

## INSIGHT BRIEF

# Climate Commitments: Decarbonizing Shipping Starts with Action

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*There is strong agreement in the maritime sector that shipping must and can decarbonize by 2050 and by 2030 have commercially viable zero emission vessels operating deep-sea routes and reach at least 5% scalable zero emission fuels in international shipping.*

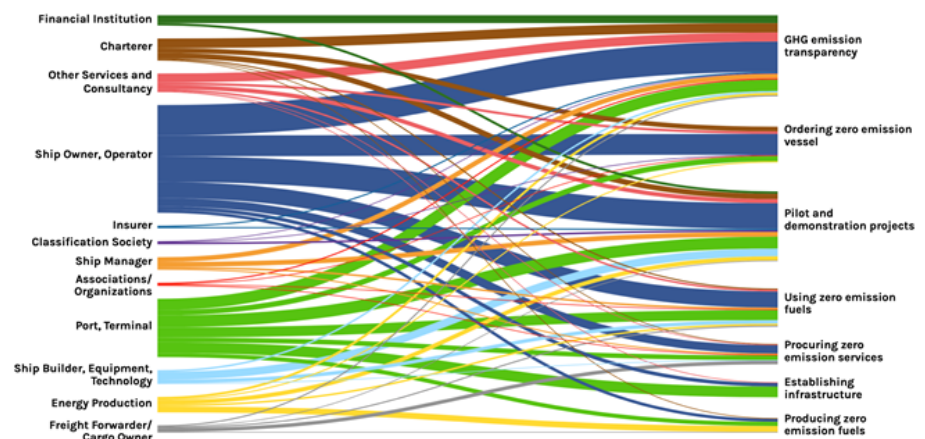
*Based on the actions and commitments reported by the close to 240 signatories of the Call to Action for Shipping Decarbonization, this Insight Brief explains that the maritime industry is already showing leadership and taking concrete action in key areas of the decarbonization transition.*

*The Insight Brief is based on analysis by Global Maritime Forum for the Getting to Zero Coalition, a partnership between the Global Maritime Forum, the Friends of Ocean Action, and the World Economic Forum, made possible with funding from Mission Possible Partnership.*



## Introduction

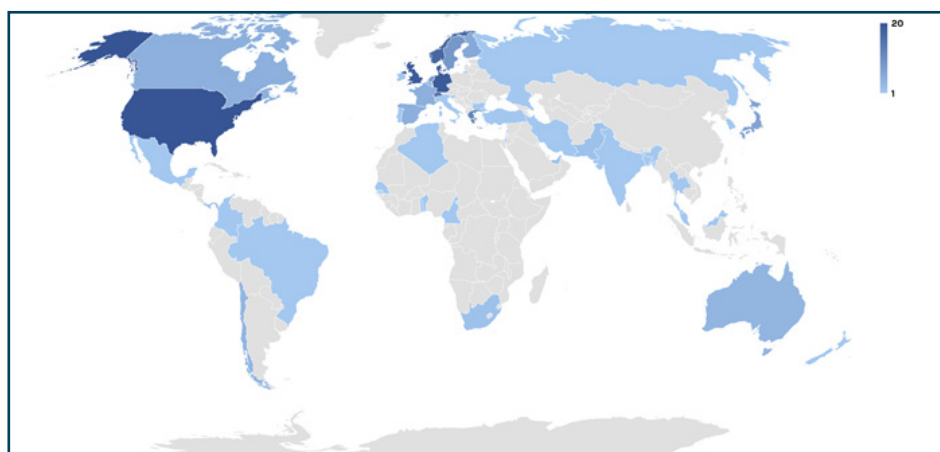
The **Report on Climate Commitments** for the first time provides an overview and analysis of some of the many climate actions and commitments that are planned or undertaken across a wide spectrum of the maritime ecosystem. The report gives a broad and detailed look into which concrete steps industry is taking toward shipping decarbonization today and what we can expect over the coming decade. In the context of the recently published **Strategy for the Transition to Zero-Emission Shipping**, the Report on Climate Commitments actually confirms that some of the Strategy’s key findings and recommendations for action are already visible. First, the report confirms that shipping is experimenting with, applying, and planning for a range of different zero-emission fuels, vessels, and technologies – an expression of the flexibility of choice of zero emission fuels and technologies. Second, a broad range of companies and organizations in maritime nations across the world have understood the importance of decarbonizing supply chains and services and are thus better prepared for the rapid scale-up in the 2030’s onwards. Some are setting their own ambitious scope 1, 2, and 3 GHG emission reduction targets, are providing GHG emissions transparency, and are investing in zero emission or are planning to do so.



