GETTING TO ZERO COALITION

GLOBAL MARITIME FORUM

FRIENDS of OCEAN ACTION

WORLD ECONOMIC FORUM

Report on Climate Commitments by Signatories to the Call to Action for Shipping Decarbonization

September 2021

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This report is based on analysis by the Global Maritime Forum for the Getting to Zero Coalition. The Getting to Zero Coalition is a partnership between the Global Maritime Forum, the Friends of Ocean Action, and the World Economic Forum.

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About the Getting to Zero Coalition

The Getting to Zero Coalition is an industry-led platform for collaboration that brings together leading stakeholders from across the maritime and fuels value chains with the financial sector and other committed to making commercially viable zero emission vessels a scalable reality by 2030.

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Executive summary

On 22 September 2021, in conjunction with the United Nations' General Assembly, more than 150 companies and organizations publicly called on governments and international regulators to take decisive action in support of shipping decarbonization.

This report captures the climate targets and actions of signatories to the **Call to Action for Shipping Decarbonization**. It demonstrates that the private sector is already committed to a zero emission shipping transition.

Some signatories have already set specific climate targets. Seven signatories have already achieved full onshore decarbonization. An additional 13 signatories are committed to reaching this target by 2030 or earlier. When it comes to shipping decarbonization, six signatories have already committed to reaching the goal in 2040, while 46 signatories have committed to reaching decarbonization by 2050.

Overall, the more than 150 signatories have reported that they are taking, or will take over the next decades, 269 climate actions and commitments related to shipping decarbonization. Since one action can fall within several areas of activity, the total number of actions adds up to 440 covering the full maritime ecosystem and most parts of the world. Signatories are headquartered in 32 shipping nations, 22 of which are on the International Maritime Organization (IMO) Council.

Measuring and reporting emission data is a first step towards shipping decarbonization. Actions in the area of greenhouse gas (GHG) emissions transparency are reported 97 times across several schemes and initiatives by signatories from the entire maritime ecosystem. A second step towards decarbonization is developing and commercializing solutions. Seventy signatories have reported at least one Research, Development, and Demonstration (RD&D) action, with a total of 98 actions.

Following these actions, zero emission and zero emission capable vessels need to be ordered. In total, 45 actions are reported in the area of ordering such vessels with ship owners and ports leading the way. These actions indicate that the maritime ecosystem is already planning and investing in zero emission vessels and zero carbon energy sources within this decade. Furthermore, 54 actions indicate the willingness to use zero emission fuels in the daily operation.

To fully decarbonize supply chains and the global economy, companies using shipping need to procure zero emission shipping services. Signatories are undertaking 24 actions in this area. Ship owners, cargo owners, and ports are leading on this action.

For zero emission vessels and zero emission fuels to be commercially viable, production as well as investments in the bunkering infrastructure are crucial actions to decarbonize shipping. Signatories are already involved in the production of zero emission fuel with 25 different actions.

Overall, this report reflects a high level of activities in the private sector taking the first necessary steps for shipping decarbonization.

1 Leading the way for shipping decarbonization

More than 150 signatories to the Call to Action for Shipping Decarbonization are asking national governments and international regulators to establish policy frameworks that help the industry reach the goal of shipping decarbonization by 2050. These policy frameworks should be supported by the intermediate goals of having at least five percent zero emission fuels in international shipping by 2030 and having commercially viable zero emission vessels operating along deep-sea trade routes by 2030. Further, the necessary infrastructure for scalable zero emission fuels and energy sources, including production, distribution, storage, and bunkering, should be in place by 2030.

This report captures and highlights climate targets and actions that the Call to Action signatories are committed to and that are needed for an equitable and just transition to zero emission shipping. The targets and actions presented in this report are by no means an exhaustive list of private sector action. The report only covers up to three actions from each signatory and does not cover the many actions undertaken by companies who are not signatories. See also the methodology section at the end of the report for details about the data collected and analyzed.

The report first describes the signatories, then their climate targets, and finally their climate actions in the following categories: GHG emissions transparency, pilot and demonstration projects (RD&D), ordering zero emission and zero emission capable vessels, using zero emission fuels in commercial operation, procuring zero emission shipping services, producing zero emission fuels with the intent to supply them to the shipping sector, and establishing zero emission bunkering infrastructure. All signatory commitments are included as an appendix to this report.

2 The signatories

The signatories represent the entire maritime ecosystem across the world and range from ship owners, operators, ship managers, charterers, cargo owners, and freight forwarders to ports, shipbuilding, equipment, technology, research and development, classification societies, and associations and organizations (see figure 1 and 2 below). Currently, 44 ship owners and operators together with 10 ports, 12 charterers, 9 ship managers, 10 shipbuilders, equipment and technology companies represent more than half of all signatories. As such, these companies stand out in this report in terms of actions and commitments presented.

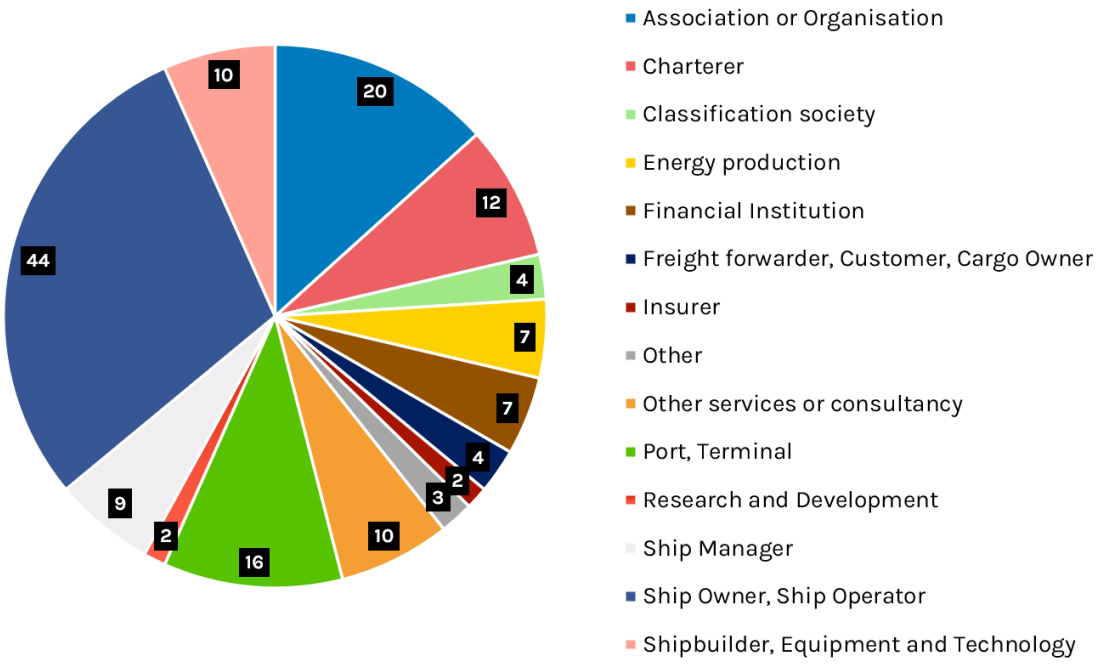

Figure 1: Signatories by organization category

The signatories are headquartered in 32 different maritime nations. 22 of these nations are members of the IMO Council (with 40 members); six are among top 10 flag states by gross tonnage, and 12 are among top 15 ship-owning countries by controlled deadweight. Many signatories are present in diverse business activities across the whole world, and some reported actions show that signatories are working together across the value chain and in multiple different locations.

Some of the supporting organizations cover several nations as well. For example, the African Hydrogen Partnership Trade Association (AHP) is the only continent-wide African umbrella association solely dedicated to the development of green and natural (native) hydrogen, hydrogen-based chemicals, fuel cell technology and related business opportunities in Africa. The AHP represents the whole African continent and all African nations.[1] The intergovernmental International Renewable Energy Agency (IRENA) has 165 member states.[2] The International Association of Ports and Harbors (IAPH) comprises some 200 Regular Members – leading ports in 90 countries, comprising public port authorities, private port operators, and government agencies responsible for ports.[3]

1 African Hydrogen Partnership (AHP) | AHP (afr-h2-p.com)

2 IRENA Membership (irena.org)

3 Member Ports | IAPH (iaphworldports.org)

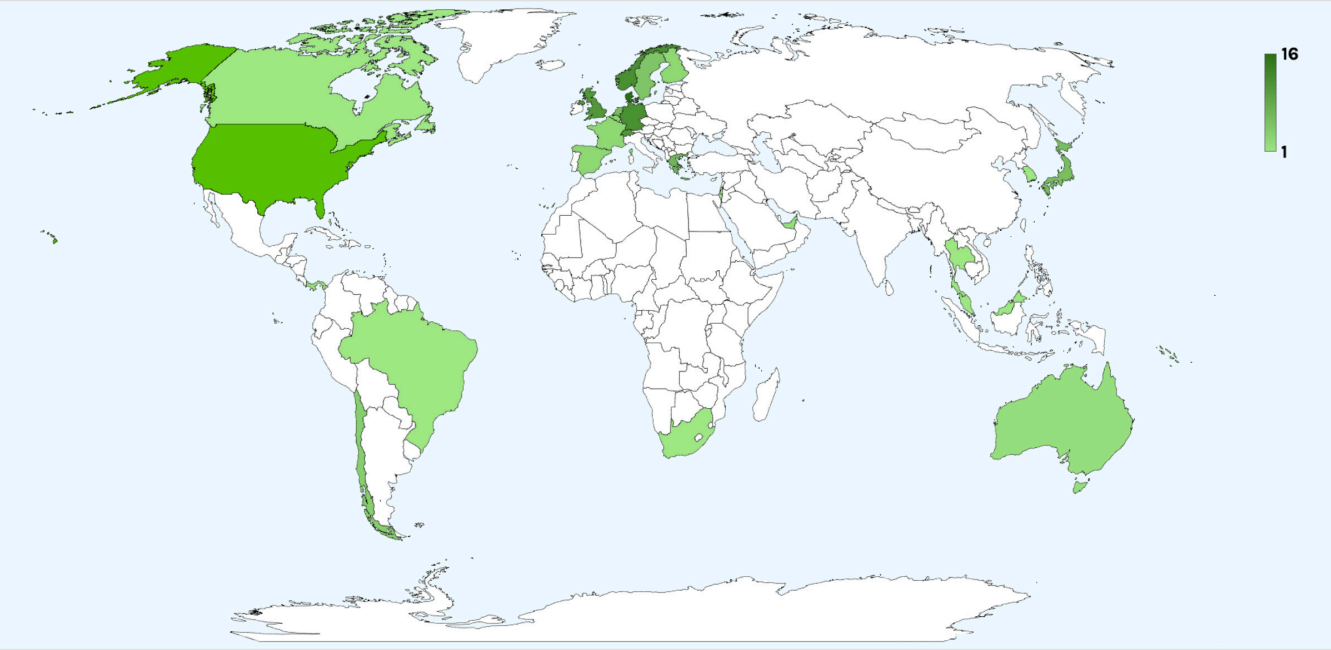

Figure 2: Signatories to the Call to Action are headquartered in all geographies

3 Climate targets

Signatories have been asked to provide information on their climate targets of relevance to their shipping activities. As a minimum requirement, the targets must be more ambitious than existing globally agreed IMO targets, i.e., to reduce total annual GHG emissions by at least 50% by 2050 compared to 2008; and reduce carbon intensity by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008.

