can be given through the Standard Covenant Clause.

Method 2 (Allowed Pathways Track): Shipowner(s) provide data and the SoC to the signatory. The signatory requests the shipowner to provide the data as submitted to the IMO DCS along with the SoC and Verification Letter. Signatories are advised to ask shipowners for data "as it was submitted to the IMO" to reduce risk of error.

Special guidance for calculations:

As per agreement with the client, where there may be multiple insurers involved in one transaction, it remains the responsibility of the lead insurer of a policy to collect the appropriate information from the shipowner and/or RO. The lead insurer of a policy signatory should then share the information with all the signatories that are followers in the policy.

Please note that it is both allowed and encouraged for signatories to work together to reduce administrative burden by collaborating where possible. Especially when multiple signatories source data from a shipowner and/or RO, its in their collective interest, as well as the interest of the shipowner and/or RO to coordinate their data requests.

How to meet the requirements:

1. IMO DCS data must be sourced from a RO or from the shipowner.
2. It is preferred, but not required, for IMO DCS data to be accompanied by a SoC or Verification Letter provided by a RO.

8 Signatories are encouraged but not required to collect the SoC or Verification Letter.

3.3.2 Step 2: Calculating vessel emissions intensity (AER) and climate alignment

Step 2 requires the calculation of vessels' emissions intensity using the IMO DCS data and the calculation of vessels' alignment with decarbonisation trajectories. There are three methods for undertaking these calculations. The first method is relevant only to the preferred pathways track, while the latter two are relevant to the allowed pathways track.

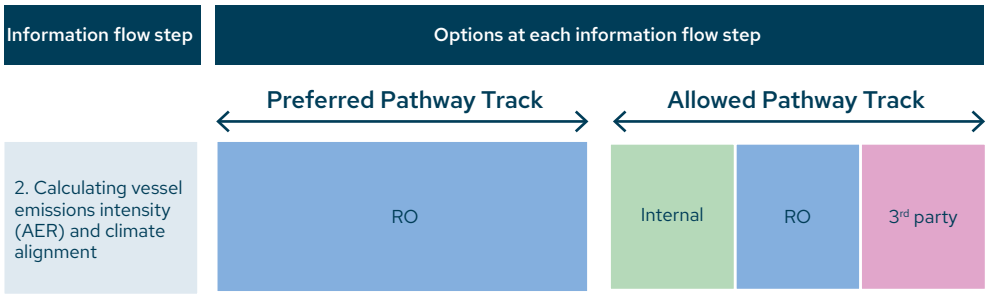

Figure 8.
Vessel alignment calculation

AER is used as the emissions intensity metric and is detailed in Section 2.1. The IMO DCS data used for calculating AER is also detailed in Section 2.1. Standard decarbonisation trajectories for each ship type and size class are produced specifically for the purposes of the Poseidon Principles for Marine Insurance so that all calculations are carried out in the same way. These are available through the Secretariat and detailed in Appendix 4.

Permissible methods for calculation:

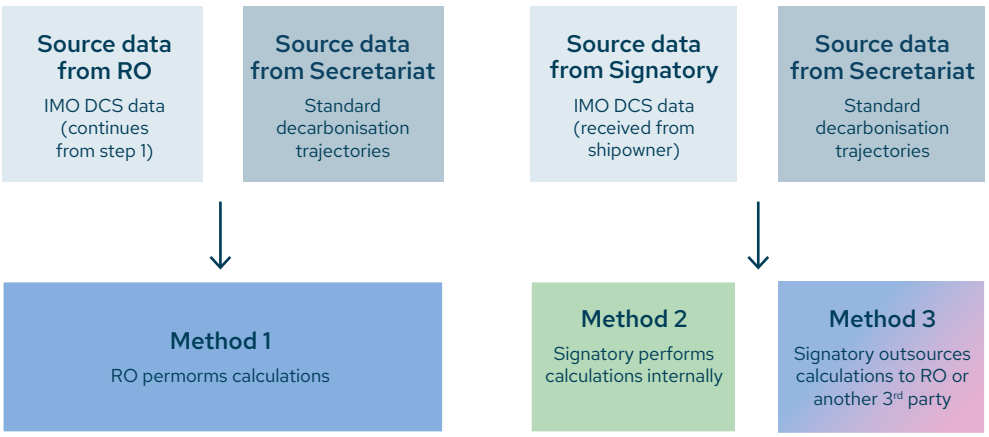

Figure 9.
Methods for calculating emissions intensity and vessel climate alignment

Method 1 (Preferred Pathways Track): RO calculates vessel emissions intensity and climate alignment on behalf of the signatory. This is described to the shipowner in the data consent letter each year.

1. The RO will source the standard decarbonisation trajectories from the Secretariat.
2. The RO calculates vessel emissions intensity and climate alignment on behalf of the signatory using the verified data from the IMO DCS.
3. The RO provides the signatory with the emissions intensity (AER) of the vessel(s) and the decarbonisation delta for the vessel(s), the IMO DCS data and the SoC andVerification Letter.[9]

Method 2 (Allowed Pathways Track): Signatory uses data provided by shipowner(s) to carry out vessel emissions intensity and climate alignment calculations internally. This is described to the shipowner in the data consent letter each year.

1. Using the verified IMO DCS data as submitted to the flag state provided by the shipowner and the standard decarbonisation trajectories, the signatory calculates emissions intensity and climate alignment of the vessel(s).

Method 3 (Allowed Pathways Track): After receiving data from shipowners, signatory outsources emissions intensity and climate alignment calculations to a RO or another third party. This is described to the shipowner in the data consent letter each year.

1. After selecting a RO or another third party in accordance with accountability requirements below, the signatory should send the verified IMO DCS data, SoC and Verification Letter and the standard decarbonisation trajectories to that party.[10]
2. The RO or other third party calculates vessel emissions intensity and climate alignment on behalf of the signatory using the verified data from the IMO DCS.
3. The RO or other third party provides the signatory with the emissions intensity (AER) of the vessel(s) and the decarbonisation delta for the vessel(s).

How to meet the requirements

- The signatory includes the Standard Covenant Clause in agreements and shares the data consent letter with clients annually. The letter outlines the pathway chosen by the signatory. Both elements are provided by the Secretariat.
- Vessel emissions intensity and climate alignment calculations must rely solely on verified IMO DCS data (i.e. data for which an SoC and Verification Letter has been issued) and standard decarbonisation trajectories provided by the Poseidon Principles Secretariat.
- Vessel emissions intensity and climate alignment calculations can be performed by signatories, ROs or other independent third parties (i.e. those that are not ROs).

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9 Signatories are encouraged but not required to collect the SoC or Verification Letter

10 Various external third-party service providers offer services related to emissions and analytics. As a rule, access to these services is subject to a fee from the third party.
If a third party other than an RO is used, that party must be regarded as independent and have no shipbroking or commercial vessel interests. The Secretariat is agnostic about providers and does not verify or recommend third parties for this purpose, but it is in the signatory's best interest to compare different options as it suits their needs

3.3.3 Step 3: Calculating portfolio climate alignment

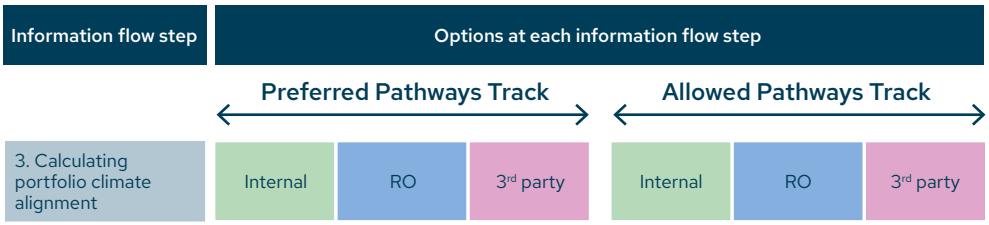


Figure 10.
Portfolio alignment calculation

Step 3 requires the calculation of portfolio climate alignment using the vessel climate alignment data from step 2 and signatories' portfolio data (i.e. deadweight and insurer's share of vessels insured). There are two methods for undertaking this calculation. Methods 1 and 2 are applicable in both the preferred pathways and allowed pathways tracks. This is due to the sensitivity of portfolio information.

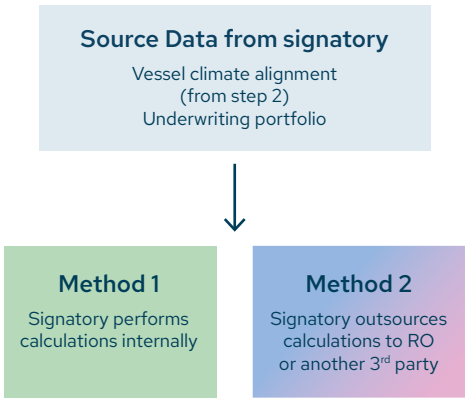


Figure 11.
Methods for calculating portfolio climate alignment

The Poseidon Principles for Marine Insurance will use the deadweight multiplied by the insurer's premium share as the aggregation weight for the portfolio alignment calculations. The assessment will be done for any policy that is in force on the snapshot date of the year (i.e., 1 October). The steps to calculate the portfolio alignment delta are as follows:

1. For each vessel in any policy that is in force on the snapshot date of the year, the climate alignment delta is computed. Information about the deadweight and the insurer's premium share is collected from each vessel.
2. Portfolio alignment delta is calculated as the weighted average of vessel's alignment deltas weighted by premium share of deadweight insured (i.e., vessel's deadweight multiplied by the premium share) of each vessel in the portfolio.

Permissible calculation methods:

Method 1 (Preferred and Allowed Pathways Tracks): Signatory performs portfolio climate alignment calculations internally.

1. Using vessel climate alignment data from step 2, signatory undertakes climate alignment calculations internally.

Method 2 (Preferred and Allowed Pathways Tracks): Signatory outsources portfolio climate calculations to an RO or another independent third party.

1. After selecting an RO or another independent third party in accordance with accountability requirements below, the signatory should send climate alignment and relevant portfolio data (i.e., deadweight multiplied by the share of vessels insured) for all vessels within the scope of the Poseidon Principles for Marine Insurance to that party.
2. The RO or other independent third party calculates the signatory's portfolio climate alignment using climate alignment and portfolio data for all vessels within the scope of the Poseidon Principles for Marine Insurance.
3. The RO or other independent third party provides the signatory with its portfolio climate alignment scores.

How to meet the requirements

1. Vessel emissions intensity and climate alignment calculations must rely solely on verified IMO DCS data (i.e., data for which a SoC[11] has been issued) and standard decarbonisation trajectories provided by the Poseidon Principles for Marine Insurance Secretariat.
2. Portfolio climate alignment calculation can be performed by signatories, ROs or other independent third parties (i.e., those that are not ROs).
3. The signatory should provide the following information to the Secretariat in line with the requirements identified in Section 4: Transparency.

11 Signatories are encouraged but not required to collect the SoC or Verification Letter

3.3.4 Step 4: Disclosure

Step 4 establishes disclosure requirements that will serve as a quality control mechanism. Transparency is key to the last step of reporting. The information outlined below will be submitted to the Secretariat and made available only to signatories with the aim of informing the actions of the Steering Committee. Information submitted under these requirements will not be made public. This is intended to establish a quality control mechanism for signatories while also ensuring that information that may be regarded as sensitive by some signatories is not publicly disclosed. There is one method, which is applicable to both the preferred and allowed pathway tracks.

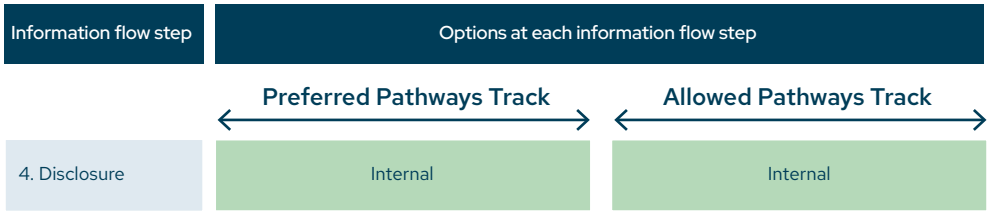


Figure 12.
Disclosure

Reporting and disclosure

For the Poseidon Principles for Marine Insurance, reporting and disclosure is built upon two key elements: a) public commitments and b) internal disclosure.