**Figure 1:** Share of signatories’ climate actions by signatory category (left) and action area (right).

Third, climate actions and commitments are spread across all continents, and many projects include collaboration between different actors including public private partnerships, which confirms that leadership is seen from many actors and geographies. In the following sections, the Insight Brief highlights the main findings from the Report on Climate Commitments and provides just a few of the many examples highlighted in the report.

**Figure 2:** Signatories to the Call to Action are headquartered in all geographies



## Climate Targets

Multiple signatories have provided targets on their reduction of GHG emissions and/or carbon intensity. Seven signatories have already achieved full onshore decarbonization (scope 1 and 2 emissions). An additional 16 signatories are committed to reaching this target by 2030 or earlier. Achieving these targets primarily contribute to the GHG reduction of the countries where activities take place. However, these targets and associated experiences are important first steps for both domestic and international shipping to be able to decarbonize by 2050. Eight signatories have committed to shipping decarbonisation by 2040 and 55 have committed to 2050.

## Example

The UK-based cargo owner **Unilever** as part of the CoZEV Initiative to Decarbonize freight vehicles has committed to achieving net zero across Scope 1, 2, and Scope 3 emissions by 2039.

## **Pilot and Demonstration Projects (RD&D)**

For ships, infrastructure, and fuels to be zero emission capable and commercially viable on a large scale, pilot and demonstration projects (RD&D) are a necessary first step that requires global and cross-industry collaboration. The projects reported by signatories range from focused projects on ship or fuel technology alone, to projects piloting zero emission in the entire value chain. Such projects often target new zero emission capable ships for example running on batteries, hydrogen fuel cells, or having dual-fuel engines. Projects also focus on retrofitting parts of the existing fleet with for example wind propulsion technology, energy efficiency measures, or using drop-in fuels. This broad focus on the signatories' RD&D projects is also visible in the collaboration within these projects between the service provider such as classification societies, financial institutions or insurers, and the ship builders, owners, operators, and charterers. Of the 136 actions focusing on RD&D, 44 have indicated such a cross-industry collaboration.

### **Example**

**Daewoo Shipbuilding & Marine Engineering (DSME)** is a ship technology company based in South Korea and established research center specializing in decarbonization and digitalization. DSME is accelerating the development of new technologies focusing on green energy and energy saving solutions for maritime decarbonization (Propulsion Efficiency Improving Devices; Hull Resistance Reducing Devices; Lubrication System; Hybrid Propulsion System; Auxiliary Wind Propulsion System; Rotor Sail; LNG; Ammonia; Hydrogen; Fuel Cells).

## **GHG Transparency & Procuring services**

Creating GHG transparency is a necessary first step in shipping decarbonisation as companies are then required to analyse and disclose both past and targeted emissions. GHG transparency is not only an important mechanism for companies it is a tool more frequently demanded by the end-users to create comparability and incentivise companies to reduce emissions. This goes hand-in-hand with procuring zero-emission shipping services, where users of ships like cargo owners or freight forwarders provide their customers with zero emission options or disclose GHG emissions during transport.

145 signatories are already involved in GHG transparency actions, either on an individual basis or through initiatives like the Poseidon Principles and the Sea Cargo Charter. 25 signatories have indicated actions on procuring zero emission shipping, of which 16 have actions that go hand-in-hand with GHG transparency.

## **Zero emission vessels & zero emission fuels**

The first zero emission vessels and fuels are already in use, and bigger ocean-going vessels have been ordered and some are expected to operate from 2023. 77 signatories are already investing or planning to invest in zero emission vessels and fuels, with a total of 135 actions. While the vast majority of these signatories are investing in using zero emission fuels, the fuel of choice differs ranging from for example hydrogen, methanol, ammonia, synthetic LNG, bio-fuels, electricity, and wind propulsion.