Signatories' targets include absolute reductions targets, such as achieving net-zero emissions by 2050, and/or GHG intensity targets, such as reducing GHG emissions by a given percentage per unit produced/cargo volume transported/transport work. Target years and baseline years can vary.

The reported targets have been divided in two groups: onshore decarbonization by 2030 including already achieved carbon neutrality; and shipping decarbonization by 2040 and 2050.

3.1 Onshore decarbonization by 2030

Seven signatories have already achieved full onshore decarbonization (scope 1 and 2 emissions). An additional 13 signatories are committed to reaching this target by 2030 or earlier. The climate actions of these 20 signatories, including six ports and four ship owners/operators, primarily contribute to the GHG reduction of the countries where activities take place. However, these actions and experiences are important first steps for both domestic and international shipping to be able to decarbonize by 2050.

EXAMPLES

Solomon Islands Ports Authority, a ports authority based in the Solomon Islands, embarked on a zero emission ports journey in 2018 with a target to transform one of their ports to a "Zero Emission" port by 2030. So far, they have been successful in sourcing 40% of the energy demand through renewable sources and they continuously strive to increase the percentage every year by at least 10% to achieve the target by 2030.

Anglo-Eastern Univan Group, a ship manager based in Hong Kong, states it is committed to decarbonization. The group's shore-based operations are certified carbon-neutral since the beginning of 2019. They are equally committed to decarbonizing shipping and reducing emissions through meaningful action and innovation. The group is committed to developing novel ship designs aimed at zero emission from vessels at sea.

3.2 Shipping decarbonization by 2040 and 2050

Six signatories have committed to shipping decarbonization by 2040, and 46 signatories have committed to shipping decarbonization by 2050, including 20 ship owners, operators, and managers, five ports, and three charterers. Three signatories have signed up to the Science-Based Targets initiative (SBTi), while several other signatories are actively supporting the development of a sector specific methodology, and more companies are expected to adopt this when it is available in 2022.

EXAMPLES

Siemens Gamesa Renewable Energy, a wind turbine manufacturer based in Spain, has announced that it aims to have a net zero value chain by 2040. This also includes all their maritime GHG emissions. Further, Siemens Gamesa is committed to developing low-carbon solutions that enable low-carbon fuel production.

The Canadian port company **Vancouver Fraser Port Authority** has a vision to be the world's most sustainable port. The Northwest Ports Clean Air Strategy aims to phase out emissions from seaport-related activities by 2050, supporting cleaner air for their local communities and fulfilling the shared responsibility to help limit global temperature rise to 1.5 degrees Celsius. This vision encompasses emissions from ocean going vessels, harbor vessels, cargo handling equipment, trucks, rail, port administration, and tenant facilities.

Rio Tinto, a mining company and charterer based in Singapore, supports the IMO's 2030 goals and the ambitions of the Paris Agreement to reach net zero by 2050. This is reflected in their climate targets for Marine to meet the IMO goal of 40% reduction in shipping emissions intensity of their products by 2030; and the ambition to reach net zero emissions from the shipping of their products by 2050.

4 Climate action commitments

Signatories have been asked to provide information on up to three climate actions that they have committed to take this decade and that will contribute to the decarbonization of shipping and/or the deployment of zero emission vessels and fuels. The actions can include already announced commitments and/or new commitments and future actions. All actions and commitments have been categorized according to specific areas:

- GHG emissions transparency (section 4.1)
- Pilot and demonstration projects (section 4.2)
- Ordering zero emission and zero emission capable vessels (section 4.3)
- Using zero emission fuels in daily operation, (section 4.4)
- Procuring zero emission shipping services (section 4.5)
- Producing zero emission fuels with the intent to supply it to the shipping sector (section 4.6)
- Establishing zero emission bunkering infrastructure (section 4.7)

Some actions have not been categorized but can be found in the appendix. Actions and commitments also range from participation in larger projects to a single decision to order a zero emission vessel. Thus, one action can fall within several areas.

Signatories have reported 269 climate actions and commitments that they are taking now or will take over the next decades. When analyzed by area, actions and commitments total 440. The chart below shows the number of signatories and actions by area.

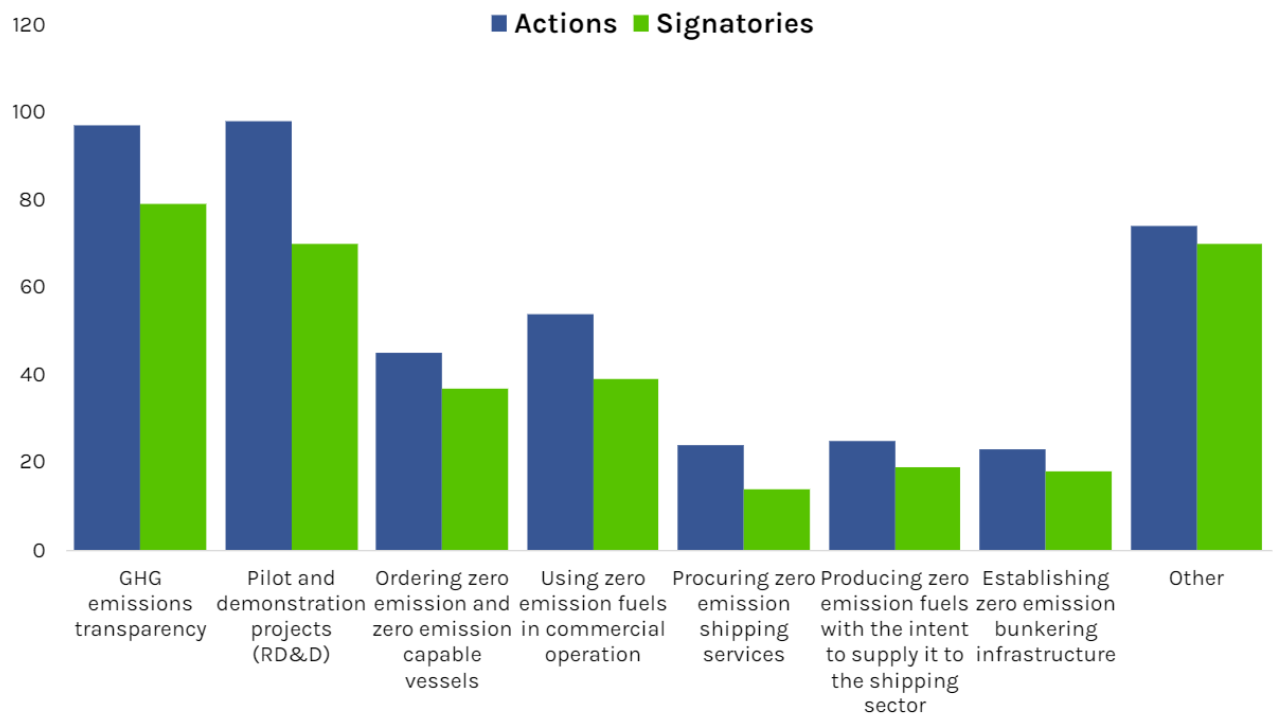

Figure 3: Number of signatories and actions by area

4.1 GHG emissions transparency

As could be expected, GHG emissions transparency is the area with the most reported actions – 97 mentions in total. This is a necessary first step in shipping decarbonization. Firstly, tools and data transparency are needed for companies and organizations to analyze and report emissions, set meaningful targets, and implement action plans. Some signatories are not just creating GHG transparency internally but are also engaged in providing the tools and mechanisms for others to do so.

Several schemes and initiatives are mentioned by signatories. Charterers have signed the Sea Cargo Charter, financial institutions have signed the Poseidon Principles and the Net-Zero Banking Alliance, and ship owners and others are working with/applying the Environmental Ship Index, IMO's Carbon Intensity Indicator rating, RightShip, Clean Ship Index, Clean Cargo Working Group, and the Sustainable Shipping Initiative. Many ports are also actively using GHG data to reward and incentivize ship owners and operators on a path to decarbonize shipping.

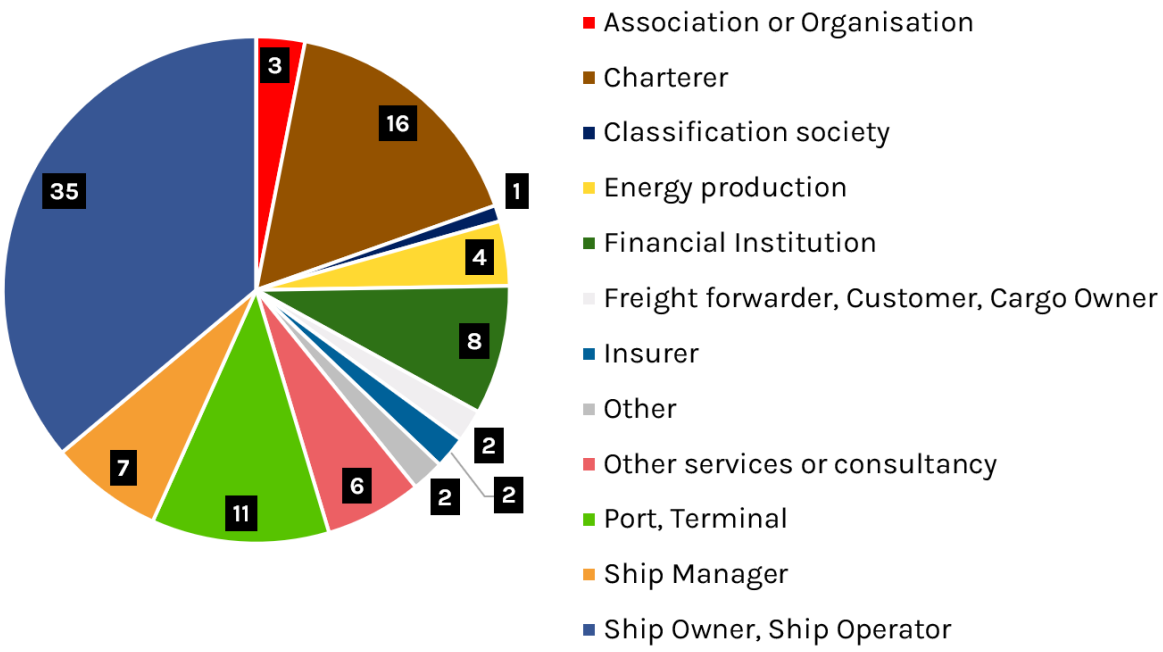

Figure 4: Number of actions by organization category in the area of GHG emissions transparency

EXAMPLES

The Dutch financial institution, **ING**, is now reporting progress in portfolio climate alignment and climate risk management in an integrated manner for greater transparency. ING was a founding Signatory of the Poseidon Principles when it was launched in June 2019 and holds an active position in the Poseidon Principles Steering Committee including the Treasury function. In December 2020, ING reported a portfolio alignment score of -0.4%. Although this is based on one year of emissions data only, it reflects the focus to finance market leading shipping companies operating modern tonnage.