In order to support both elements, the initiative uses learning from its predecessors, the Sea Cargo Charter and the Poseidon Principles for Financial Institutions.

a. The Poseidon Principles for Marine Insurance mirror the Sea Cargo Charter, which commits that "signatories will agree to work with owners and business partners to collect and process the information necessary to calculate emissions intensity and total GHG emissions and assess climate alignment".

b. The Principles for Marine Insurance mirror the assessment steps used by the Poseidon Principles for Financial Institutions, which includes providing information for internal disclosure. This would mean that the total portfolio alignment scores would be publicly disclosed, while additional information such as % non-reporting and % as the lead/follower insurer is disclosed amongst other signatories only.

By setting the scope to report the entire H&M portfolio, initially where the signatory is the lead insurer, the initiative promotes transparency and access to GHG emissions information, and commits to working with clients to support improvements over time. Internal disclosure amongst signatories allows for additional information to be shared at an aggregated level to build trust and improve reporting over time.

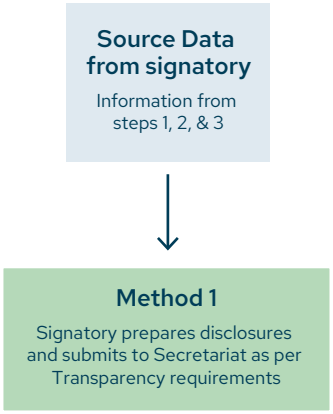


Figure 13.
Method for disclosure

Method 1 (Preferred and Allowed Pathways Tracks):

Signatory prepares disclosures and submits to Secretariat.

1. If the signatory is unable to collect data for some portion of its portfolio, the signatory should calculate the percentage of its eligible shipping portfolio for which it cannot report. When calculating this percentage in terms of the share of vessel's deadweight insured, the signatory should rely on the methodology outlined in Section 2.5.
2. The signatory should calculate the percentages of its portfolio for which it used preferred and allowed pathway tracks. When calculating these percentages, the signatory should rely on the methodology outlined in Section 2.5. The signatory should also list the names of the providers (i.e., RO or 3rd party) it used, if any, to complete steps 1, 2 and 3 (i.e., those steps identified in Section 3.3)
3. The specific information required for reporting is evaluated by signatories each year. The signatory should provide the following information to the Secretariat: percentage of eligible shipping portfolio non-reporting, percentages of portfolio for which preferred and allowed pathway tracks were used, where the signatory is a lead/follower etc. and a list of the names of providers it used, if any, to complete steps 1, 2 and 3.

Note: If a signatory is a leader and a follower, the preferred vs. allowed percentage is to be calculated only for the part of its portfolio where they are a leader.

How to meet the requirements

The signatory should provide the following information to the Secretariat in line with Transparency requirements identified in Section 4: percentage of eligible shipping portfolio non-reporting, percentages of the portfolio for which preferred and allowed pathway tracks were used and a list of the names of providers it used, if any, to complete steps 1, 2 and 3.

Example: Meeting disclosure requirements

In this example, a signatory successfully completes the assessment of its portfolio climate alignment. In addition, the signatory also reports the following information as shown in Table 3 below: percentage of eligible shipping portfolio non-reporting, percentage of portfolio for which preferred and allowed pathway tracks were used, and a list of the names of providers it used, if any, to complete steps 1, 2 and 3.

The following information is made public:

CLIMATE ALIGNMENT SCORES	
2023 IMO GHG Strategy - Minimum	49.9%
2023 IMO GHG Strategy - Striving	55.2%

The following information is disclosed only internally and not made public:

Reporting vs. non-reporting % & leading vs. following %		
Proportion of activities **reported**, against % of eligible shipping portfolio	[against % of signatory's DWT*share]*	4.8%
	% leading / % following (of a signatory)	0%/100%
Proportion of activities **not reported**, against % of eligible shipping portfolio	[against % of signatory's DWT*share]*	95.2%
	% leading / % following (of a signatory)	100%/0%

Preferred vs. allowed pathway		
	% of portfolio for which **Preferred** pathway tracks are used	% of portfolio for which **Allowed** pathway tracks are used
Preferred vs. allowed pathway (within the reporting portfolio)	90%	10%
% leading / % following	70% / 30%	50% / 50%

Step	**Providers used (if any, names)**	**Providers used (if any, names)**
Step 1	Used RO x and y	N/A - data collected from owner
Step 2	Used RO x and y	N/A - calculations performed internally
Step 3	Used 3rd party Name Z	Used 3rd party Name Z

Table 3.
Example of disclosure requirement submission

NOTE: The % non-reporting refers to the refers to the share of vessel's deadweight insured in a portfolio that is within the reporting scope, but has not been reported, rather than the % of ships not reported.

3.4 Standard Covenant Clause

Key to supporting the accurate assessment of climate alignment and to creating an equal burden on all signatories is an enforcement mechanism that ensures that the appropriate data and information are provided by shipowners to signatories, the appropriate consents are given for the sharing of data, the data is shared and appropriate privacy protections are established. This may include the sharing of data via a shared data platform or the data being provided by shipowners' commercial manager, depending on what is agreed between the shipowners and the signatories.

To assist in the collection and sharing of data for the Poseidon Principles for Marine Insurance, there are two supporting documents which are available from the Secretariat:

1. A Standard Covenant Clause, to be included in policy agreements.
2. An example letter to be sent by signatories to shipowners to request the data.

The proforma clause and supporting definitions together with the example letter are available from the Secretariat.

How to meet the requirements

Signatories

In all new and renewed business activities that are finalised after an insurance provider becomes a signatory to the Poseidon Principles for Marine Insurance, the signatory will use its best efforts to include the definitions and covenant wording set out in the Standard Covenant Clause in the relevant documentation, amended, where necessary, to reflect the signatory's proposed method of data collection.

Affiliate members

Affiliate members will agree to work with signatories, shipowners, other marine insurance providers, brokers and business partners where possible, to support signatories by sharing knowledge about the Enforcement principle and standardised clauses with relevant stakeholders, in line with the Technical Guidance.

Examples:

- **Brokers** – use their best efforts to inform and include the definitions and terms set out by the Principles (e.g., the standard clause in policy agreements) in order to support signatories and clients in providing verified emissions information.
- **Associations, P&I clubs and membership groups** – use their best efforts to inform and educate member organisations, so that the practices, definitions and terms set out in the Principles become common practice across the industry.

4

Transparency

PRINCIPLE

> We will publicly acknowledge that we are a signatory or affiliate member to the Poseidon Principles for Marine Insurance, and we will publish the results of our assessment on an annual basis in line with the Technical Guidance.

Climate alignment scores will be published on an annual basis.

1. Upon becoming a signatory or affiliate member, the organisation will publicly acknowledge that it is a signatory or affiliate member to the Poseidon Principles for Marine Insurance.
2. On an annual basis, each signatory will report the overall climate alignment of its shipping portfolio and supporting information, as per the Accountability requirements, to the Secretariat no later than 9 December. On an annual basis, each affiliate member will complete the annual reporting template which includes public disclosure requirements for the Annual Disclosure Report. This requirement takes effect for each member in the calendar year after the year in which it became a member.
3. On an annual basis, each signatory will publish the overall climate alignment of its shipping portfolio in relevant institutional reports on a timeline that is appropriate for that signatory. On an annual basis, each affiliate member will include the disclosure requirements in relevant institutional reports on a timeline that is appropriate for that institution. This requirement takes effect for each member in the calendar year after the calendar year in which it became a member.

4.1 Information flow for signatories

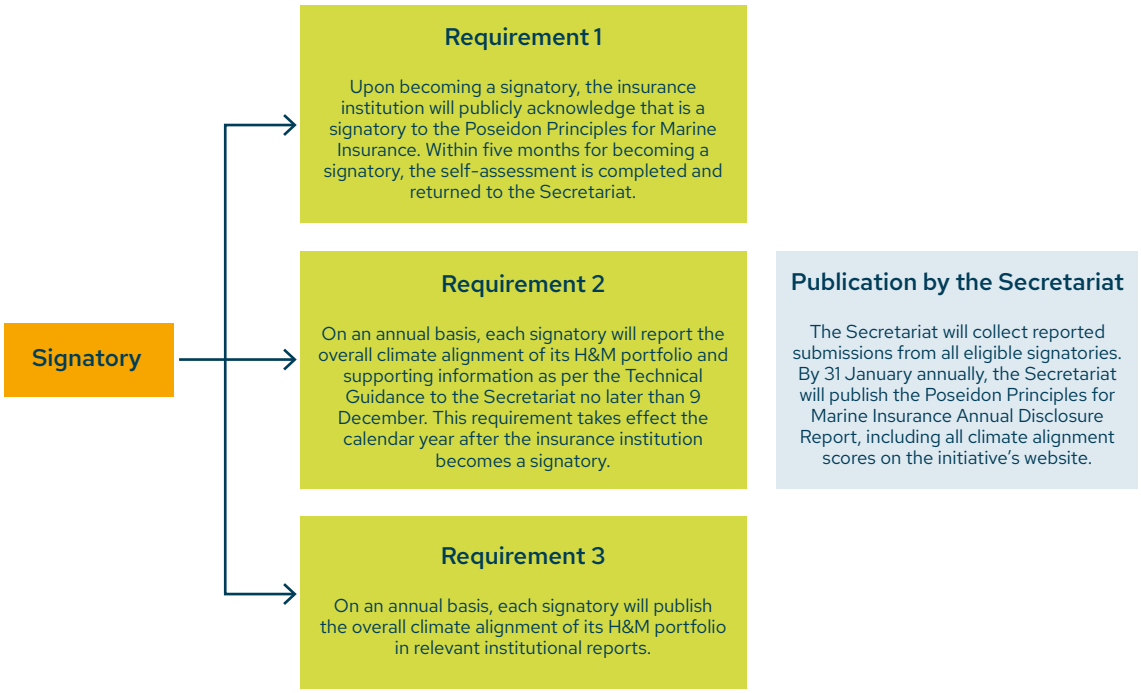


Figure 14.
Information flow for transparency requirements for signatories

How to meet the requirements

1. The expectations of transparency requirement 1 are that a signatory should make it publicly known that it is a signatory in a manner that is suitable for its organisation. The aim of this requirement is to simply ensure awareness of the Poseidon Principles for Marine Insurance and to ensure that it is clear which organisations are signatories and supporters without creating any significant burden for them.
2. The expectations of transparency requirement 2 are that a signatory should report all required information to the Secretariat (climate alignment of portfolio and supporting information as per accountability requirements) in a timely manner in accordance with the assessment, accountability, enforcement, and transparency principles as described in the Technical Guidance. The aim of this requirement is to ensure that accurate information can be published by the Secretariat in a timely manner. The required reporting timeline is intended to create as little burden as possible for signatories.
3. The expectations of transparency requirement 3 are that a signatory should identify relevant institutional reports and ensure that the climate alignment of its shipping portfolio is included in them. Due to different institutional timelines, no specific expectations have been set for when reports including portfolio climate alignment scores should be published. The aim of this requirement is not to specify precisely when this information should be published or create a significant burden for signatories. Instead, it is intended to ensure awareness of the Poseidon Principles for Marine Insurance and their approach.

Specific guidance

It is expected that signatories' annual disclosure is included in relevant institutional reports on a timeline that fits their institution. This approach allows for flexibility and removes additional administrative burden across the institution.