### **Examples**

**Euronav**, a Belgium ship owner and operator, partnered with shipbuilder Hyundai Heavy Industries and classification societies Lloyd's Register and DNV in a joint development project for the development of ammonia-fitted tankers. The vessels ordered will feature a gradual and increasing degree of readiness to be converted into dual-fuel fully fitted ammonia ships at a later stage. This partnership will accelerate the development and adoption of ammonia as one of the key low/zero carbon solutions for the shipping sector.

**Fleet Management Limited** is a ship manager company from Hong Kong and is operating ships that are dual-fueled. The company has experience with ships operating on methanol, LNG, LPG, and are therefore actively promoting methanol as one of the fuels-of-the-future to their existing and new clients.

## **Energy Production & Infrastructure**

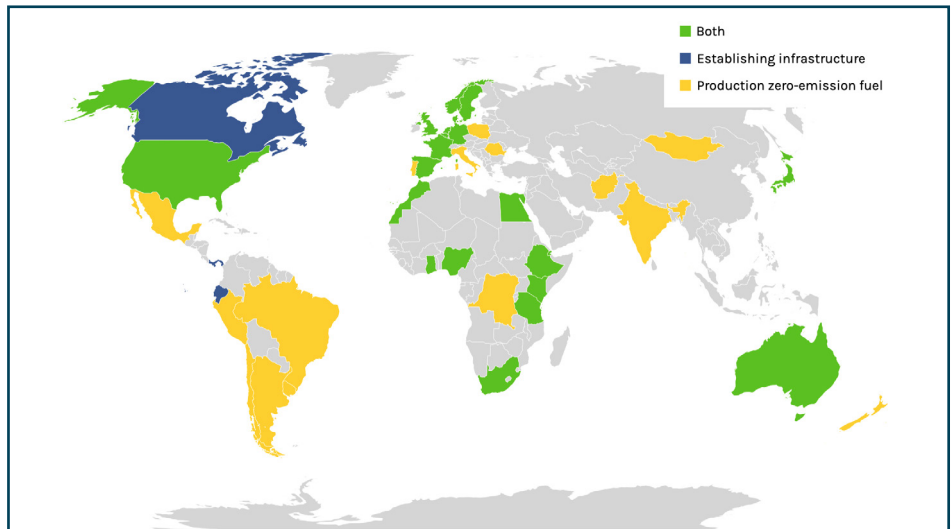
For shipping decarbonization to be commercially viable and operational, establishing bunkering facilities in combination with producing zero-emission fuels are fundamental aspects for the feasibility of zero emission shipping.

Currently, 57 signatories are involved in 65 actions involving current or planned projects on either production of zero emission energy or establishing zero emission infrastructure, or both. These actions take place globally in over 40 countries.

**Example**

**Fortescue Future Industries (FFI)**, a subsidiary of the Australian Fortescue Metals Group focused on producing renewable energy, is committed to producing zero-emissions green hydrogen from 100 per cent renewable sources and is building a global portfolio of renewable hydropower, geothermal, wind, and solar assets. It will produce green hydrogen at a scale equal to the oil and gas super-majors, but FFI’s will be fully green. FFI’s target is to produce 15 million tonnes per annum of renewable green hydrogen by 2030, achieved through a large-scale global supply chain across three major production hubs – Africa/Europe, Latin America, and Australasia.

**Figure 3:** Map of where signatories undertake actions related to establishing bunkering infrastructure and/or producing zero-emission fuels.



**Concluding remarks**

**The Report on Climate Commitments** has highlighted that the maritime industry is not just in the initial stages of setting targets, disclosing GHG emissions reductions and carbon intensity and engaging in pilot projects. Actual emission reductions are already taking place and more are on the way this decade thanks to investments in a variety of zero emission vessels and fuels. However, for the zero emission vessels and fuels to become commercially viable globally by 2030 and then to rapidly scale up, the industry needs additional regulatory support from governments and international regulators.

*The views expressed in this Insight are those of the author alone and not necessarily those of the Global Maritime Forum. Excerpts may be published with reference to the Global Maritime Forum.*