Eagle Bulk, an American ship owner and operator, is an early signatory to the Sea Cargo Charter and contributing member of the Sea Cargo Charter Association. As such, the company is currently, and remains committed to, measuring the carbon intensity and assessing the climate alignment (relative to established decarbonization trajectories) of their chartered-in fleet portfolio on an annual basis.

By 2025, **Britoil Offshore Services**, a Singapore based ship owner, is committed to only owning vessels which are registered in the Environmental Ship Index (ESI).

In 2020, the **Port of Amsterdam**, the Netherlands, developed an emission calculation model for both sea and inland shipping and the port industry. The model calculates both air pollutants and GHG emissions. As of 2018, emissions data is published in the port's sustainability reporting.

4.2 Pilot and demonstration projects (RD&D)

Research, development, pilot and demonstration projects (RD&D) is a necessary first step for wide-scale implementation of decarbonization processes. This is a process requiring cooperation globally and across the value chain. This need for broad cooperation is reflected in the actions listed by the signatories: 70 signatories have reported at least one RD&D action, with a total of 98 reported actions focusing on RD&D. As shown in figure 5, the whole value chain is committed.

Ship owners and operators are widely represented in efforts to develop and test zero emission vessels and fuels for large-scale implementation, a process also involving charterers, freight forwarders, ship managers, ports and terminals, and equipment and technology companies. Simultaneously, energy production companies are introducing zero emission fuels for wide-scale usage. Other demonstration projects close to commercialization include retrofitting, which will play a significant part in the transition to zero emission shipping. These projects are clearly fostered by services like classification society actors, financial institutions, other services or consultancies.

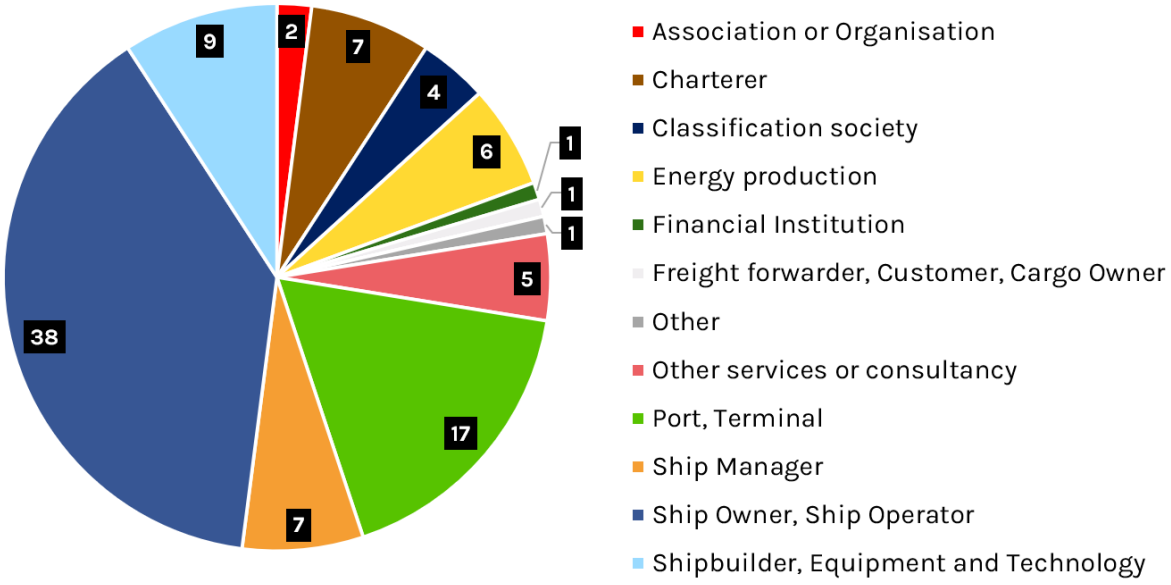

Figure 5: Number of actions by organization category in the area of pilot and demonstration projects (RD&D)

EXAMPLES

Wärtsilä is an engine manufacturer in Finland and is part of a consortium led by the University of Vaasa in Finland. This consortium is involved in project CHEK – deCarbonising sHipping by Enabling Key technology symbiosis on real vessel concept designs. Other project partners that are signatories to the Call to Action are: Cargill Ocean Transportation, Lloyd's Register, and MSC Cruises. The goal of the CHEK project is to reduce emissions from shipping through the integrated use of low-carbon energy forms and technologies. These include the use of hydrogen fuel, wind power, electric batteries, heat recovery, air lubrication, and new anti-fouling technology.

Precious Shipping is a ship owner and operator in Thailand, working on developing a hybrid battery plus renewable (wind and solar) solution for emission reduction.

The Micronesian Center for Sustainable Transport (MCST), a research centre based in the Marshall Islands, provides technical, research, legal and logistical support to a coalition of high ambition Pacific Island member states at IMO negotiating the Emission Reduction Roadmap. MCST provides research support to the Pacific Blue Shipping Partnership, a Marshall Islands/Fiji-led country call for substantive blended finance investment to domestic maritime transition in Pacific Island states.

NYK Line, a ship owner based in Japan, is cooperating with Toshiba Energy Systems & Solutions Corporation, Kawasaki Heavy Industries Ltd., Nippon Kaiji Kyokai (ClassNK), and ENEOS Corporation in a demonstration project for the commercialization of high-power Fuel Cell (FC) vessels. This is Japan's first effort to develop a commercially available FC vessel and carry out a demonstration operation involving the supply of hydrogen fuel. By using FC's as a power source, it will be possible to completely eliminate GHG emissions during navigation. The companies will develop a 150 ton class high-power FC vessel that will function as a medium-sized tourist ship, and in 2024 carry out a demonstration operation of the FC vessel together with a demonstration supply of hydrogen fuel.

Alfa Laval, a ship equipment and technology company based in Sweden and Wallenius have in July 2021 announced their intent to form a new 50/50 joint venture. The "AlfaWall Oceanbird" will develop wind propulsion technologies valid for any vessel type. The first installation will be implemented on a transatlantic car carrier with a capacity of 7,000 cars. With an average speed of 10 knots it will cut emissions by up to 90% compared to today's most energy-efficient vessels, thereby supporting the maritime industry's shift towards zero emission shipping. While the technology is initially developed for cargo vessels, the ambition is to expand it to cruise liners and other vessels based on market demand.

Ørsted, a Danish energy producer, is involved in the Green Fuels for Denmark project, partnering with leading Danish companies representing the demand and supply side of sustainable e-fuels – including shipping companies A.P. Moller-Maersk, DFDS and Molslinjen – to realize a vision of a sustainable fuels production facility. The project aims to establish a 1.3 GW electrolyzer in 2030 powered by 2-3 GW offshore wind from the Bornholm energy island, which holds the potential to replace more than 270,000 tpa. of fossil fuel consumption in 2030. Similarly, Ørsted collaborates with the maritime industry to develop technical solutions to facilitate uptake of renewable energy in shipping.

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).

4.3 Ordering zero emission and zero emission capable vessels

After the initial steps of GHG transparency and RD&D projects, ordering zero emission and zero emission capable vessels is a logical next step in the process of decarbonizing shipping. In total, 45 actions are being undertaken by signatories in this area, with ship owners and ports leading the way. It can take five years from ordering a zero emission vessel to it being in operation. Similarly, to plan and deliver the zero carbon energy sources at scale can also take five years or more. Thus, these actions indicate that the maritime ecosystem is planning and investing in zero emission vessels and zero carbon energy sources within this decade.

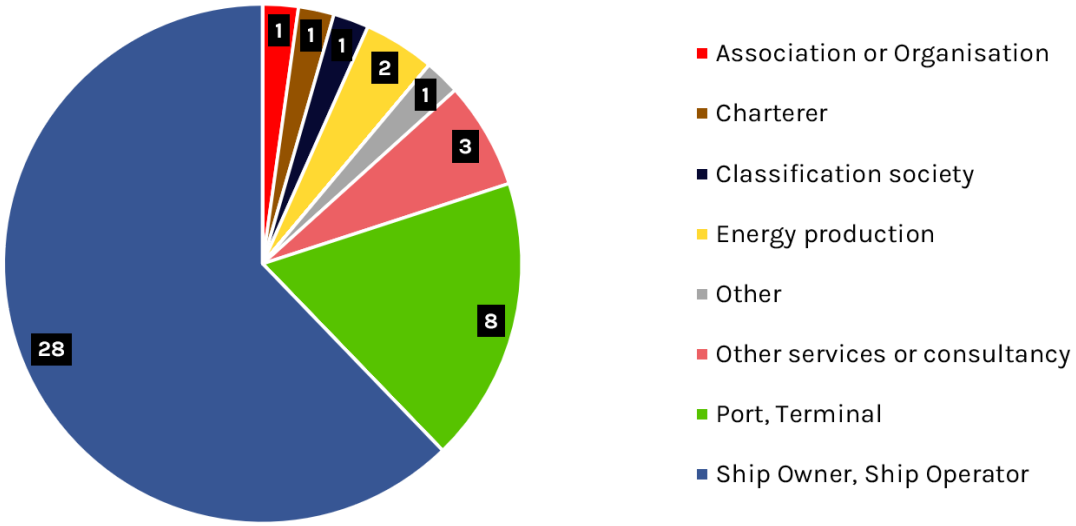

Figure 6: Number of actions by organization category in the area of ordering zero emission and zero emission capable vessels

EXAMPLES

In the first quarter of 2024, **A.P. Moller – Maersk**, a ship owner and operator based in Denmark, will introduce the first in a groundbreaking series of eight large ocean-going container vessels capable of being operated on carbon neutral methanol. The vessels will be built by Hyundai Heavy Industries (HHI) and have a nominal capacity of approx. 16,000 containers (Twenty Foot Equivalent - TEU). The agreement with HHI includes an option for four additional vessels in 2025. The series will replace older vessels, generating annual CO_2 emissions savings of around 1 million tonnes.