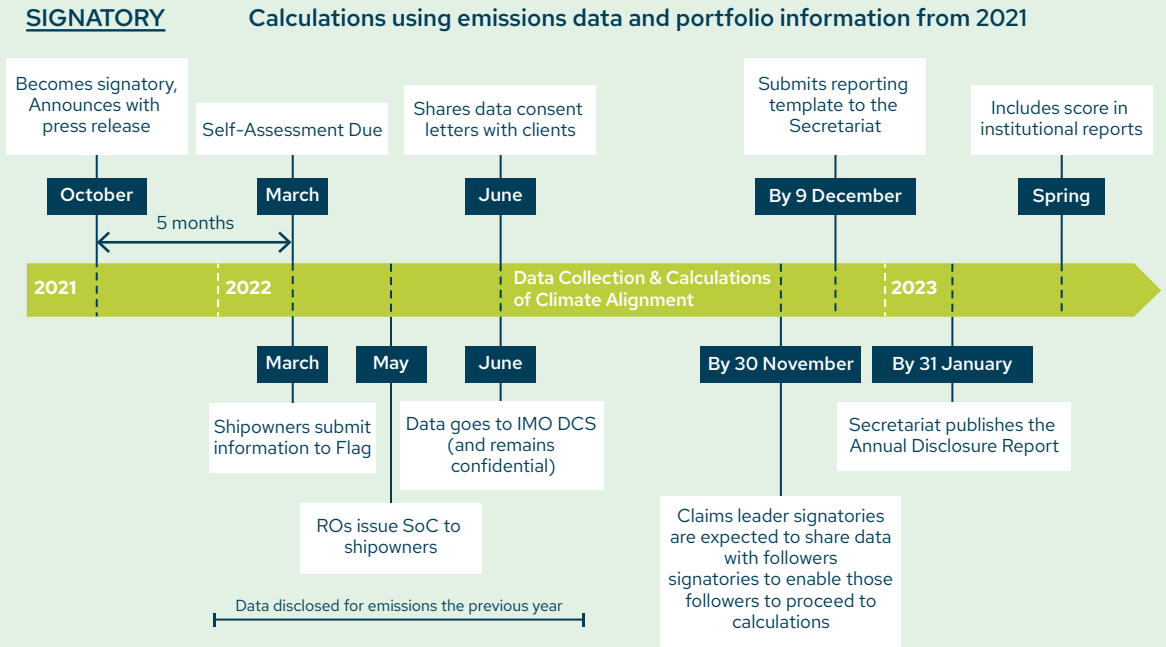
Example: Transparency for signatories

Requirement 1: Insurance institution issues a press release announcing that it is a signatory in October 2023. They complete the self-assessment no later than March 2024 and return the form to the Secretariat.

Requirement 2: Prior to 9 December 2024, the signatory submits its portfolio climate alignment scores (for the previous year, 2023) and supporting information, as per the accountability requirements outlined in the Technical Guidance. The signatory has scores of +49.9% and +55.2%. These scores indicate that they are +49.9% above the 2023 IMO GHG Strategy – minimum trajectory, , and are +7% above the 2023 IMO GHG Strategy – striving trajectory.

Requirement 3: The signatory includes its portfolio climate alignment scores in its annual sustainability report in March 2025, in line with its internal requirements.

Publication by the Secretariat: All eligible signatories and affiliate members' 2021 climate alignment scores and statements of support are published online prior to 31 January 2025.



4.2 Information flow for affiliate members

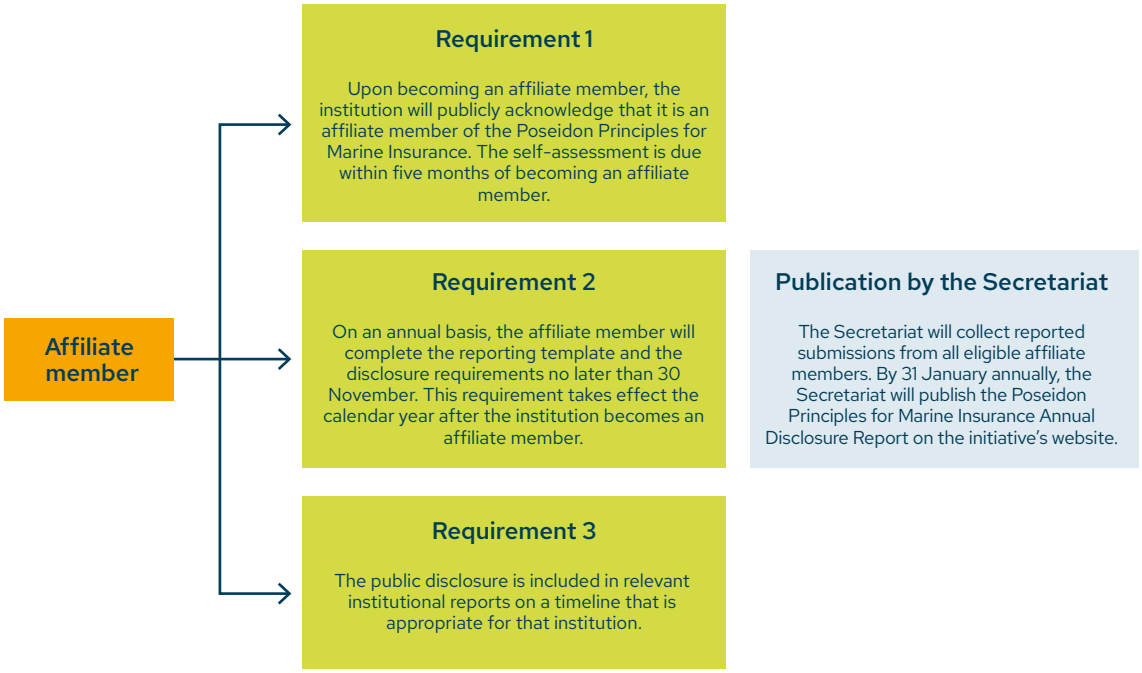


Figure 15.
Information flow for transparency requirements for affiliate members

How to meet the requirements

Similar to the signatories, the affiliate members also have a self-assessment. The purpose is to ensure that the affiliate member is prepared to support the process outlined in the Principles and have raised any questions or concerns with the Secretariat in good time. The self-assessment is due within five months of becoming an affiliate member.

The expectations of transparency requirements for affiliate members are to provide internal reflection and evaluation of the role of the supportive institutions, and to publicly report on progress, in line with the Technical Guidance. These elements are to be included in relevant institutional reports on a timeline that is appropriate for that institution.

In terms of transparency, affiliate members are required to publicly communicate on the ways in which they engage with and support the Poseidon Principles for Marine Insurance and its signatories through the disclosure requirements. To minimise administrative burden, the overall format is flexible, so long as it adheres to the requirements and is included in relevant institutional publications.
A reporting template is provided by the Secretariat.

The self-assessment questions and disclosure requirements both focus on ensuring that members are aware of timelines and obligations under the Poseidon Principles for Marine Insurance, have engaged the appropriate internal stakeholders, have engaged clients and have a plan for engaging with the initiative through the implementation of practical actions.

Requirements for disclosure

Affiliate members are also required to report on activities and the efforts made by them every year. Each reporting template must include all of the following elements:

- A statement by the chief executive or equivalent expressing continued support for the Poseidon Principles for Insurance and renewing the participant's ongoing commitment to the initiative and its principles.
- A description of the practical actions that the organisation has undertaken to support the Poseidon Principles for Insurance and to engage with the initiative and its signatories. Practical actions should relate to one or more of the specific activities suggested to each type of participant in support of the initiative.
- Measurement of outcomes (i.e., qualitative or quantitative measurements of results).
- As with the requirements for signatories, no specific expectations have been set for when reports should be published. The aim of this requirement is to ensure awareness among affiliate members so that they include and support the Principles for Marine Insurance in their regular business activities as appropriate for their institution.

The transparency requirements are not intended to be static – it is hoped that the assessments will improve over time with increasing transparency and access to reliable data sources for these stakeholders.

Example: Transparency for affiliate members

In this example, a broker becomes an affiliate member of the Poseidon Principles for Marine Insurance in October 2023.

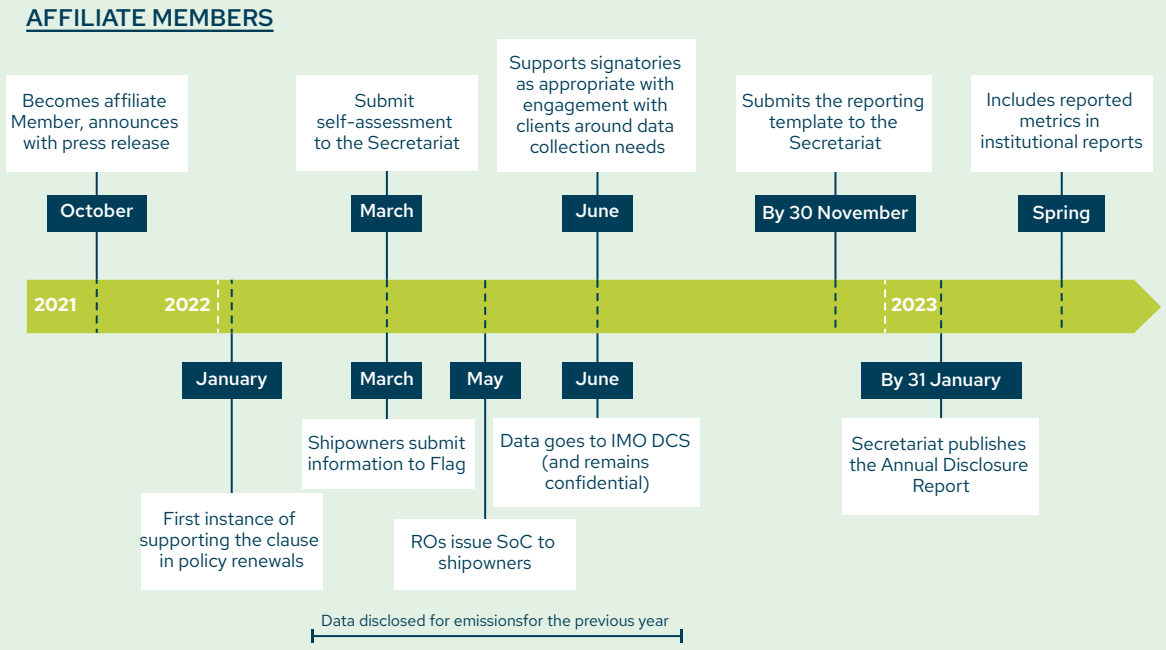
Requirement 1: The marine broker issues a press release announcing that it has become an affiliate member in October 2023. By March 2024, it has completed the self-assessment and returned it to the Secretariat.

Requirement 2: Prior to 30 November 2024, the affiliate member submits its completed reporting template to the Secretariat.

This year, its Head of Marine provided a quote, expressing their support and inviting other brokers to join the initiative. The description of activities included an additional summary of an event hosted by the institution to educate members on the wording of the clause. As a concrete outcome of this event, two potential signatories expressed their interest in joining the initiative, and one has already finalised the onboarding. The institution has also decided to become involved in one working group of the Poseidon Principles for Marine Insurance, to increase data transparency in an area of interest.

Requirement 3: The public disclosure elements are included in the institution's annual sustainability report in March 2023, in line with its internal requirements.

Publication by the Secretariat: All eligible affiliate members' 2023 reported metrics and statements of support are published online prior to 31 January 2025.



5

How to become a signatory or affiliate member

The following outlines the process for institutions to become signatories or affiliate members and highlights the necessary documents.

This document is intended to be a how-to guide for the administrative aspects of implementing the Principles by prospective signatories and affiliate members.

Institutions wishing to become a signatory or affiliate member to the Poseidon Principles for Marine Insurance must:

1. Complete and send the Standard Declaration, Signatory or Affiliate Member Application form as well as the Membership Agreement to the Secretariat.
2. Complete and submit the Poseidon Principles for Marine Insurance Self-Assessment to the Secretariat within five months of becoming a signatory or affiliate member.

All documents are available from the Secretariat.

Step 1

Submit Standard Declaration, Signatory Application, and Membership Agreement

→

Step 2

Prepare and submit the Poseidon Principles for Marine Insurance Self-Assessment within five months of becoming a signatory

5.1 Standard Declaration

The **Standard Declaration for Signatories** is the formal commitment required of an insurance provider to become a signatory. The Standard Declaration announces the intention of the insurance provider to follow all binding requirements of the Poseidon Principles for Marine Insurance. This means that the insurance provider is prepared to take the necessary steps to comply with all four Principles, and have made this commitment and related reporting public.