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.

By 2030, the **Panama Canal Authority** will have low emission vessels and zero emission vehicles in its fleet to reach carbon neutrality.

The Belgian port company **Port of Antwerp** is integrating new fuels in their own fleet. By 2023 a (hybrid) methanol powered tug and a hydrogen powered tug will be operational in the port.

By 2030, **X-Press Feeders**, a ship owner and operator based in Singapore is committed to deliver their first carbon neutral vessel.

Mitsui O.S.K. Lines, a Japanese ship owner and operator, is committed to deploy net zero emissions ocean-going vessels in the 2020's.

Amongst other activities, **ZIM Integrated Shipping Services**, an Israeli ship owner and operator has ordered 25 new LNG powered vessels. Five of them are with a zero GHG ammonia ready fuel tank. ZIM realizes, that fossil LNG is not suited to the maritime industry's decarbonization goals over the long term, but truly believes that LNG is an excellent bridging fuel to the future synthetic LNG. ZIM is committed to use BioLNG as a drop-in fuel as far as commercially available to gradually reduce their CO_2 footprint. ZIM is the first liner chosen ammonia ready container ship. By 2028, once the associated vessels are due special survey, ZIM will consider to convert those vessels to ammonia-fuel, subject to maturity of the technology, scalability of green ammonia and bunkering infrastructure.

4.4 Using zero emission fuels in daily operation

For vessels and shipping to be zero emission, fuel is a crucial part of the process. Already, 54 actions indicate the willingness to use zero emission fuels in daily operation. Companies indicating the current or future use of zero emission fuels are using a wide range of energy sources. These include, amongst others, green and blue hydrogen, green and blue ammonia, batteries, wind propulsion, green methanol, and synthetic or bio-LNG.

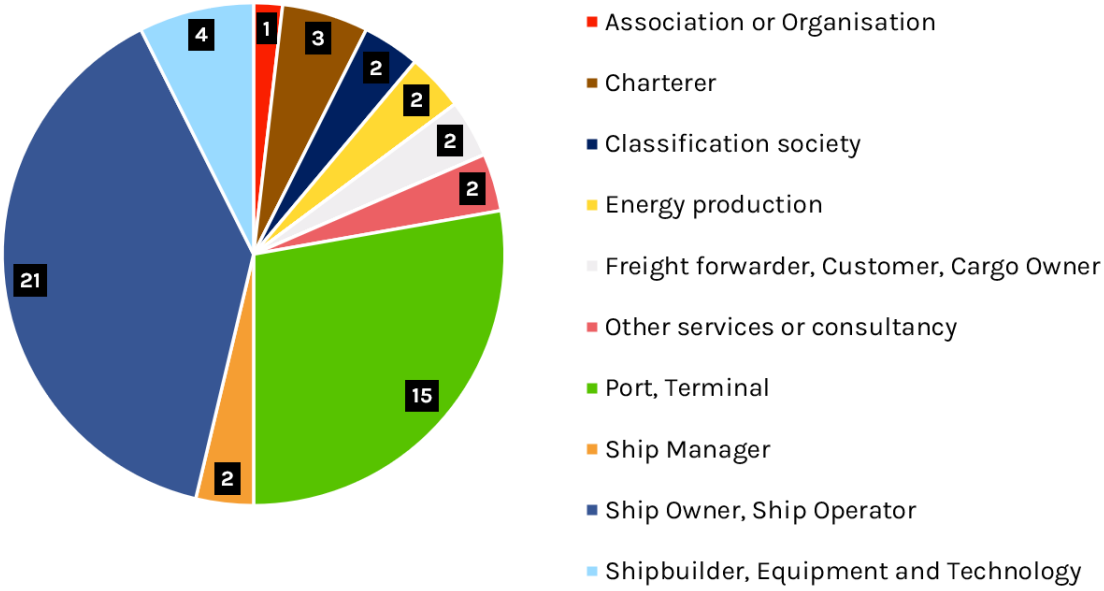

Figure 7: Number of actions by organization category in the area of using zero emission fuels in daily operation

EXAMPLES

In September 2021, **MAN Energy Solutions** a shipbuilder and technology company based in Germany and Denmark will bunker the container Vessel "ElbBlue" with 20 tons of climate neutral synthetic LNG on a trip from Brunsbüttel to Rotterdam. The "ElbBlue" will be the first container vessel in the world to use SNG drop in fuel on a commercial trip.

BHP, a mining company and charterer based in Singapore, has participated in the first marine biofuel trial involving an ocean-going vessel bunkered in Singapore on 4 April 2021. Key objectives of the trial included understanding the behavior of the fuel (such as emissions), assessing engine and vessel operational performance during the trial, as well as exploring the technical and commercial merits and challenges of biofuels as a marine fuel. BHP is currently following up to the trial with an industry RFI/RFP for supply of sustainable biofuels in Singapore, China, and Australia for potential and eventual use with their longer-term vessels.

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.

4.5 Procuring zero emission shipping services

Shipping transports about 80% of global trade and commodities, delivering the services needed to run our societies. Companies using shipping can help drive the decarbonization of supply chains and the global economy by procuring zero emission shipping services. Signatories are undertaking 24 actions in this area. Ship owners, cargo owners, and ports are leading on this action.

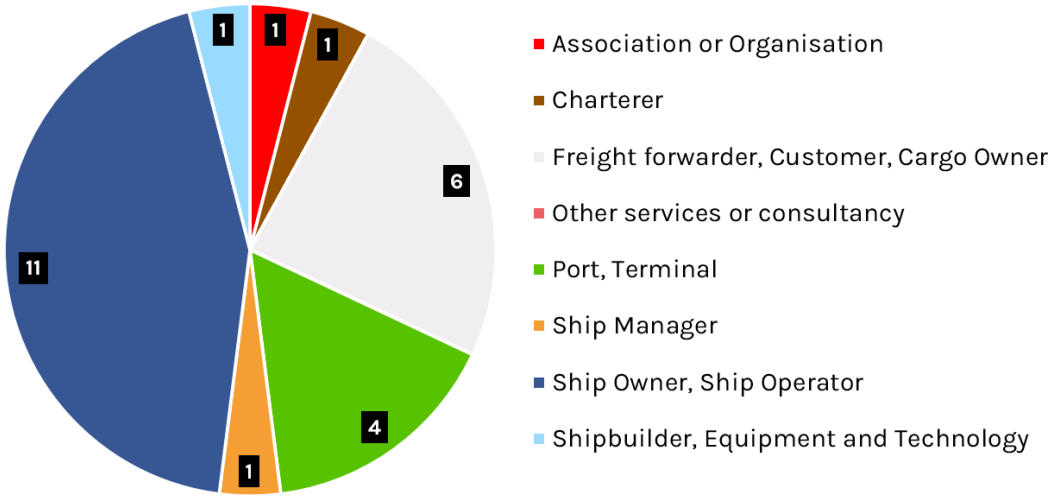

Figure 8: Number of actions by organization category in the area of procuring zero emission shipping services

EXAMPLES

Kuehne+Nagel International, a Swiss freight forwarder, offers completely climate-neutral shipment options, e.g., via the use of biofuel in both air freight and sea freight, by selecting lower-emission transport routings or environmentally friendly warehouse management equipment and packaging materials. The use of biofuel enables an instant reduction of CO_2 emissions. In doing so, Kuehne+Nagel aims to neutralize their collective carbon footprint including all suppliers – airlines, shipping lines, and haulage companies – and help all stakeholders to achieve their own bold environmental targets.

Volvo Car Corporation, a Swedish car manufacturer and cargo owner, is aiming to reduce their lifecycle carbon footprint per car by 40% between 2018 and 2025. They plan to achieve this through the following carbon reductions (per car) across their value chain:

- 50% reduction in tailpipe emissions
- 25% reduction in supply chain emissions
- 25% reduction in operational emissions (including emissions from logistics and manufacturing)

4.6 Producing zero emission fuels with the intent to supply it to the shipping sector

For zero emission vessels and fuels to be commercially viable, production as well as investments in bunkering infrastructure are crucial actions. Signatories such as charterers, energy companies, ports, and ship owners are involved in the production of zero emission fuels with 25 different actions. This involves fuels like green and blue hydrogen, green and blue ammonia, batteries (green electricity), sustainable biofuels, synthetic or bio methanol, synthetic or bio-LNG, and wind propulsion.

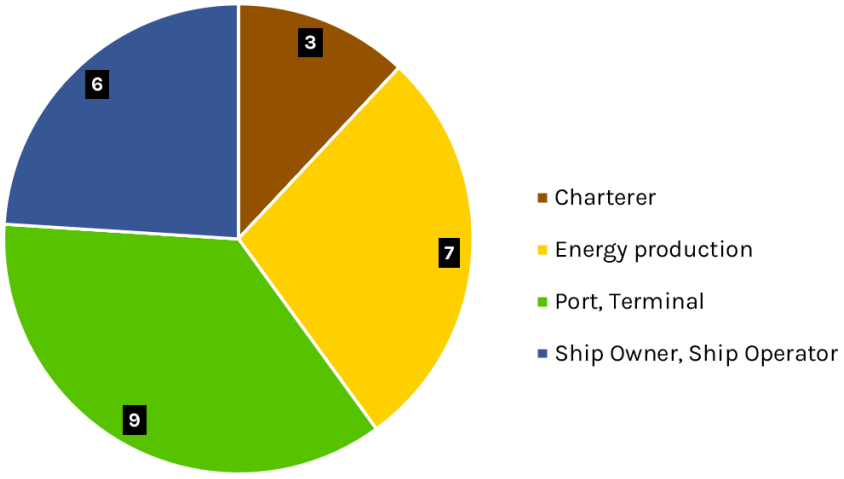

Figure 9: Number of actions by organization category in the area of producing zero emission fuels with the intent to supply it to the shipping sector

EXAMPLES

Yara, a Norwegian energy producer, has established pilots and full-scale commercial projects in Australia, Norway, and the Netherlands for production of green ammonia close to major bunkering hubs. When all projects reach FID, a total capacity of approximately 600,000 tons of ammonia can be reached within 2026.

TCI GECOMP SL is an energy producer whose main activities are being developed in Chile and Spain, two countries with declared interests in the export of hydrogen due to their privileged conditions for the production of hydrogen from renewable sources.

The **Port of Rotterdam Authority** and the Municipality of Rotterdam are working together on a joint rollout of shore-based power for sea-going vessels in Rotterdam. By 2030, they want a significant share of sea-going vessels to 'plug in' once they have moored along one of the port's quays. Over the next five years, the partners will be initiating a series of projects that are intended to accelerate and scale up the adoption of shore-based power. For example, one objective is to construct new shore-based power capacity for ferries, ro/ro ships, offshore vessels and cruise liners, which should have a utilization rate of 90% by 2030. In the case of container vessels, the objective is to have a 50% adoption of shore-based power by large vessels (10,000+ TEU) as of 2030. Read more in appendix.