The **Standard Declaration for Affiliate Members** is the formal commitment required for an institution wishing to become an affiliate member of the Poseidon Principles for Marine Insurance. It announces the public support of the initiative and prepares the institution for supporting signatories and the implementation of the Principles. There is one declaration for all organisations: brokers, P&I Clubs, captives, etc. Please contact the Secretariat with any questions.

5.2 Application

Signatory

Along with the Standard Declaration for Signatories, an institution that wishes to become a signatory must complete the Signatory Application. This document outlines who is responsible for contacting, reporting, invoicing and other necessary functions so that the Poseidon Principles for Marine Insurance are implemented and maintained by the marine insurer.

Affiliate member

Along with the Standard Declaration for Affiliate Members, institutions that wish to become an affiliate member must complete the Affiliate Member Application, as the contact and functional information is necessary for the Secretariat.

5.3 Self-Assessment

Signatory

Each new signatory has five months to complete the Self-Assessment and return it to the Secretariat.

The purpose of this is to ensure that each signatory has made appropriate arrangements to fulfil its obligations under the Poseidon Principles for Marine Insurance and identified any challenges to doing so. The Self-Assessment is as brief as possible to reduce the administrative burden, while still addressing the core responsibilities of signatories.

The questions focus on ensuring that signatories are aware of timelines and obligations under the Poseidon Principles for Marine Insurance, have engaged internal stakeholders, have engaged clients and have a plan for engaging the necessary service providers so that they can complete their climate alignment assessment.

Affiliate member

New affiliate members also have five months to complete the Self-Assessment and return it to the Secretariat. The purpose of this Self-Assessment is to ensure that each member has made appropriate arrangements to fulfil its obligations under the Poseidon Principles for Marine Insurance and identified any potential challenges to doing so. To minimise administrative burden, it is as brief as possible while still addressing the core responsibilities of affiliate members.

5.4 Timeline

Figure 16.
Timeline for signatories and affiliate members of the Poseidon Principles for Marine Insurance

The Poseidon Principles for Marine Insurance aim to be easily implementable and achievable for each new signatory and affiliate member. To these ends, the timeline for implementation in Figure 16 shows the timeline for submission of the Self-Assessment to comply with the member requirements.

5.5 Governance

Information regarding the creation of the Poseidon Principles for Marine Insurance Association, the composition of the Steering Committee, and the role of the Secretariat can be found in the Governance Rules of the Association which are available at **https://www.poseidonprinciples.org/insurance/about/governance/**.

Appendices

Note: An Appendix 6 has been added as of October 2024, starting on page 76

Appendix 1

Definitions and abbreviations

AER means the Annual Efficiency Ratio, an emissions intensity intensity metric calculated in accordance with Equation 1 as set out in Section 2.1.

Affiliate members are stakeholders which support and contribute to the insurance ecosystem, but whose current business activities fall out of the reporting scope. Affiliate membership is open to organisations including insurance brokers and collective groups (such as insurance associations, unions, captives, and P&I Clubs).

Business activity is defined as insurance policies which fall within the scope – insurance products which cover H&M, and where the insurer is the lead and has access to the required data from clients. This scope may be amended or expanded by signatories in the future as per the annual review process.

Carbon intensity in shipping represents the total operational emissions generated to satisfy a supply of transport work (grams of CO_2 per tonne-nautical mile [gCO_2 / tnm]).

CDP is the Carbon Disclosure Project, a not-for-profit charity that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

CII are carbon intensity indicators, an operational measure considering the actual consumption and distance travelled for each individual ship in service.

Climate alignment is the degree to which a vessel, policy, or portfolio's emission intensity is in line with a decarbonisation trajectory that meets the 2023 IMO GHG Strategy ambition of reducing total annual well-to-wake GHG emissions to net-zero around 2050. This should also take into account the interim checkpoints in 2030 (20% reduction, striving for 30% on 2008 levels) and 2040 (70% reduction, striving for 80% on 2008 levels).

CO_2 is carbon dioxide.

CO_2e is carbon dioxide equivalents.

Continuous baselines order to avoid bias against vessels based on their position within a vessel category due to their size which could make alignment more challenging, continuous baselines are introduced in the Poseidon Principles for Marine Insurance. This implies that the required emissions intensity is directly related to the size of the vessels through a power law relationship similar to what is currently in place for the Energy Efficiency Design Index (EEDI). Each vessel type has an annual continuous baseline that defines required emissions intensity and are defined in Appendix 3.

Decarbonisation trajectory is produced by the Secretariat based on agreed and clearly-stated assumptions.The current decarbonisation trajectory used by the Poseidon Principles for Marine Insurance defines the rate of reduction of emissions intensity required to be aligned with the 2023 IMO GHG Strategy absolute emission reduction ambition. The method used for establishing the decarbonisation trajectories up to 2050 is derived from emission and transport work data from the Fourth IMO GHG Study.

DWT is defined as the maximum deadweight of the ship and measure of the ship's carrying capacity. It takes into consideration the weight of the cargo on board, fuel, ballast water, fresh water, crew, provisions for the crew.

DWT * share: portion of vessel's DWT which is covered by the specific insurance provider. This is the chosen weighting metric for the Poseidon Principles for Marine Insurance.

EEOI is the Energy Efficiency Operational Indicator, developed by the IMO in order to allow shipowners to measure the fuel efficiency of a ship in operation.

Emissions intensity is the representation of the total well-to-wake emissions generated to satisfy a supply of transport work (grams of CO_2e per metric tonne-nautical mile [gCO_2e / tnm]). The Poseidon Principles for Marine Insurance uses the AER metric for this calculation adapted to include upstream emissions as well as the impact of methane (CH_4) and nitrous oxide (N_2O).

GHG means Greenhouse Gas.

IMO is the International Maritime Organization, a specialized agency of the United Nations, and the global standard-setting authority for the safety, security and environmental performance of international shipping.

IMO DCS is the IMO's MARPOL Annex VI Data Collection System for Fuel Consumption.

Insured value is the amount covered for a specific vessel by the policy

Insured value * share is the portion of a vessel's insured value covered by the specific insurance provider, when there are multiple insurers providing coverage to the same client

LCA stands for IMO's Lifecycle Assessment model. This method refers to the assessment of GHG emissions from the fuel production to the end-use by a ship (well-to-wake); it results from the combination of a well-to-tank part (from primary production to carriage of the fuel in a ship's tank, also known as upstream emissions) and a tank-to-wake (or tank-to propeller) part (from the ship's fuel tank to the exhaust, also known as downstream emissions).

MARPOL (The International Convention for the Prevention of Pollution from Ships) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. The MARPOL Convention was adopted on 2 November 1973 at IMO.

MEPC stands for IMO's Marine Environment Protection Committee.

Policy, for H&M coverage, refers to one unit of a marine insurance product transaction or deal that covers physical damage to vessels

RO (Recognized Organization) is an authorised organisation that performs statutory requirements on behalf of a vessel's flag state. While normally a Classification Society, in the case of the IMO DCS, independent verifiers have been authorised by some flag states.

Signatory is an insurer that has sent a formal declaration to the Secretariat, has had that declaration accepted and has had that declaration announced. This organisation also falls in the scope of a signatory.

Share is the percentage insured by the specific insurance provider, when there are multiple insurers providing coverage to the same client.

SoC is a Statement of Compliance issued by a flag state or an RO to the owner of a relevant vessel confirming its compliance with the IMO DCS.

Tank-to-wake emissions are from fuel combustion on board a vessel, or "operational emissions".

TCFD is the Task Force on Climate-related Financial Disclosure, a task force set up to develop recommendations for voluntary climate-related financial disclosures that provide useful information to lenders, insurers and investors.

TEU means Twenty-foot Equivalent Unit, a unit of cargo capacity often used to describe the capacity of container ships.

Third Parties are independent parties contracted to support the implementation of the Principles (ie those that are not ROs).

TNM refers to tonne-nautical mile.

UNEPFI PSI was launched at the 2012 UN Conference on Sustainable Development, the UNEP FI Principles for Sustainable Insurance serve as a global framework for the insurance industry to address environmental, social, and governance risks and opportunities.

Verification Letter issued by a RO may be accepted in lieu of an SoC, where such a Verification Letter expressly states the vessel's identification, reporting period relating to the IMO DCS, and is duly signed.

Voyage is including the time spent in port for vessels sailing in international waters, as outlined by the IMO DCS requirements.

Well-to-tank emissions are from upstream activities including extraction, cultivation, production, processing, storage, transport, bunkering of fuels.

Well-to-wake emissions are a combination of tank-to-wake and well-to-tank emissions. This accounts for both the emissions from upstream activities and operation of a vessel, or the "full lifecycle".

Appendix 2

Selecting a carbon intensity metric

There are a number of different carbon intensity metrics that have been proposed, both in IMO discussions and in the private sector, but no single metric on operational carbon intensity has been mandated by the IMO or used to define the carbon intensity goal in the IMO strategies.

Carbon intensity measures considered for the Poseidon Principles for Marine Insurance are the Energy Efficiency Operational Indicator (EEOI) and the Annual Efficiency Ratio (AER) which are two measures developed by, or being proposed to, the IMO. The following provides a summary of their differences:

1. **The Energy Efficiency Operational Indicator (EEOI)**
   - **a.** This requires information including the CO_2 emissions, the distances sailed whilst doing transport work and the amount of cargo (or passengers or gross tonnage) carried.
   - **b.** The EEOI produces the closest measure of the vessel's true carbon intensity.

2. **Annual Efficiency Ratio (AER)**
   - **a.** AER is similar in form to EEOI but uses an approximation of cargo carried by utilissing the vessel's designed deadweight (or Twenty-foot Equivalent Unit (TEU) or passenger or gross tonnage) capacity in place of actual cargo carried and assumes that the vessel is continuously carrying cargo.
   - **b.** Because ships are not always fully utilized in terms of capacity and many ships (e.g. tankers and bulkers) operate with ballast voyages where for several voyages a year they have no cargo, this method typically underestimates carbon intensity.

The drafting group also considered a third method:

3. **Hybrid approach**
   - **a.** A hybrid approach is used, where EU MRV data (EEOI) is used for vessels trading 100% of the time on voyages that include EU Member States.
   - **b.** IMO DCS is used for the rest to calculate AER and translate it into an EEOI metric using an assumed default value for cargo utilisation (i.e. 60%).

Different metrics place different requirements on the data that is needed in their calculation. To ensure consistency in the application of the Principles and ensure that an apples-to-apples comparison between the calculations can be made by the signatories, it is important that all signatories apply the same single metric.

Measure	Pros	Cons
EEOI	• True measure of transport work included	• Requires additional data to be collected (cargo) that is not collected through the IMO DCS
AER	• Only fuel consumption and distance sailed need to be measured Aligned with IMO DCS	• Not a true measure of transport work. Assumes all vessels are sailing continuously with loaded cargo on all voyages
Hybrid approach	• EEOI is the most theoretically correct measure, and combining the metric allows for this advantage. • Potential to increase ambition at the IMO, but goes beyond the current data collection of the IMO DCS	• Currently misaligned with the Poseidon Principles for Financial Institutions • Relies on default utilsation rates for all voyages that exclude EU (i.e. all ships travelling between the US and China, a major route, would be excluded) More effort for the signatories and their insured shipowners • Large portion of vessels in scope will need to go through estimation from AER to EEOI, which compromises accuracy

Table 4.
Comparison of EEOI, AER vs hybrid approach

Both the EEOI and AER have not been updated yet to be aligned with the 2023 IMO GHG Strategy since they are still based on operational CO_2 emissions only. It is expected that the MEPC will update the regulations concerning these metrics accordingly. Similarly, at MEPC 81, member states and organisations have been invited to submit proposals for amendments to the DCS regulation which may include the reporting of cargo transported and distance sailed laden which would allow for annual EEOI to be compiled using DCS data. The advisory will be assessing the developments at the IMO and considering the implications on the Poseidon Principles for Marine Insurance.

Appendix 3

Selecting a weighting metric

In order to ensure that this initiative remains in line with the intention to connect an individual signatory's business activities to climate impact/exposure of such activities, several possible weighting metrics have been explored:

1. The share of vessel's deadweight insured as a portion of the total deadweight insured (DWT*share, the chosen metric).
2. The share of vessel's H&M insured value as a portion of the total H&M insured value.
3. The vessel's gross premium written by an insurer before deductions as a portion of the total gross written premium.

Factors considered in the choice of the weighting metric include complexity of calculations, accuracy of climate alignment score and potential applicability to other stakeholders in the marine insurance space.

The first option, the share of vessel's deadweight insured, is a proxy for the share of vessels' transport work, measuring the environmental impact of a portfolio. It is comparable to the weighting metric used by the Sea Cargo Charter, which uses transport work. This was the metric chosen for the Poseidon Principles for Marine Insurance to allow for the methodology to be easily extended to additional signatories and stakeholders within marine insurance over time. This perspective allows for greater transparency and leadership from the marine insurance sector.

The second option, the share of vessel's H&M insured value, measures the financial exposure and represents the economic magnitude of a portfolio. However, the fluctuations in the market and insurance rates would have impacted the interpretation of the scores year-by-year. Furthermore, it would limit the expansion of the scope to a wider group of stakeholders over time.

The third option, the gross written premium, is the metric most closely connected to the financial exposure of the asset. However, this could lead to the wrong incentives for decarbonisation in the long run (i.e., higher premiums for less polluting vessels).

DWT * share	H&M insured value * share	Gross written premium *share
Rationale Mimic the transport work * share to serve as a proxy for transport work to measure **environmental impact** ☑ Objective in the sector ☑ Can be used by other stakeholders to expand the scope of signatories over time ☑ Allows for the inclusion of P&I club coverage ☑ Easy to adopt, no need to collect historical information (except for the share insured, which is taken from the Signatory's internal data) ☑ *Comparable to the weighting metric used by the Sea Cargo Charter, which measures emissions of transport work* ☒ Bias showing in the outcome because of different units of carbon intensity for ships (DWT vs GT) ☒ It may **underestimate** carbon emissions of delta alignment, whereas using GT **overestimates** carbon emissions	**Rationale** Mimic the premium * share to serve as a proxy for f**inancial exposure or economic magnitude** ☑ Objective among insurers ☑ Can be adjusted and replicated across lines of business ☑ Easy to adopt ☑ Incorporates a financial metric ☑ *Comparable to the weighting metric used by the Poseidon Principles for Banks, which measures climate risk* ☒ Market fluctuations, which are not a huge limitation ☒ Similar ships might have different insured value (ie depending on age, mortgage, place of build etc) ☒ **Does not allow for the inclusion of P&I**	☑ It captures financial exposure ☑ Incorporates a financial metric ☑ Aligned with the methodology proposed by CRO forum ☒ Market fluctuation ☒ May lead to wrong incentivisation ☒ Might be sensitive information to disclose ☒ Subjective (different for each insurer) ☒ Problem with high deductibles

Table 5.
Comparison of weighting metrics

Appendix 4

Definition of the decarbonisation trajectories and continuous baselines

Estimating the emissions intensity improvement required across all ship types

The overall (all ship type and size categories included as international shipping) improvement required in emissions intensity is calculated from:

1. a projection of the foreseeable growth in transport work across all ship types between baseline (2018) and the target year (2050);
2. the target CO_2e emissions defined by the 2023 IMO GHG Strategy absolute emission reduction ambition.

The projection of foreseeable growth is taken from the Fourth IMO GHG Study scenario RCP 2.6 SSP2. This scenario is selected because it is most aligned with decarbonisation in the wider economy, and most closely represents the rate of GDP and trade growth that has been observed in recent years. For each scenario, the Fourth IMO GHG Study employed two models for projecting transport work for non-energy products[12]. A logistics model which analyses the relationship between global transport work and its drivers using historical data to project transport work; and a gravity model, which presumes that transport work is a function of per capita GDP and population of the trading countries and uses econometric techniques to estimate the elasticity of transport work with respect to its drivers.

The results show that for most scenarios, including RCP 2.6 SSP2, the logistics model approach results in higher transport work projections than the gravity model approach. The logistics model approach was chosen as it represents an upper bound on the transport work projection and therefore is more conservative, allowing international shipping to meet its decarbonisation targets if transport work is higher than forecasted under the gravity model but within the upper bound set by the transport work assumed in the logistics model. This is consistent with the current methodology used in the Poseidon Principles for Marine Insurance methodology as well as the Poseidon Principles for Financial Institutions, Sea Cargo Charter and Science Based Targets Initiative.

The target CO_2e emissions is defined by the 2023 IMO GHG Strategy which has a net-zero target around 2050. Additionally, indicative check points for at least 20% striving for 30% reductions in 2030 on 2008 levels as well as at least 70% reduction striving for 80% reduction in 2040 on 2008 levels.

The Strategy is anchored to the same 2008 global emissions inventory that was estimated in the Third IMO GHG Study. This value of 921 Mt of operational tank-to-wake CO_2 is translated to a lifecycle CO_2e value by using:

- A weighted average well-to-wake emission factor based on the fuel mix in 2008 from Lloyd's Register and UMAS.100-year global warming potential values aligned to IPCC Assessment Report 5 as used in the Fourth IMO GHG Study[13].

12 For a description of the full methodology employed to project transport work including energy products, see page 218 of the Fourth IMO GHG Study.

13 100 year global warming potential values used are 28 for methane (CH_4) and 265 for nitrous oxide (N_2O).

Table 6 presents the emissions budget translation from the Third IMO GHG Study to the 2023 IMO GHG Strategy minimum and striving numbers. These can then be used to build a global emissions budget by using historic data from the Third and Fourth IMO GHG Studies (2008 – 2018) and then linking the subsequent checkpoints linearly.

	2008	2018	2030	2040	2050
Total transport demand (billion metric tonne nautical miles)	46,003	59,230	81,804	100,616	119,429
Total CO_2e emissions (million metric tonnes) - 2023 IMO GHG Strategy - Minimum	1,066	1,062	852	320	0
Total CO_2e emissions (million metric tonnes) - 2023 IMO GHG Strategy - Striving	1,066	1,062	746	213	0
Estimated aggregate emissions intensity (gCO_2e/tnm) - 2023 IMO GHG Strategy - Minimum	23.2	17.9	10.4	3.2	0
Estimated aggregate emissions intensity (gCO_2e/tnm) - 2023 IMO GHG Strategy - Striving	23.2	17.9	9.1	2.1	0

Table 6.

Transport demand, CO_2e emissions and emissions intensity for international shipping

Figure 17 plots the intensity values in Table 6 and a linear trend line connecting them. There are many different assumptions that could be applied to specify the shape of the curve that defines the rate of emissions intensity reduction between 2018 and 2050. The chosen trajectory represents a gradual and consistent rate of improvement on average across the fleet; the assumption applied here is for a constant improvement year-on-year, which is described by a straight line between 2018 and 2030, 2030 and 2040, and down to 2050.

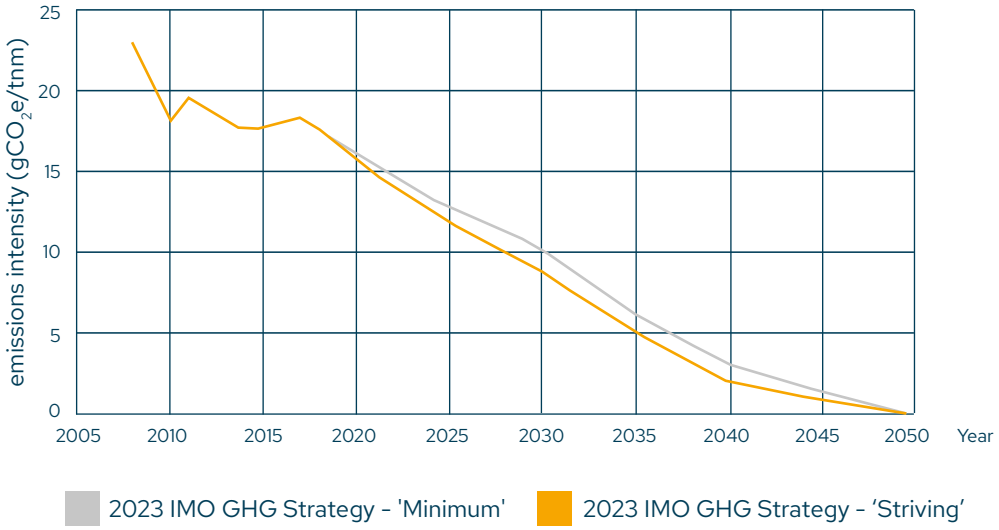


Figure 17.

Global fleet's emission intensity targets and trajectories defined by the 2023 IMO GHG Strategy (grams of well-to-wake CO_2e per metric tonne-nautical mile [gCO_2e/tnm]

As it stands, the trajectories do not account for projected efficiency or alternative fuel technology uptake by the industry and are not designed to forecast any changes in operating profile. The linear nature of the trajectories provides a method to overcome uncertainty introduced by projections relating to technology uptake or operational variation.

Calculating the target emissions intensity, corrected to AER, in a given year as a function of the ship type and size class

The rate of reduction required per year is relative to the last historical data point (2018). The trajectory is shown relative to 2018 global cargo emissions intensity (indexed to 2018 emissions intensity) in Figure 18.

While the trajectory is presented for the time period 2018 to 2050, it is consistent with the 2008 baseline year as specified in the 2023 IMO GHG Strategy objectives as the end point is determined by a net-zero target in 2050 relative to the baseline.

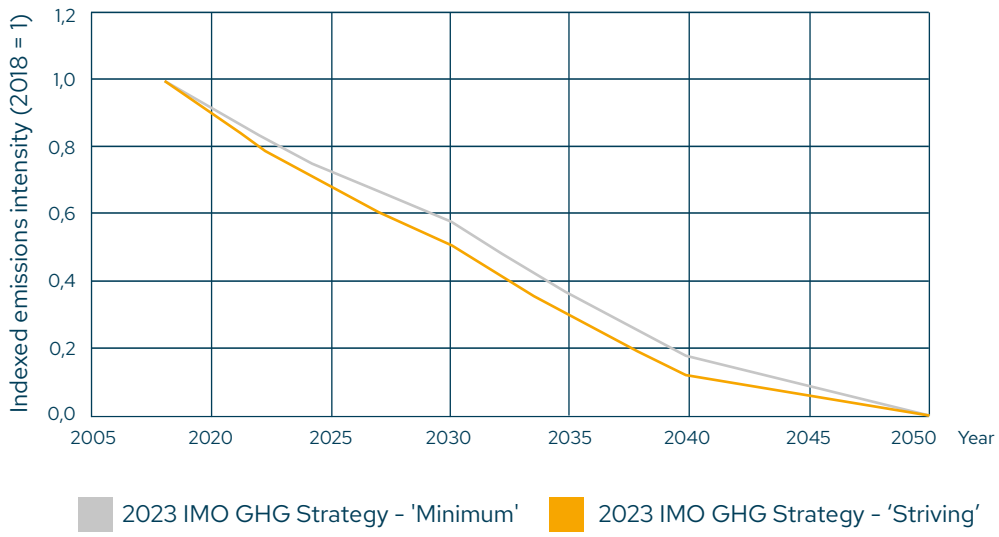


Figure 18.
Global fleet's emission intensity targets and trajectories defined by the 2023 IMO Strategy indexed to 2018 (grams of well-to-wake CO_2e per tonne-nautical mile [gCO_2e/tnm])

The index currently chosen for the Poseidon Principles for Marine Insurance is AER for cargo-carrying ships which use deadweight to measure their capacity and cgDIST[14] for ships measured in gross tonnage. The latter category includes Cruise, Ferry Ro-Pax, Ferry- pax only and Vehicle carriers.

14 cgDIST is CO_2e/GT*nm, the same formula as AER, except gross tonnage is used in place of deadweight in the denominator of Equation 1.