DFDS, a Denmark-based ship owner, acknowledges that the availability of renewable fuels will be critical to driving the adoption, construction, and use of zero emission vessels. Through projects, Green Fuels for Denmark and Project HØST, DFDS collaborates with other stakeholders to facilitate largescale production of green hydrogen, green methanol, and green ammonia. DFDS openly shares information about which sustainable fuels they are investigating and the volumes they estimate to be required to fuel a business of their size. DFDS is currently contributing to the development of a hydrogen factory in Copenhagen, a green ammonia production facility in Esbjerg, and more to better understand the production of green fuels and contribute to their availability.

4.7 Establishing zero emission bunkering infrastructure

In combination with zero emission fuel production and usage, shipping infrastructure needs to be restructured to accommodate new fuel sources. Infrastructure associated with fuel supply chains can have a long economic life cycle of up to 50 years. This underlines the importance of early action. Currently, 23 actions focused on establishing zero emission bunkering infrastructure are reported by signatories, mostly ports (11) and ship owners (8).

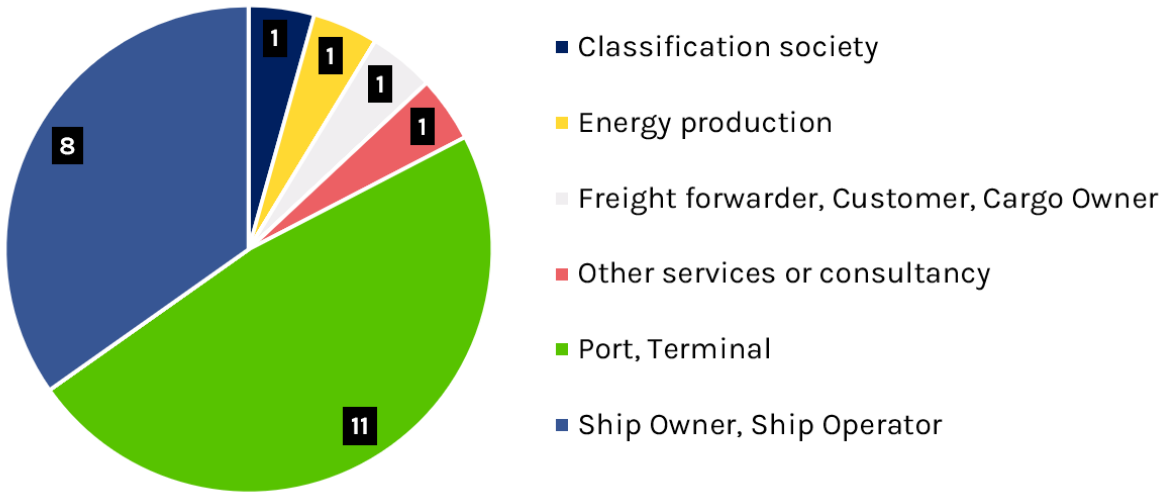

Figure 10: Number of actions by organization category in the area of establishing zero emission bunkering infrastructure

EXAMPLES

Höegh LNG, a Norwegian ship owner, operator, is developing technology and infrastructure solutions to facilitate their customers' delivery of green ammonia/ hydrogen services from their floating storage and regasification unit (FSRUs) by 2024, and their ambition is that this value-added service deployed for several of their FSRU's by 2030.

By 2030, **Bunker Holding Group**, a marine bunker fuel supply, trading and risk management company based in Denmark, is committed to support the establishment of the bunker infrastructure needed to supply zero emission bunker fuels to deep sea vessels. Bunker Holding Group is already actively involved in several projects in collaboration with actors across the value chain aiming to fulfill this objective. One example is 'Bornholm Bunker Hub' (Danish island of Bornholm).

Port of Gothenburg, Sweden, is committed to speed up the transition to fossil-free fuels in the transport sector, and has joined forces with Volvo Group, Scania, and Stena Line, to bring about a significant reduction in carbon emissions. The companies involved will introduce a series of interlinked measures designed to accelerate the switch to fossil-free fuels, under an umbrella project called Tranzero. Gothenburg Port Authority will produce the necessary infrastructure and access to fossil-free fuels for heavy vehicles, including electric power, HVO, biogas, and hydrogen gas. Volvo and Scania will put commercial offerings in place for their heavy truck customers, ensuring that in time land transport becomes fossil free in accordance with the goals laid down by the port. Stena Line will also have a key role to play by ensuring new fossil-free vessels are brought into service on the Gothenburg-Frederikshavn route by 2030, moving from vision to reality with its battery-powered vessel concept Stena Elektra.

Bureau Veritas, a classification society company based in France, provides rules and guidelines to help ship owners and their business partners innovate and navigate the new technologies (Safety of new fuels and alternative propulsion; Sustainable origins of alternative fuels; Electrification of sea-going vessels; Development of infrastructure for new fuels). For example, Bureau Veritas has released new rules on low to zero emission fuels as well as alternative propulsion (Methanol Fuel; Ammonia-Prepared; Ammonia Fuel; Electric Hybrid; Battery System; and Wind Propulsion System (WPS-1, WPS-2)). Bureau Veritas experts are now working to extend these rules and guidelines to fuel cells, hydrogen storage onboard, bio and synthetic fuels, etc.

5 Concluding remarks

This report has aggregated and showcased 440 climate actions and commitments from the more than 150 companies and organizations that have signed the Call to Action for Shipping Decarbonization. The signatories represent the entire maritime ecosystem across all geographies and range from ship owners, operators, ship managers, charterers, cargo owners, and freight forwarders, to ports, shipbuilding, equipment, technology, research and development, classification societies, and associations and organizations.

Signatories are headquartered in 32 different maritime nations. 22 of these are members of the IMO Council (with 40 members); six are among top 10 flag states by gross tonnage, and 12 are among top 15 ship-owning countries by controlled deadweight. Many signatories are, through diverse business activities, present across the whole world, and some reported actions show that signatories are working together across the value chain and in multiple locations. The efforts demonstrated by the private sector to reach the 2030 and 2050 goals are substantial and demonstrate that the private sector is already committed to the pathway to zero emission shipping.

The signatories' 440 actions and commitments have been categorized according to specific areas. Most actions are reported for GHG emissions transparency and pilot and demonstration projects, which are also the first steps in shipping decarbonization. Following these actions and commitments, signatories are also engaged in ordering zero emission and zero emission capable vessels, using zero emission fuels in commercial operation, procuring zero emission shipping services, producing zero emission fuels with the intent to supply it to the shipping sector, and establishing zero emission bunkering infrastructure.

While more than 150 companies and organizations have already signed the call, there is still ample room for more signatories. We encourage other companies and organization to become signatories to the Call to Action for Shipping Decarbonizing.

All signatory targets and commitments can be found in the appendix.

6 Further reading

The actions and commitments captured in this report are not an exhaustive list of climate action in the maritime ecosystem, but a reflection of the actions and commitments reported by signatories to the Call to Action for Shipping Decarbonization. Some other relevant reports and initiatives are:

Pilot and demonstration projects and first mover actions

- Mapping of Zero Emission Pilots and Demonstration Projects – second edition
- The First Wave – A blueprint for commercial-scale zero-emission shipping pilots

Transitioning to new zero emissions fuels will create growth and job opportunities for many developing countries and emerging economies, that have the potential to become producers of zero emission shipping fuels using renewable electricity.

- The scale of investment needed to decarbonize international shipping
- Navigating the Way to a Renewable Future: Solutions to Decarbonise Shipping

- Charting a Course for Decarbonizing Maritime Transport
- Electrofuels for shipping: How synthetic fuels from renewable electricity could unlock sustainable investment in countries like Chile
- Sailing on Solar: Could green ammonia decarbonise international shipping?
- South Africa: fueling the future of shipping South Africa's role in the transformation of global shipping through green hydrogen-derived fuels
- Mexico: fueling the future of shipping – Mexico's role in the transformation of global shipping through green hydrogen-derived fuels

7 Appendices

7.1 Methodology and definitions

The information compiled and presented in this report has been collected through a process of self-reporting by signatories to the Call to Action for Shipping Decarbonization. All signatories have been asked to provide information on climate targets relevant to their shipping activities. Relevant targets can include absolute reductions targets, such as achieving net-zero emissions by 2050, and/or GHG intensity targets, such as reducing GHG emissions by percentage per unit produced/cargo volume transported/transport work. Target years and baseline years can vary. Many signatories have set a target to be climate neutral, carbon neutral, or reach net zero by 2050. For simplicity's sake, the report distinguishes between onshore decarbonization (covering only scope 1 and scope 2 emissions) and shipping decarbonization (covering also scope 3 emissions).

Signatories have been asked to provide information on up to three climate actions which they have committed to take this decade and which will contribute to the decarbonization of shipping and/or the deployment of zero emission vessels and fuels. The actions can include already announced commitments and/or new commitments.

Signatories have been asked to describe targets and actions in table format and provide links for further reading. All information reported by signatories is available in the appendix. Actions are short descriptions of more elaborate projects and commitments and should not be used for analyzing the extent of projects. The intention is to be able to describe in aggregate the climate targets and actions that signatories are setting and taking. For this purpose, signatories have been grouped in broader categories like ship owner or financial institution. It should be noted that some companies can fall into several categories, but are grouped based on primary activity, e.g. some charterers are also cargo owners or ship owners. Actions have been compiled in relation to seven areas (and one "Other" category). Actions can be very specific or more general and as such can cover more than one area.

The term maritime ecosystem is applied to include all public and private actors directly or indirectly involved in activities that are the prerequisite for shipping to function. This includes ship owners, operators, charterers, managers, customers and cargo owners, ports, terminals, shipbuilding, yards, equipment manufacturers, scrapping, energy production and energy infrastructure, education, class societies, service providers, R&D, societies and associations, finance, insurance, public actors, and civil society. However, public actors, except for some ports and terminals and intergovernmental organizations, have not been asked to become signatories.