Estimating vessel specific required emissions intensity

As of May 2024, the Poseidon Principles for Marine Insurance introduced continuous baselines to define the required emissions intensity for vessels. This approach mitigates the impact of discrete size categorisation alignment especially for vessels at the edges of existing vessel categories. Continuous baselines are widely used for maritime benchmarking such as by the IMO MEPC Energy Efficiency Design Index (EEDI) and the more recent Carbon Intensity Index (CII) regulation. A continuous baseline is provided for the required emission intensity values for each ship type covered in the Poseidon Principles. To obtain a continuous baseline, a curve is fitted through a plot of the median emissions intensity of each vessel size bin vs. the median vessel size in that bin. This is based on data published in the Fourth IMO GHG Study. The result is a power law fit with a high coefficient of determination (R^2). Figure 19 shows the required emissions intensity values for bulk carrier in 2022. This exercise is repeated for each year up to 2050 following the global emissions intensity.

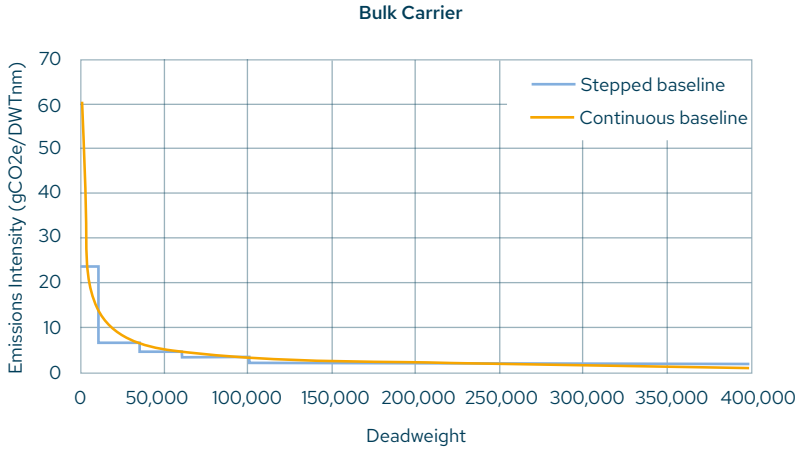


Figure 19.
Comparison between the stepped and continuous required emissions intensity baseline for bulk carriers for 2023 IMO GHG Strategy - Minimum

The required emissions intensity can be expressed by the following expression:

$$r_s=(a.Year^3 + b.Year^2 + c.Year + d).Size^e$$

Where r_s is the required emissions intensity, **Year** is the year for which the emissions intensity is required and ***Size*** is the size of the vessel in question in deadweight tonnage (DWT), gross tonnage (GT), twenty-foot equivalent unit (TEU) or gas capacity (CBM). The coefficients ***a, b, c, d*** and **e** arising from the fitted curves can be found in Tables 7 and 8 for the 2023 IMO GHG Strategy - Minimum and IMO GHG Strategy - Striving trajectories respectively.

Vessel Type	a	b	c	d	e
Bulk Carrier	0.197595423250	-1204.327471788270	2446554.0444015000	-1656558770.1848900	-0.621795966623
Chemical Tanker	0.719693754608	-4386.472852934740	8910984.0557482200	-6033616474.6929000	-0.708011940066
Liquefied Gas Tanker	0.037285112425	-227.249621692543	461650.5843008320	-312583049.5894910	-0.377221064754
Oil Tanker	0.858517723093	-5232.593255117730	10629851.5070882000	-7197459537.0680600	-0.710709096846
Container	0.016054286568	-97.849525238254	198778.2869047620	-134592536.4894060	-0.428275282772
General Cargo	0.037085016081	-226.030051324493	459173.0647836910	-310905524.1353460	-0.434668687862
Cruise	3.206029981674	-19527.747843604500	39643674.7181239000	-26824520313.4957000	-0.781305544785
Ferry-RoPax	0.315387766928	-1925.339436894950	3917621.4796394100	-2656989966.5743600	-0.533655729715
Vehicle	1.520834751963	-9270.152120771570	18833665.8280715000	-12753381456.1464000	-0.798598669375
Ro-Ro	1.565977660197	-9544.502020165620	19389360.9223752000	-13128512716.7907000	-0.736571176805
Ferry-pax Only	0.277957869738	-1697.201315164290	3454151.3882631900	-2343163509.8926600	-0.555741051860
Refrigerated Bulk	0.997370849218	-6078.891370661100	12349079.9776283000	-8361547045.1048900	-0.689615587971
Other Liquids Tankers	40306988.50759790	-245667702047.08100	499066345409893.00	-33791721596533200.00	-3.193817789625

Table 7.

Coefficients for determination of required emissions intensity for vessel types under the 2023 IMO GHG Strategy - Minimum trajectory

Vessel Type	a	b	c	d	e
Bulk Carrier	0.171970561295	-1046.38418984716	2122087.93600504	-1434398489.01475	-0.621795966623
Chemical Tanker	0.626361364577	-3811.20247609171	7729194.37684557	-5224451139.53197	-0.708011940066
Liquefied Gas Tanker	0.032449849324	-197.446638774031	400425.708083681	-270662690.689048	-0.377221064754
Oil Tanker	0.747182157837	-4546.35718466663	9220102.73851721	-6232211781.75456	-0.710709096846
Container	0.013972310831	-85.016906607075	172415.976481538	-116542397.678723	-0.428275282772
General Cargo	0.032275702171	-196.387010739776	398276.761367967	-269210137.34774	-0.434668687862
Cruise	2.698572736652	-16403.274662460600	33231711.0973088000	-22438785635.3910000	-0.781305544785
Ferry-RoPax	0.299790013418	-1828.068866193960	3715517.6371577800	-2517080044.4892600	-0.533655729715
Vehicle	1.329468988249	-8090.412206719010	16409651.013701600	-11093368004.1986000	-0.798598669375
Ro-Ro	1.362896228927	-8292.774388875990	16817911.296247500	-11367854339.3143000	-0.736571176805
Ferry-pax Only	0.267762422622	-1633.171139559730	3320217.8514407200	-2249851500.9710700	-0.555741051860
Refrigerated Bulk	0.868028327473	-5281.666300124340	10711324.240416300	-7240184087.1516600	-0.689615587971
Other Liquids Tankers	35079838.00324480	-213449253130.82800	432879328083481.00	-292599304483860000.00000	-3.193817789625

Table 8.

Coefficients for determination of required emissions intensity for vessel types under the 2023 IMO GHG Strategy - Striving trajectory

Example: Calculating emissions intensity

Considering a typical 80,000 DWT Panama bulk carrier, the required emissions intensity in 2024 can be compiled as follows:

For 2023 IMO GHG Strategy - Minimum trajectory

a: 0.197595423250	Year: 2024
b: -1,204.327471788270	Size: 80,000
c: 2,446,554.0444015000	
d: -1,656,558,770.1848900	
e: -0.621795966623	

$$r_s = ((0.197595423250 * 2024^3) + (-1{,}204.327471788270 * 2024^2) + (2{,}446{,}554.0444015000 * 2024) - 1{,}656{,}558{,}770.1848900) * (80{,}000^{-0.621795966623}) = 3.65\ gCO_2e/tnm$$

For 2023 IMO GHG Strategy - Striving trajectory

a: 0.171970561295	Year = 2024
b: -1,046.384189847160	Size = 80,000
c: 2,122,087.9360050400	
d: -1,434,398,489.0147500	
e: -0.621795966623	

$$r_s = ((0.171970561295 * 2024^3) + (-1{,}046.384189847160 * 2024^2) + (2{,}122{,}087.9360050400 * 2024) - 1{,}434{,}398{,}489.0147500) * (80{,}000^{-0.621795966623}) = 3.45\ gCO_2e/tnm$$

Emission factors for well-to-wake CO_2e reporting based on IMO DCS data

The departure from the current tank-to-wake methodology requires the use of emission factors that cover the impact of the whole lifecycle of the fuel as well as the relevant GHG species (CO_2, CH_4, N_2O). The discussion around fuel lifecycle analysis is a rapidly shifting landscape with several developments impacting any decision-making upcoming from various different entities.

The most pertinent for the purposes of the maritime industry is the lifecycle assessment guidance (MEPC 80/7/4). Although currently not finalised, but being a widely accepted framework for defining emission factors that will become the standard for the industry.

A final draft of this document was adopted at MEPC 80 which only has a partial set of emission factors for the most common fossil fuels. Once this is published, it may still not be a definitive answer to emission factor definition as further changes will need to be undertaken to existing MEPC resolutions including changes in DCS. The intention of the Advisory and Technical Committee is to evaluate the IMO LCA guidance when published and assess the applicability to the Poseidon Principles for Marine Insurance methodology with the understanding that this is likely to become the most widely used framework in the marine industry.

Following extensive advice from the Smart Freight Centre (SFC)[15], and work completed by the Poseidon Principles for Financial Institutions Technical Committee , the Poseidon Principles for Marine Insurance have adopted a set of default values for reporting that captured the latest available science, provided transparency, captured upstream emissions and the impact of onboard technologies. Several national and supranational entities have published emission factors to cater for their internal regulatory framework and emissions accounting all of which have advantages and disadvantages with no clear gold standard. The main sources consulted were the provisional IMO LCA Guidelines, material from the European Commission outlining reporting under Fit for 55 regulation, ecoinvent database, as well as the GREET framework used in the USA.

With this information at hand and keeping the logic that transparency will be key to ensure legitimacy and credibility for any pragmatic way forward, the Technical Committee agreed on the following cascading order of emission factor priority when coming up with a default set of values:

1. Emission factors for conventional liquid fuels available in MEPC 80/7/4 should be used;
2. All other emission factors should be taken from the Fuel EU/ecoinvent;
3. Any other emission factors should be taken from the GREET database.

The following sections will present the emission factors to be used under one of two scenarios. In the case that signatories only have basic DCS data, they are to use the default values presented below. If signatories have more granular data about fuels used and machinery on board (specifically for LNG vessels), more specific emission factors presented in subsequently should be used.

As this is an evolving topic, the Poseidon Principles for Marine Insurance will keep evaluating the changing landscape of fuel lifecycle assessment and update the Technical Guidance accordingly.

15 The Smart Freight Centre are a leading authority involved actively across supply chain and logistics emissions accountancy including the Global Logistics Emission Council Framework (GLEC), ISO 14083 and offer advisory to the Sea Cargo Charter.

Default emission factors for IMO DCS based data

The DCS resolution does not specify the granularity to which fuels should be described in reporting and relies on MEPC.308(73) for tank-to-wake emission factors which are limited to eight generic maritime fossil fuels. This implies that signatories may not have access to the required information about fuel consumed and machinery on board to be able to report the most accurate emissions related to their activity. To this end, the following emission factors are presented for reporting on a well-to-wake basis in Table 9.

Fuel type	Notes	Emission factor (WtW $gCO_2e/gfuel$)	Source
Diesel/Gas oil (MDO/ MGO)	ISO 8217 Grades DMX through DMB	4.01	MEPC.376(80)
Light fuel oil (LFO)	ISO 8217 Grades RMA through RMD	4.06	ecoinvent 3.9.1
Heavy fuel oil (HFO)	ISO 8217 Grades RME through RMK	3.84	MEPC.376(80)
Liquefied petroleum gas (LPG)	Propane	4.02	ecoinvent 3.9.1, FuelEU Maritime
Liquefied petroleum gas (LPG)	Butane	4.05	ecoinvent 3.9.1, FuelEU Maritime
Liquefied natural gas (LNG)		4.53	FuelEU Maritime
Methanol	Natural gas feedstock	1.50	GREET
Ethanol	1st Generation biogenic	1.29	Ifeu et al., amended

Table 9.
Default well-to-wake emission factors

Emission factors for granular fuel and machinery data

For the best possible representation of signatories' portfolio performance, the Technical Committee worked to provide a comprehensive set of default emission factors for those that are able to obtain more granular information about fuels consumed and propulsion systems on LNG assets. Table 10 provides a more granular set of emission factors based on input from the Smart Freight Centre which can be used by signatories.

Fuel type	Notes	Emission factor (well-to-wake $gCO_2e/gfuel$)	Source
Conventional fossil fuels			
HFO	ISO 8217 Grades RME through RMK, >0.5% S	3.76	MEPC.376(80)
HFO (VLSFO)	ISO 8217 Grades RME through RMK, >0.1% < S < 0.5%	3.84	MEPC .376(80)
LFO (ULSFO)	ISO 8217 Grades RMA through RMD	4.06	ecoinvent 3.9.1
Diesel/Gas oil (MDO/ MGO)	ISO 8217 Grades DMX through DMB	4.01	MEPC.376(80)
LNG	Otto (dual fuel medium speed)	4.53	FuelEU Maritime
LNG	Otto (dual fuel slow speed)	4.15	FuelEU Maritime
LNG	Diesel (dual fuel slow speed)	3.75	FuelEU Maritime
LNG	Lean burn spark ignited*	4.40	FuelEU Maritime and MEPC.376(80)
LNG	Steam turbine and boilers*	3.70	FuelEU Maritime and MEPC.376(80)
LPG	Propane	4.02	ecoinvent 3.9.1, FuelEU Maritime
LPG	Butane	4.05	ecoinvent 3.9.1, FuelEU Maritime
Methanol	Natural gas feedstock	1.5	GREET
Biofuels			
Ethanol E100	1st Generation biogenic	1.29	Ifeu et al., amended
Bio-diesel (FAME)	Waste feedstock mix	1.27	Ifeu et al., amended
HVO	Waste feedstock mix	1.26	Ifeu et al., amended
Bio Methanol	Waste wood	0.21	GREET
Bio Methanol	Black liquor	0.62	GREET
Bio-LNG	Otto (dual fuel medium speed)	2.36	FuelEU Maritime and Ifeu et al. amended
Bio-LNG	Otto (dual fuel slow speed)	1.95	FuelEU Maritime and Ifeu et al. amended
Bio-LNG	Diesel (dual fuel slow speed)	1.50	FuelEU Maritime and Ifeu et al. amended
Bio-LNG	Lean burn spark ignited*	2.21	FuelEU Maritime and Ifeu et al. amended and MEPC.376(80)
Bio-LNG	Steam turbine and boilers*	1.44	FuelEU Maritime and Ifeu et al. amended and MEPC.376(80)
Synthetic fuels			
e-methanol	with H2 recycling	0.06	GREET

*denotes methane slip taken from MEPC.376 (80) as not available in FuelEU Maritime when drawing this list.

Table 10.
Granular well-to-wake emission factors

Considerations for reporting using granular data

Fuel characteristics

Since the use of granular emission data is not a requirement, guidance on certification verification for fuel characteristics in order to use the granular emission factors. The Technical Committee trusts that signatories will be reporting to their best possible knowledge.

Machinery information

Given the issues around fugitive methane emissions from vessels, the distinction between different propulsion plants is important to be factored in given the high global warming potential of methane. Not all signatories may have ready access to the specifications of the vessels in their portfolio therefore the Technical Committee recommends the following sources for the identification of LNG propulsion type:

1. Documentation held by marine insurance institutions that is related to classification including shipbuilding contracts, classification documents or the International Air Pollution Prevention Certificate (IAPP)
2. RO's acting as service providers who may have access to a vessel specification database
3. Authoritative industry vessel databases (may require verification due to inconsistency between databases).

If the above information is not enough to determine the engine type, Table 11 may be used to indicate the appropriate emission factor in Table 10 (the one with granular factors) to be used in reporting for those signatories that cannot identify the vessel engine type. Table 11 is only an illustrative example and not an exhaustive list. Once again, signatories are expected to use the best of their knowledge to report in the correct way. If there is any doubt about the engine type, the default emission factor should be used.

Classification for emission factor selection	Industry reference	Alternative reference (examples from vessel databases)	Engine Type	Typical Makers / Models
LNG Otto (Dual Fuel -Medium Speed)	Dual Fuel Diesel Electric (DFDE)		4-stroke , Low pressure	CAT , Yanmar, Rolls Royce, MAN Diesel, Wartsila
LNG Otto (Dual Fuel - Slow Speed)	Low pressure Dual Fuel (LPDF)	2-Stroke Dual Fuel (Low Pressure)	2-stroke, Low pressure	MAN Diesel – ME-GA
LNG Diesel (Dual Fuel Slow Speed)	High Pressure Dual Fuel (HPDF)	2-Stroke Dual Fuel (High Pressure)	2-Stroke, High Pressure	MAN Diesel - ME-GI
LBSI	Low Burn Spark Ignited		4-stroke, Low Pressure	Rolls Royce, Bergen, Wartsila
Gas Turbine	Steam propulsion	Steam Turbine	NA	NA

Table 11.
Indicative LNG propulsion types for emission factor choice

Appendix 5

Future potential revisions to the Poseidon Principles for Marine Insurance

Over the timescale that the decarbonisation trajectories are estimated, a number of the parameters that are used in their calculation may change.

These include:

- Subsequent IMO GHG studies (released about every five years) and subsequent studies may update or modify the estimates of the historical carbon intensity and carbon intensity trends (e.g., if historical estimates are revised upwards, the carbon intensity objective will steepen).
- Transport demand growth may develop differently from the estimate used here to calculate the carbon intensity trend consistent with a 2050 absolute GHG objective (e.g. if demand growth exceeds the trend used in these calculations, the carbon intensity objective will steepen).
- Demand growth may develop differentially between ship types and increase the demand for ships with different carbon intensity than the 2012 fleet (eg if demand modifies the fleet composition to increase the share of emissions by ships which have higher carbon intensity, the carbon intensity objective will steepen).
- With the publication of the IMO lifecycle assessment guidelines, the Poseidon Principles for Marine Insurance will review its approach to determining fuel lifecycle GHG emissions with the intention to align with the IMO as much as possible. This a very dynamic landscape which will be consistently reviewed by the Advisory to ensure the most robust method for representing emissions is selected including fuel certification and emission factor verification.
- It is expected that the IMO DCS regulation will be updated in order to align with the 2023 GHG Strategy which will be considered when designing the future of the Poseidon Principles for Mar data collection regime. This is expected to include more data collection around fuel types used and machinery on board.
- The IMO has launched an AER based Carbon Intensity Indicator (CII) rating system. This will be a mandatory measure under MARPOL Annex VI, which came into force in 2023 and will impact all cargo, RoPax, and cruise vessels above 5,000 gross tonnage (GT) trading internationally. The first reporting of the CII based on 2023 data is due no later than 31 March 2024. Although CII is set to achieve a different purpose and targets different sectors of shipping than the Poseidon Principles for Marine Insurance, the two schemes similarity gives a good opportunity to compare them. A detailed analysis will be undertaken in 2023. This will include a review of the correction factors in place for specific vessel types and operation.

While the decarbonisation trajectories and the ship type and size-specific trajectory values have been calculated using the best available data, there are a number of foreseeable reasons why these values may need to change in the future. For this reason, it is proposed that decarbonisation trajectories are reviewed at a minimum every five years, approximately consistent with the periodic release of new analysis (the IMO GHG Studies). Any updates to the decarbonisation trajectories should be applied for future climate alignment, not for re-analysis of historical climate alignment.

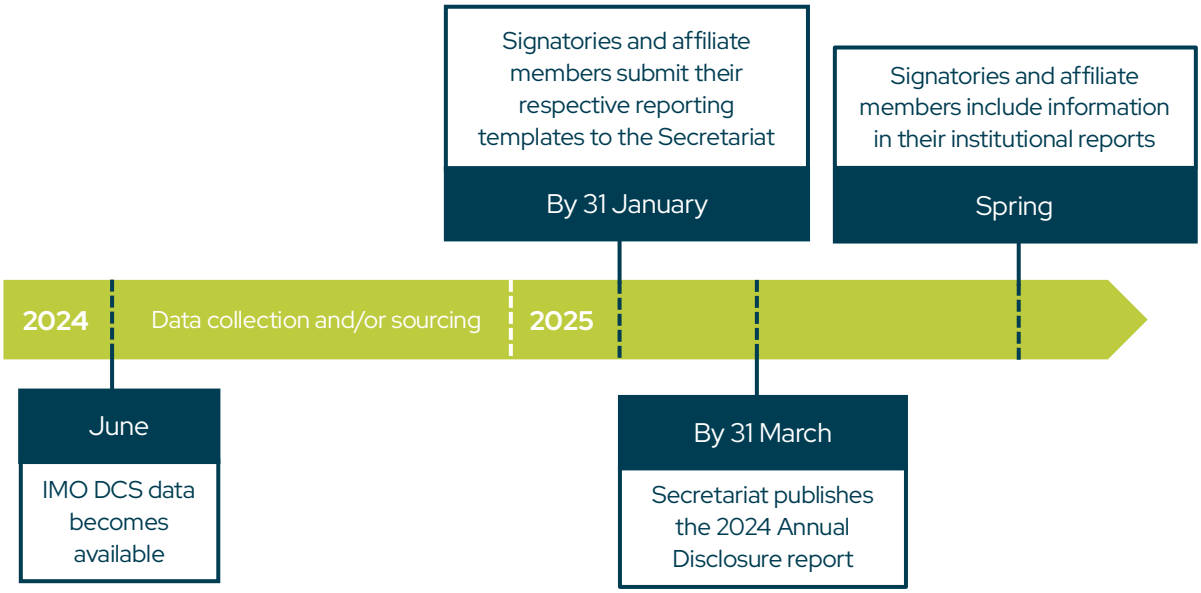
Appendix 6

Updates to methodology for the 2024 report

This Appendix explains the changes to the reporting methodology used by signatories for the 2024 Annual Disclosure Report, which are not currently written in the Technical Guidance version 2.0. These updates could not be included in the latest version of the Technical Guidance (v 2.0) due to the timeline of reporting and current resources available to the Secretariat after the Poseidon Principles for Marine Insurance Association's decision in June 2024 to incorporate the use of modelled data to calculate climate alignment. A review and update of the Technical Guidance and other supporting resources are planned for the coming year to incorporate the following changes into the material. In the interim, this Appendix will serve as a guide for signatories to calculate climate alignment in addition to the Technical Guidance v 2.0.

Timeline for the 2024 Annual Disclosure Report

To accommodate the changes, the reporting timeline for both signatories and affiliate members, as set out in the Technical Guidance v 2.0, has been reviewed and adjusted for the 2024 Annual Disclosure Report as below:



The timeline for reporting will then be reviewed again over the course of 2025 and be readjusted for the 2025 reporting cycle based on feedback from signatories and affiliate members.

Updated reporting scope

The reporting scope has been expanded to include all vessels within the IMO DCS scope of a signatory's entire H&M portfolio and is no longer limited to those vessels where the leading insurer is a Poseidon Principles for Marine Insurance signatory. This means on page 6 of the Technical Guidance v 2.0. the text "2. The signatory is the leading insurer, as well as in cases where the signatory is a follower, but the lead is also a fellow signatory" does not apply for the 2024 Annual Disclosure Report and going forward. Instead, the scope is as follows:

The Poseidon Principles for Marine Insurance must be applied by signatories in all business activities where:

1. The insurance products cover hull and machinery (H&M) on 1 October in the emission-year.
2. The vessel or vessels have an established Poseidon Principles for Marine Insurance trajectory whereby the emissions intensity can be measured with IMO Data Collection System (DCS) data.

Optional use of the Standard Covenant Clause

The use of the Standard Covenant Clause has been made an optional part of the Enforcement Principle. The Standard Covenant Clause is still recommended to be used by signatories who wish to collect data from clients or through an IMO Recognized Organization (RO), but is no longer a requirement for all signatories. For those signatories who use modelled data from a 3rd party data provider, the Standard Covenant Clause is no longer required to be included in business agreements[1].

This also means there are no longer any data-sharing requirements between signatory claims leaders and followers, due to the fact that those signatories who will rely exclusively on modelled data will no longer be requesting data from clients. The deadline of 30 November for claims leaders to share data with claims followers will be revisited, and relevant changes will be made to the reporting timeline (pg. 11, 48). Instead, all signatories are welcome to approach all their relevant clients for data either directly or through an IMO RO, regardless of their leader or follower status, on a timeline they see fit to meet the other reporting requirements.