7.2 Signatory forms: Companies

Company	A.P. Moller-Maersk	Ship Owner, Ship Operator
		Denmark

Climate target	Maersk's current ambition is to have net-zero CO2 emissions from our own operations by 2050, with net-zero emission vessels in operation by 2023, and to reduce our relative CO2 emissions by 60% in 2030 compared to 2008. Maersk also supports the introduction of LCAs and CO2 equivalent measures in global and regional regulatory frameworks.
Link(s)	https://www.maersk.com/about/sustainability/commitments-2020/decarbonising-logistics

Climate action	In the first quarter of 2024, A.P. Moller - Maersk will introduce the first in a groundbreaking series of 8 large ocean-going container vessels capable of being operated on carbon neutral methanol. The vessels will be built by Hyundai Heavy Industries (HHI) and have a nominal capacity of approx. 16,000 containers (Twenty Foot Equivalent - TEU). The agreement with HHI includes an option for 4 additional vessels in 2025. The series will replace older vessels, generating annual CO2 emissions savings of around 1 million tonnes. As an industry first, the vessels will offer Maersk customers truly carbon neutral transportation at scale on the high seas.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.maersk.com/news/articles/2021/02/17/maersk-first-carbon-neutral-liner-vessel-by-2023

Climate action	Maersk is engaging with fuel suppliers to secure the production and roll-out of the green methanol needed for its first feeder vessel in 2023 and ahead of the larger roll-out of its 16,000 TEUs deep-sea methanol vessels from 2024.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D)
Link(s)	https://www.maersk.com/news/articles/2021/08/18/maersk-secures-green-e-methanol

Climate action	Maersk has called for a global $150-a-ton carbon price on shipping fuel in order to bridge the competitiveness gap between fossil and renewable fuels. Maersk is calling on the International Maritime Organization to have this carbon price introduced by 2025.
Area(s)	• Other
Link(s)	https://www.bloomberg.com/news/articles/2021-06-02/shipping-giant-maersk-seeks-150-a-ton-carbon-tax-on-ship-fuel

Company	ABB	Shipbuilder, Equipment and Technology
		Switzerland

Climate target	Our 2030 commitment: We will support our customers in reducing their annual CO2 emissions by at least 100 megatonnes, equivalent to the annual emissions of 30 million combustion cars. We will achieve carbon neutrality across our own operations. We engage with our suppliers to extend our impact in reducing emissions across the entire supply chain.
Link(s)	https://global.abb/group/en/sustainability/sustainability-strategy-2030

Climate action	As one of the world's leading enablers of sustainable transportation, ABB is committed to supporting the shipping industry's low carbon future through pioneering technologies and solutions that help reduce greenhouse gas emissions. Regulations and desired efficiency gains are driving customers to invest in solutions to reduce or eliminate emissions. Different vessel types have different needs. Whichever existing or future decarbonization strategy shipowners opt for, ABB has the technologies to support more sustainable operations and compliance with environmental regulations. This covers the full scope including vessels operating with combustion engines and various fuel solutions, and/or electric propulsion, and/or hybrid solutions or fully electric solutions. gains
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://sustainabilityreport.abb.com/2020/

Company	**Alfa Laval**	Shipbuilder, Equipment and Technology
		Sweden

Climate target	Climate change has been an area of high focus and importance to Alfa Laval's agenda for many years. We sell technical solutions to enable our customers to reduce their emissions primarily through energy efficiency. Alfa Laval contributes to progress towards the UN Sustainable Development Goals for 2030. We continuously improve our own sustainability performance and enable change by supporting customers to reach their environmental targets. As part of our sustainability targets, we are aiming to be carbon neutral by 2030 across the value chain. During 2020 we have developed new longer-term environmental ambitions towards 2030. In order to achieve these ambitions, we have set short-term targets in each area towards 2023 with baseline 2020. By 2023 we will have reduced our scope 1 & 2 emissions by 50% (baseline 2020) and set a baseline and pathway for scope 3 emissions.
Link(s)	https://www.alfalaval.com/globalassets/documents/about-us/sustainablity/sustainability-reports/alfa_laval_sustainability_report__2020.pdf

Climate action	Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets. We help ship owners and operators secure confident compliance with marine legislation, both through dedicated compliance technologies and by supporting the move to new fuels. Alfa Laval is an official partner and Advisory Board member of the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping, a strategic collaboration on the development of zero carbon solutions for the maritime industry. At Alfa Laval we drive a wide range of technology projects with our partners in our strive for a decarbonized marine industry. These range from technologies for biofuel treatment and ammonia fuel systems to carbon capture and storage (CCS). With an aim to radically reduce the marine industry's carbon footprint and overall emissions, Alfa Laval and Wallenius have in July 2021 announced their intent to form a new 50/50joint venture. AlfaWall Oceanbird will focus on the development and realization of technology for fully wind-powered vessel propulsion.
Area(s)	• Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • Other
Link(s)	https://www.alfalaval.com/marine https://www.alfalaval.com/about-us/sustainability/

Company	Anglo American	Charterer
		Singapore

Climate target	Anglo American Group target 2030: Reduce absolute controllable scope 3 emission by 30% 2040: Committed to being carbon neutral across the operations
Link(s)	https://www.angloamerican.com/~/media/Files/A/Anglo-American-Group/PLC/sustainability/aa-sustainability-report-2020.pdf

Climate action	Anglo American has long shown itself to be a leader across many fields and such leadership is called for again as society changes with and around us. Anglo American is a partner to the Global maritime forum and a signatory to the 'Getting to Zero coalition". Anglo American is one of the founding signatories to the Sea cargo Charter and has been accounting and validating its freight emissions since 2018. As a company we have started our transition by committing and procuring 10 million tons of low carbon freight, while working with strategic partners to research and draw a plan for developing zero emission capable vessels and supply chain infrastructure.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://www.seacargocharter.org/ https://www.angloamerican.com/media/press-releases/2020/10-11-2020 https://www.itochu.co.jp/en/news/news/2021/210729.html https://www.angloamerican.com/media/press-releases/2021/31-03-2021

Company	Anglo-Eastern Univan Group	Ship Manager
		Hong Kong

Climate target	Anglo-Eastern is wholly committed to decarbonizing efforts. Ashore, we have taken steps to reduce our carbon footprint, with our group's shore-based operations certified carbon-neutral since beginning of 2019. At sea, we are equally committed to decarbonizing shipping and reducing emissions through meaningful action and innovation. We are committed to developing novel ship designs aimed at zero emission from vessels at sea.

Climate action	2021: Anglo-Eastern has developed a zero emission vessel design with ammonia as fuel. The design and the vessel specification have received Approval in Principle from LRS in March 2021, after a in-depth review of all design and safety parameters, inclusive structural strength and stability, followed by a thorough Hazard Identification study (HAZID) of the design.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	2022: Anglo-Eastern is developing a retrofit design for a Newcastle Max size Bulk Carrier for conversion to ammonia propulsion. The design is aimed to complete within 2021 before applying for the Approval in Principle in 2022, for the retrofit design and specification. The design is being developed for a partner ship-owner, who has shown interest.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	2021: Anglo-Eastern has joined the joint study framework established by ITOCHU that will collaborate in studying utilization of ammonia as an alternative fuel. Having designed a ship with ammonia as primary fuel, Anglo-Eastern is in a pole position to meaningfully contribute in the Safety Assessment of Ammonia fuel ship design, which is one of the key objectives of the study group.
Area(s)	• Pilot and demonstration projects (RD&D) • Other

Company	Autoridad Portuaria de Valencia	Port, Terminal Spain

Climate target	The Port Authority of Valencia's business plan includes actions to promote green energy and reduce energy consumption within the framework of Valenciaport 2030, zero emissions. Thus, 3.2 million euros will be invested in energy efficiency programmes and consumption control systems, while 15 million euros are planned for wind power and 2.8 million for photovoltaic systems in the generation of alternative energies.
Link(s)	https://www.valenciaport.com/en/publicaciones/

Climate action	The Port Authority of Valencia is involved in many environmental projects, e.g.: "GREEN C PORTS" and "LOOP PORTS". Both initiatives were awarded in the World Port Sustainability Awards for their initiatives to find innovative solutions to reduce traffic congestion, improve air quality, reduce noise levels, forecast crane productivity and measure emissions in real time in the ports.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.valenciaport.com/en/valenciaport-receives-new-recognition-for-its-environmental-work/

Climate action	In the area of sustainable infrastructures, the APV is developing two new projects. The new North Terminal of the Port of Valencia is designed to minimise CO2 emissions and energy consumption. Thus, it has measures to promote railway intermodality, it will be fully electrified for the supply of ships, 98% of the machinery will use electricity, and 100% of the energy will come from renewable sources. The new Passenger Terminal project presented by Balèaria will have 100% of the energy coming from renewable sources, the recycling of waste recovered from the ships and the maritime station to produce biofuels and the electricity supply network for the ships at berth.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure • Other
Link(s)	https://www.portstrategy.com/news101/world/europe/eu-gives-green-light-to-port-expansion https://www.balearia.com/es/memoria-sostenibilidad-2020/publication/contents/media/1314452.pdf

Company	Berge Bulk	Ship Owner, Ship Operator
		Singapore

Climate target	Berge Bulk has set the following ambitious climate targets for our Scope 1 carbon emissions:(1) By 2025 (at the latest), Berge Bulk will achieve carbon neutrality.(2) By 2030, Berge Bulk will build and operate a zero emissions vessel.(3) By 2050, Berge Bulk will achieve zero emissions fleet-wide.
Link(s)	https://bergebulkcom.cdn.sg/wp-content/uploads/2021/04/Blue-Matters-2020-Sustainability-KPIs.pdf https://bergebulkcom.cdn.sg/wp-content/uploads/2021/04/Blue-Matters-Brochure-Sprds-2020.pdf https://bergebulkcom.cdn.sg/wp-content/uploads/2021/07/Carbon-Neutral-Voyages-Berge-Bulk-1.pdf https://www.youtube.com/watch?v=KTlRV5DlfLc

Climate action	Berge Bulk recently launched a pilot test on Berge K2 to trial the maritime application of solar photovoltaic technology. The test installation will produce about 100 kilowatts of electrical power which will be fed into the main electrical grid on the ship to supplement the ships diesel alternators. Through this test we are observing and assessing how the panels withstand the stresses while at sea and during in-port cargo operations. If all goes according to plan during the pilot, we will then evolve the trial to a 1,000 kilowatts installation.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.linkedin.com/feed/update/urn:li:activity:6823475520643198977

Climate action	Berge Bulk has recently concluded a successful biofuel pilot on one of ourships: Berge Tsurugi. This pilot used over 200 metric tonnes of biofuel. Following the trial, we calculated the greenhouse gas emissions of the biofuel from well-to-tank and from tank-to-exhaust.On a life-cyclee basis, this biofuel pilot demonstrated a more than 80% reduction in emissions compared with traditional bunker fuel.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://goodfuels.com/berge-bulk-and-marine-biofuel-pioneer-goodfuels-successfully-complete-first-bio-bunkering/

Company	BHP	Charterer
		Singapore

Climate target	We will target net zero[1] by 2050 for GHG emissions from all shipping[2] of our products[3], subject to the widespread availability of carbon neutral solutions including low/zero-emission technology on board suitable ships and low/zero-emission marine fuels. 1) Incorporates the use of offsets; 2) BHP-chartered and third party-chartered shipping; 3) Target excludes maritime transportation of products purchased by BHP.
Link(s)	BHP's refreshed climate goals and targets will be published as part of its Annual Reporting cycle on the 14 September 2021.

Climate action	Participation in first marine biofuel trial involving an ocean-going vessel bunkered in Singapore on 4 April 2021. Key objectives included understanding fuel behaviour (such as emissions), assessing engine and vessel operational performance, and exploring the technical and commercial merits and challenges of biofuels as a marine fuel. Currently following up to the trial with an industry RFI/RFP for supply of sustainable biofuels in Singapore, China, and Australia for potential and eventual use with our longer-term vessels.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	https://www.bhp.com/media-and-insights/news-releases/2021/04/bhp-oldendorff-and-goodfuels-successfully-complete-first-trial-with-sustainable-biofuel-supplied-in-singapore/ https://www.bhp.com/investor-centre/

Climate action	Committed to reducing operational emissions and emissions intensity through: • Dedicated vetting programme that only accepts vessels with a RightShip vessel design energy efficiency rating of 'A' to 'E'. • Analysing, reporting, and regularly integrating operational emissions from BHP-chartered voyages and vessels into vessel selection, to further build on the initial benefits of RightShip's GHG rating. • Publishing annual accounts of its value chain emissions inventory – specifically Scope 3 Category 4 (BHP-chartered maritime transport) and Scope 3 Category 9 (customer-chartered maritime transport). These broad metrics will be further refined and narrowed in the coming years and confidentially shared with appropriate parties. • Performance measurement and management of BHP charterers and vessel owners in 2022, ensuring end-to-end approach on setting and measuring our approach to decarbonisation.
Area(s)	• GHG emissions transparency
Link(s)	https://www.bhp.com/-/media/documents/investors/annual-reports/2018/180918_bhpsustainableshippingcasestudy.pdf https://www.bhp.com/investor-centre/

Climate action	Committed strategy for further exploration of and intended eventual commitment to secure a supply of sustainably produced future fuels and future-fueled vessels, and analysing options for the use of future fuels such as ammonia and methanol for fueling bulk carriers through collaboration with industry, including through: • A planned US$10 million investment in Singapore's Global Centre for Maritime Decarbonisation (GCMD) as a founding member, and • Participating in a Joint Study with 34 partners to examine the safety in use and bunkering of ammonia.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.mpa.gov.sg/web/portal/home/media-centre/news-releases/detail/bf2aaf98-833a-4515-8f3f-64d534fa36c3 https://www.itochu.co.jp/en/news/news/2021/210729.html

Company	**Bolloré Logistics**	Freight forwarder, Customer, Cargo Owner
		France

Climate target	Bolloré Logistics climate strategy aims at contributing to carbon neutrality by 2050. It is aligned with SBTi methodology. The reduction targets are: - 43% on scopes 1 and 2, in absolute value by 2027 (baseline 2017. 1.5 degree); -30% ion scope 3 downstream, in absolute value by 2030 (baseline 2019. Well below 2 degrees).
Link(s)	**https://www.bollore-logistics.com/app/assets-bollorelgs/uploads/2021/02/csr_report_bollore_logistics_2019_2020_en.pdf**

Climate action	We are a member of Clean Cargo Working Group. We have partnerships with some shipping lines to cooperate to reduce CO2 emissions.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Company	**BP Shipping**	Ship Owner, Ship Operator
		UK

Climate target	Last February, bp launched our new ambition to be a net zero company by 2050 or sooner and to help the world get to net zero. At bp trading & shipping, we believe we can help to drive change in the maritime transport sector. We want to develop and deploy solutions that meet the energy and shipping needs of our customers while also being part of the transition to a low carbon economy. Our aims include: • To be net zero across our entire operations on an absolute basis by 2050 or sooner (This aim relates to Scope 1 and 2 GHG emissions). • To cut the carbon intensity of the products we sell by 50% by 2050 or sooner (This is on a life cycle carbon intensity approach, per unit of energy)
Link(s)	www.bp.com/en/global/corporate/who-we-are/our-ambition/our-aims www.bp.com/en/global/corporate/sustainability

Climate action	We are increasing the number of trials of biofuel blends on bp operated vessels and are conducting dedicated emissions monitoring trials and life-cycle-analysis studies to learn more about the emissions created by different fuel blends. We are establishing biofuel supplies for marine customers in key ports around the world through bp marine, our marine fuels supply business. We want to grow our supply network as the market evolves. And new fuels may feature as part of the fuel mix solution in the future. That's why bp is actively working with industry partners to develop fuels from alternative, sustainable feedstocks, such as forestry and agricultural residues. We are not looking at biofuels alone and are collaborating with Castrol, our lubricants business, to test high performance lubricants for marine engines running on biofuels. These lubricants are being used on bp operated vessels and are available to third parties via Castrol's supply network in over 800 ports and 80 countries around the world.
Area(s)	• Using zero emission fuels in commercial operation • Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure
Link(s)	www.bp.com/en/global/bp-shipping/news-and-insights/seas-of-change

Climate action	We are also looking at other lower-carbon marine fuel sources too. We anticipate that fuels such as hydrogen, methanol and ammonia will play a key role in decarbonizing international shipping. We want to make these low carbon fuels more widely available to the shipping industry as suitable engines come to market. We are working with our key suppliers to increase the circularity of our fuel supply chain. We have commitments in place for the supply of marine fuel produced from used lubricant oils in the US and Australia and are marketing advanced methanol produced from non-recyclable waste as a marine fuel in Europe.

Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure
Link(s)	www.bp.com/en/global/bp-shipping/news-and-insights/seas-of-change

Climate action	We look to reduce emissions by actively seeking to optimize the way we manage and operate our vessels. We have invested in advanced technologies that give us detailed data about vessel performance and the related fuel consumption in real time. Both visual and performance monitoring data allows us to make robust decisions about, for example, how and when we clean the hull of a ship, to improve fuel consumption. We are also investing in cutting-edge coating technologies and energy saving devices. Advanced hull coatings with enhanced anti-fouling properties are being applied to our mariner class product tankers, whilst innovative ultrasonic antifouling devices will be trialled in hard-to-access areas of the hulls – both of which can help reduce hull fouling and improve vessel performance. We are continually assessing and trialling technologies to optimise and improve the efficiency of our operated fleet. We are working to help to improve the monitoring of these third-party vessels and to establish a framework to support them reducing the associated [GHG] emissions over time. This includes developing a vessel evaluation tool to factor in the environmental performance of third-party vessels when making chartering decisions. We are also exploring innovative benefit sharing arrangements with time charter partners who implement improvements to their vessels which improve performance and result in GHG emission reductions. We will share our operational experience from energy saving initiatives with our chartering partners to help maximise our contribution to improving performance across the industry.
Area(s)	• Other
Link(s)	www.bp.com/en/global/bp-shipping/news-and-insights/seas-of-change

Company	**Britoil Offshore Services**	Ship Owner, Ship Operator
		Singapore

Climate target	Currently reviewing our fleet performance and alignment with the IMO's targets and Paris agreement to create our road-map for the next 5-20 years.
Link(s)	

Climate action	From 2025, Britoil is committed to ordering only zero emission ready vessels. From 2030, Britoil is committed to ordering only zero emission vessels.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://britoil.com.sg/

Climate action	By 2025, Britoil is committed to only owning vessels which are registered in the Environmental Ship Index (ESI).
Area(s)	• GHG emissions transparency
Link(s)	https://www.environmentalshipindex.org/

Company	Bunge	Charterer
		Switzerland

Climate target	No specified target
Link(s)	

Climate action	Signatory of the Sea Cargo Charter to provide a global framework for aligning chartering activities with responsible environmental behaviour to promote international shipping's decarbonisation.
Area(s)	• GHG emissions transparency.
Link(s)	https://www.bunge.com/sites/default/files/2021_global_sustainability_report.pdf https://www.seacargocharter.org/

Climate action	Exploring opportunities to offset the carbon footprint of our shipping operations and working with new tools to better measure our shipping emissions and examine every step along the supply chain, by e.g. working with partners and associations like the Sustainable Shipping Initiative (SSI).
Area(s)	• GHG emissions transparency.
Link(s)	https://www.bunge.com/sites/default/files/2021_global_sustainability_report.pdf https://www.sustainableshipping.org

Company	Bunker Holding Group	Other services or consultancy
		Denmark

Climate target	No target specified.
Link(s)	

Climate action	By 2030, Bunker Holding Group is committed to support the establishment of the bunker infrastructure needed to supply zero emission bunker fuels to deep sea vessels. Bunker Holding Group is already actively involved in several projects in collaboration with actors across the value chain aiming to fulfill this objective. One example is 'Bornholm Bunker Hub'.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	https://portofroenne.com/press/2021/6/14/consortium-wants-to-make-bornholm-a-green-filling-station-for-shipping

Climate action	Bunker Holding Group is committed to strengthen its capabilities to support the transition towards zero carbon bunker fuels. We are already investing in the future by testing sustainable fuels for shipping and educating our organization to better advise our customers on pathways to decarbonization.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	Bunker Holding Group - annual report 2020/21

Climate action	Bunker Holding Group is investing in supporting and co-creating with start-ups that are focused on scaling solutions from AI-driven optimization to fuel / energy efficiency, zero-carbon vessels and more.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://discover.rainmaking.io/trade-with-impact

Company	Bureau Veritas	Classification society
		France

Climate target	Shipping is going through a significant era of change to reduce GHG emissions, and to make tangible progress, cross-industry collaboration is the key to success. That is the reason why BV made the decision to join the Getting to Zero coalition. At BV, we believe that a classification society we can support the industry transition to a low-carbon future by • Developing a comprehensive set of rules and guidelines to build and operate zero-carbon shipping solutions that meet the highest safety standards • Actively engaging BV experts in R&D projects and by enabling real-scale pilots for pragmatic pragmatic and technically feasible solutions • Developing digital platforms to compute and report GHG emissions
Link(s)	

Climate action	BV provides rules and guidelines to help shipowners and their business partners innovate and navigate the new technologies: (1) Safety of new fuels and alternative propulsion, (2) Sustainable origins of alternative fuels, (3) Electrification of sea-going vessels, (3) Development of infrastructure for new fuels For example BV has released new rules on low to zero-emission fuels as well as alternative propulsion: Methanol Fuel; Ammonia-Prepared; Ammonia Fuel; Electric Hybrid; Battery System; Wind Propulsion System (WPS-1, WPS-2) BV experts are now working to extend these rules and guidelines to fuel cells, hydrogen storage onboard, bio and synthetic fuels, etc.
Area(s)	• Other
Link(s)	https://marine-offshore.bureauveritas.com/needs/alternative-propulsion-and-future-fuels