Introduction of a new Modelled Data Pathways Track

At the extraordinary Annual Meeting on 24 June 2024, the Poseidon Principles for Marine Insurance Association approved the creation of a third information flow track, the Modelled Data Pathways Track. This track enables the calculation of climate alignment using modelled data from a 3rd party provider.

The Modelled Data Pathways Track is a third, optional information flow track to use alongside or in place of the existing two information flow tracks (the Preferred Pathway and the Allowed Pathway Tracks – see Section 3.3 of the Technical Guidance for more on these pathways). Signatories are able to report climate alignment based on information collected from ROs (Preferred Pathway), shipowners (Allowed Pathway), the allowed 3rd party data provider (Modelled Data Pathway), or some combination of the three.

Each signatory will calculate climate alignment and disclose two climate alignment scores against the two trajectories defined in Section 2 of the Technical Guidance. In addition to the climate alignment scores, all signatories will publicly disclose the type of data that has been used in Step 1 of the information flow requirements steps as a percentage of their total vessels reported. In other words, signatories will disclose the amount of their climate alignment score that is based on measured data (the Preferred and/or Allowed Pathway) and the amount based on modelled data (the Modelled Data Pathway).

For example, a signatory who only uses measured data from an RO would disclose that their climate alignment score is based on 100% measured data. Likewise, a signatory who only uses modelled data from a 3rd party would disclose that they used 100% modelled data. A signatory who uses 40% of data collected from clients and 60% of modelled data from a 3rd party will disclose that the climate alignment score is made up of 40% measured data and 60% modelled data (see more guidance on how this should be calculated in Step 4).

[1] There are a few places in the Technical Guidance (pg. 7, 39, 45) which is contradictory to this point. Please note that the references to the Standard Covenant Clause will be updated throughout Poseidon Principles for Marine Insurance material in due time to align with the fact it is now considered optional.

Requirements at each information flow step

Figure 1 provides an overview of the potential information flow pathways within the Modelled Data Pathways Track.

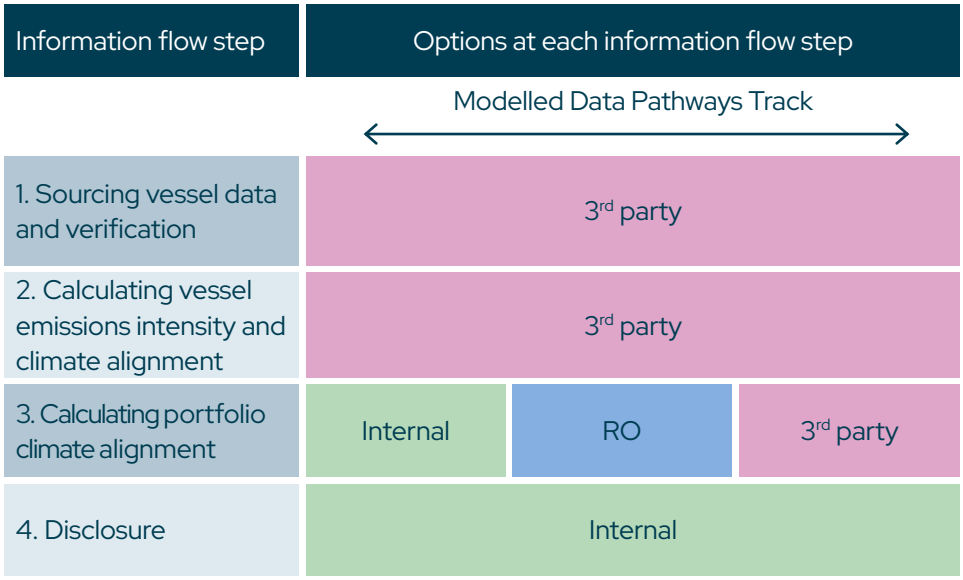


Figure 1
Overview of the Modelled Data Pathways Track

Step 1: Sourcing vessel data

Step 1 involves the sourcing of the data necessary for the calculation of AER. Instead of sourcing IMO DCS data as in the Preferred and Allowed Pathways Tracks, this information flow pathway relies on estimated data[2] provided by a 3rd party[3]. Figure 2 indicates the only way to source vessel data in this information flow pathway is through a 3rd party.

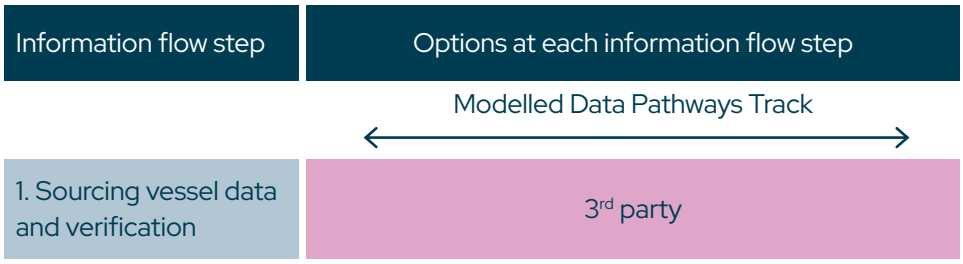


Figure 2
Data sourcing

[2] Note that this is currently out of alignment with what is written in throughout the Technical Guidance (and more specifically referenced on page 34 under "Data types"), however due to the timeline of reporting for this year, a full review of the Technical Guidance was not possible to adjust references to the use of estimated data when calculating climate alignment. Further updates and a review of all material is planned to accommodate this new information flow pathway.

[3] The only allowed 3rd party for Step 1 and Step 2 at this time is OceanScore. Signatories who wish to source vessel data from the 3rd party must do so on an individual basis, similar to how signatories currently work with IMO ROs or other 3rd parties for the Preferred and Allowed Pathways Tracks. See Appendix 6.1 for more about modelled data.

Step 2: Calculating vessel emissions intensity and climate alignment

Step 2 requires the calculation of emissions intensity and climate alignment of all vessels in scope using the data sourced from the 3rd party[3] in Step 1. The AER values and the vessel climate alignment will be calculated and provided to signatories who have an agreement with the 3rd party.

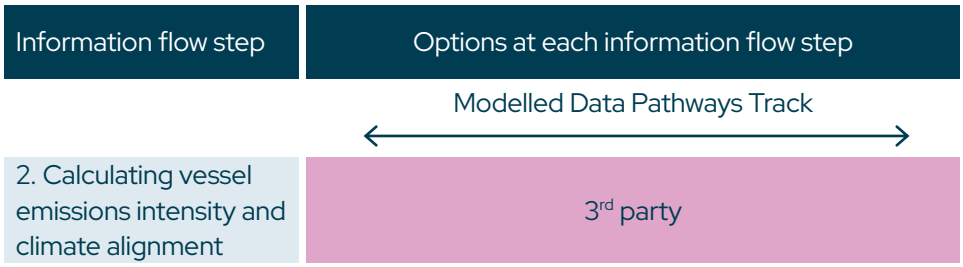


Figure 3
Vessel alignment calculation

AER is used as the emissions intensity metric for the Poseidon Principles for Marine Insurance and is detailed in Section 2.1. Standard decarbonisation trajectories for each ship type are produced specifically for the purposes of the Poseidon Principles for Marine Insurance so that all calculations are carried out in the same way. These are made available through the Secretariat and detailed in Appendix 4.

Step 3: Calculating portfolio climate alignment

Step 3 requires the calculation of portfolio climate alignment using the vessel climate alignment data from step 2 and signatory portfolio data (i.e. deadweight and insurer's share of vessels insured).

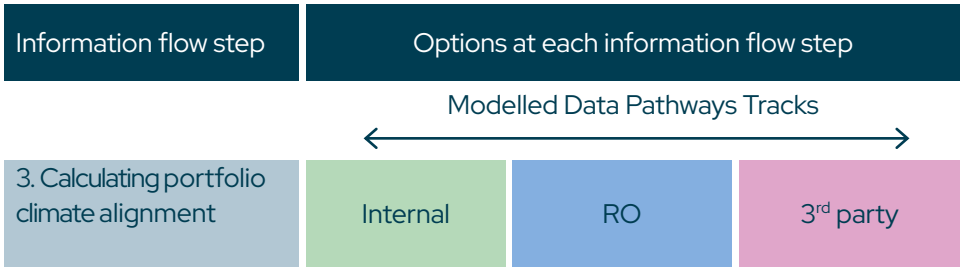


Figure 4.
Portfolio climate alignment

Using the vessel climate alignment data received from the 3rd party, signatories are able to calculate portfolio climate alignment internally, using an RO, or using another 3rd party[4].

The Poseidon Principles for Marine Insurance will use the deadweight multiplied by the insurer's premium share as the aggregation weight for the portfolio alignment calculations. Specific guidance can be found in Section 3.3.3 of the Technical Guidance.

Special guidance:
Those signatories who use both measured and modelled data should combine the vessel climate alignment scores from all sources into one complete list to calculate the overall portfolio alignment score.

[4] There are no required or recommended 3rd parties for Step 3.

In other words, vessel climate alignment gathered from the 3rd party data provider and vessel climate alignment scores calculated based on measured data should be treated the same in this step. However, it is important to keep a record of which vessel alignment comes from what data source to meet the requirements in Step 4.

Step 4: Disclosure

Step 4 establishes disclosure requirements that will serve as a quality control mechanism. Transparency is key to the last step of reporting.

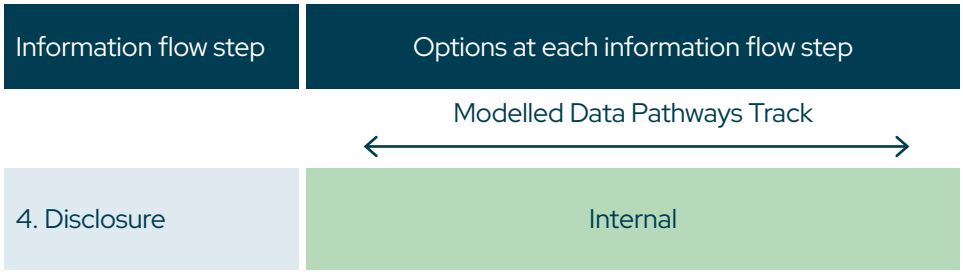


Figure 5.
Disclosure

In addition to the information outlined in Section 3.3.4 of the Technical Guidance, all signatories must also disclose the proportion of their climate alignment scores based on measured data (the Preferred and/or Allowed Pathway) and the amount based on modelled data (the Modelled Data Pathway).

Special guidance:
The calculation should be based on the sum of DWT-share. In other words, the measured proportion equals the sum of DWT-share of vessels where measured data was used divided by the total sum of DWT-share. The modelled proportion equals the sum of DWT-share of vessels where modelled data was used divided by the total sum of DWT-share.

Appendix 6.1

Background on modelled data

Choosing a 3rd party data provider

During the spring of 2024, the Poseidon Principles for Marine Insurance Technical Committee conducted a detailed benchmarking exercise to determine a 3rd party data provider to recommend for those interested signatories to use to meet the reporting requirements. The Technical Committee first determined potential providers and then sent each the same Request for Proposal detailing the needs. The Technical Committee conducted a benchmarking exercise to assess the data provided. The exercise was also reviewed and validated by the Nordic Association of Marine Insurers (Cefor).

After the assessment, it was determined that the overall alignment score of the sample data provided by OceanScore fit the needs set out in the Request for Proposal in a robust way. This led the Technical Committee to recommend the use of OceanScore as a 3rd party data provider for the Poseidon Principles for Marine Insurance Association signatories who choose to follow the Modelled Data Pathway.

The benchmarking exercise and recommendation to use of the 3rd party data provider was presented to the Steering Committee and all members. It was formally approved at an extraordinary Annual Meeting on June 24, 2024, for adoption into the Poseidon Principles for Marine Insurance methodology for the 2024 reporting period (i.e., on 2023 emissions) and going forward.

Acknowledgements

The Poseidon Principles for Marine Insurance were developed in an effort spearheaded by global shipping insurers, leading industry players – brokers, shipowners and classification societies – as well as the Global Maritime Forum, Swiss Re Corporate Solutionsand University College London Energy Institute and UMAS International.

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