Climate action	BV also engages in-kind resources in R&D projects to de-risk and test zero-carbon technologies For instance on Fuel Cells, BV is providing regulatory expertise and design assessment for the installation of Solid Oxide Fuel Cell (SOFC) technology onboard low-emission cruise ship For instance on Hydrogen, BV is member of Hydrogen Council and particularly active in the Hydrogen storage working Groups. BV has also delivered approvals in principle for the design of a hydrogen-fuelled trailing suction hopper dredger and performed risk analyses for a hydrogen-based fuel cell. For instance on Ammonia, BV is member of Ammonia Energy Association and has engaged in several projects to • Build, install and test an ammonia-powered combustion engine (with DELFT University of Technology) • Perform HAZID and HAZOP workshops for ammonia working group with MAN Energy Solutions, Shell, Engie, etc. • Perform feasibility study for ammonia-powered bulk carrier For instance on Biofuels, BV is member of the Coalition for Green Energies and actively engaged with several shipowners to increase the usage of biofuels and biogas onboard ships
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	BV develops digital platforms improving GHG emission transparency • Veristar Green to support shipowners calculate, report verify their Carbon indexes by design (EEXI) and in operations (CII) • Poseidon Principles dashboards to support financiers to aggregate, report and visualize Climate Alignment Index at Fleet level
Area(s)	• GHG emissions transparency
Link(s)	https://veristargreen.bureauveritas.com/#/home

Company	BW LPG	Ship Owner, Ship Operator
		Singapore

Climate target	BW LPG has taken the lead in advancing technology that will allow us to decarbonise and maximise the value of an asset with a 20-year lifespan as we prepare for zero-carbon solutions. This complements our commitment that by 2030, we will not have any newbuilding that cannot achieve net-zero emissions during its lifetime. At BW LPG, we are on a journey to create zero-carbon shipping. Now, with LPG propelling our biggest carriers, we are well on our way.
Link(s)	https://www.bwlpg.com/ https://www.bwlpg.com/sustainability/journey-to-net-zero

Climate action	2020 marked the start of our project to retrofit 15 of our vessels with pioneering LPG dual-fuel propulsion technology. 8 vessels are converted up to now and the remaining vessels will be finished converted by first half of 2022. This investment of over US$130 million will give a reduction of green house gases by 20% and a reduction of energy consumption of 10%. A possible next step for these vessels is a conversion to green Ammonia as a fuel.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.bwlpg.com/

Climate action	By 2030 we will only have newbuilding's that during its lifetime can achieve net zero carbon emission.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.bwlpg.com/

Company	The Caravel Group	Other: Multi
		Hong Kong

Climate target	Work in progress. Sustainability report for 2021 with focus on Climate Change KPIs and Targets will be available by Jan 2022.
Link(s)	

Climate action	The Caravel Group is deeply committed to minimize our environmental footprint and practice good environmental stewardship. It is committed to pursue policies and use appropriate technologies to reduce environmental impact wherever possible. Through its subsidiary Fleet Management Limited it is widely involved in: Researching dual-fuel technologies and alternate fuels. Backed on these studies, The Caravel Group will evaluate further investments in owning ships and alternate investments that are environmental friendly, and promote sustainability. Under the Carbon Neutrality initiative - Lately, 10,000 fruit-bearing and medicinal saplings on the lands of marginalized farmers were planted in the rural areas of India. These saplings have the power to generate 19,980 tonnes of oxygen and sequester 10,424 tonnes of carbon dioxide, over next 2 decades, while providing the farmers an economic value of US$0.25 mill. every fruit season.
Area(s)	• Ordering zero emission and zero emission capable vessels • GHG emissions transparency
Link(s)	https://www.fleetship.com/fleet-management-takes-a-step-to-be-part-of-a-solution-to-climate-change/

Company	Cargill Ocean Transportation	Charterer
		Switzerland

Climate target	By 2030, Cargill will have reduced the carbon intensity of its deep sea transport operations by 30% vs a 2017 baseline and to complete decarbonization by 2050.
Link(s)	https://www.cargill.com/doc/1432185661832/cargill-sustainable-shipping-2020.pdf

Climate action	Develop pilot projects for zero carbon vessels suitable for Cargill's ocean going fleet by 2025 with the aim of introducing the first commercially viable zero carbon vessel by 2030.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Develop pilot projects to demonstrate wind assisted propulsion on ocean going bulk vessels. The is done with the aim of reducing the fuel consumption of the vessel to improve the commercial viability of zero carbon fuels.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Signatory to the Sea Cargo Charter.
Area(s)	• GHG emissions transparency
Link(s)	www.seacargocharter.org

Company	Carnival Corporation	Ship Owner, Ship Operator
		USA, UK

Climate target	Aspire to achieve net carbon neutral operations by 2050. Achieve at least a 40% reduction in carbon rate per available lower berth day by 2030, relative to a 2008 baseline. Ensure that peak absolute carbon emissions occurred in 2011, despite an approximately 20% capacity increase between 2011 and today with an additional 19% capacity increase on order through 2027.
Link(s)	

Climate action	Carnival is committed to develop the supply of carbon neutral bio-LNG to our ships with suppliers during 2022/3. Carnival is committed to participate in zero emission shipping pilot and demonstration projects such as the ones already started related to a fuel cell on AIDAnova and batteries on AIDAperla. Carnival will continue to increase the number of ships of our fleet that are shore power capable to 60% to allow zero emission operation in port by 2030 and will work with port and suppliers to make sure that the ports are ready to support this investment in renewable energy. Carnival will disclose our carbon performance through the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD).
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	www.carnivalsustainability.com

Company	**Caribbean Feeder Services**	Ship Owner, Ship Operator Panama

Climate target	Shipping and Logistic services must push existing technology to achieve a reduction of GHG that is material enough and quickly enough to ensure the industry becomes carbon neutral as soon as possible. This means of course GHG emissions but also any by product of current thermal engines such as NOx, Particles, and the waste of current filtering systems in form of acid from scrubbers. Target is carbon neutrality by 2050 which can be completed through comprehensive model that includes both active reduction in current emmission levels as well as carbon capturing technologies.
Link(s)	

Climate action	Improved visibility of our emissions: CFS is working on an active tracking of our emissions. Leveraging latest technologies and the best available fuels to this end, this is the first step in ensuring we are doing what we can as ship operators to reduce the consumption of our vessels.
Area(s)	• GHG emissions transparency
Link(s)	

Company	**CIMAC**	Other: Association Germany

Climate target	CIMAC stands for 100% climate neutrality of the shipping industry by the year of 2050. It is the interest of our members to provide technical solutions to achieve this targets, and we promote this target worldwide.
Link(s)	https://www.cimac.com/about-cimac/index.html

Climate action	Bringing Stakeholders together: CIMAC as an Industry Association takes relvant actions in establishing own Working groups and Strategy groups as a platform for exchanging ideas, creating strategies and setting up plans. CIMAC's own Greenhousegas-Strategy- Group elaborated specific pathways for reaching the goal of carbon neutrality by 2050. This includes Zero and Net Zero Carbon Fuel Options and the production of Green-Hydrogen with a Zero Carbon Footprint as relevant source. Associated White Papers can be found under the link mentioned below.
Area(s)	• Other
Link(s)	https://www.cimac.com/strategy-groups/strategy-group-greenhouse-gas/index.html

Climate action	Public relations and events: CIMAC's scope of work includes relevant press relations, information and promoting about climate topics within the industry and CIMAC's members. White Papers deceloped by Greenhousegas- Strategy-Group can be found under the link mentioned above. A major event and opportunity to promote climate topics is CIMAC's tri-annual congress, which next will take place in June 2022 in Busan, South Korea. Technical solutions how to achieve future carbon neutrality in shipping are going to be discussed at international level.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	https://www.cimaccongress.com/

Company	Citi	Financial Institution
		USA

Climate target	Citi commits to net zero greenhouse gas emissions by 2050 and for own operations, net zero greenhouse gas emissions by 2030.
Link(s)	Citi ESG Report 2020: https://www.citigroup.com/citi/about/esg/download/2020/Global-ESG-Report-2020.pdf?ieNocache=328 Net Zero press release: https://blog.citigroup.com/2021/04/citi-commits-1-trillion-to-sustainable-finance-by-2030/

Climate action	Citi is a co-developer and founding signatory of the Poseidon Principles, committing to measure the carbon intensity and assess climate alignment (relative to established decarbonization trajectories) of our shipping portfolio on an annual basis.
Area(s)	• GHG emissions transparency
Link(s)	Link Citi ESG Report 2020 (https://www.citigroup.com/citi/about/esg/download/2020/Global-ESG-Report-2020.pdf?ieNocache=328), page 40

Climate action	Citi is a founding signatory of the Net-Zero Banking Alliance (NZBA), part of The Glasgow Financial Alliance for Net Zero (GFANZ), which establishes a common industry framework and guidelines for banking net zero commitments and will help guide us in our net zero journey.
Area(s)	• GHG emissions transparency
Link(s)	https://www.unepfi.org/news/industries/banking/43-banks-launch-net-zero-banking-alliance-as-key-part-of-consolidated-glasgow-cop-climate-action/

Climate action	Citi has committed to $1 trillion in sustainable finance by 2030, which aligns with the agenda of the United Nations' Sustainable Development Goals (SDGs). This includes financing and facilitating $500 billion in environmental solutions -- from renewable energy to clean technology, from water conservation to sustainable transportation. We aim to accelerate the transition to a sustainable, low-carbon economy that balances the environmental, social and economic needs of society. Our commitment also includes $500 billion in social finance in support of the SDGs.
Area(s)	• Other
Link(s)	https://blog.citigroup.com/2021/04/citi-commits-1-trillion-to-sustainable-finance-by-2030/

Company	**CMB**	Ship Owner, Ship Operator
		Belgium

Climate target	CMB has offset all of its carbon emissions in order to achieve a net zero carbon emissions status as from 2020 (for scope 1&2). CMB has also the ambition to achieve zero-carbon emission status by 2050 and is heavily investing in low - and zero-carbon emission technologies (through its clean tech company CMB.Tech) in order to transform the shipping industry into a zero carbon industry. As long as CMB's fleet is not powered by 100% zero carbon fuels, CMB will continue to offset its remaining carbon emissions.
Link(s)	https://www.cmb.be/en/news/sustainability-post

Climate action	CMB through its clean tech company CMB.Tech has been focussing inter alia on the development of Hydrogen and Ammonia Internal Combustion Engines. CMB's realised and ongoing marine related applications based on the abovementioned technologies are, inter alia: Hydroville (the world's first hydrogen powered passenger ferry); Hydrotug (tractor tug built for the Port of Antwerp powered by 2 x2MW hydrogen combustion engines); Hydrobingo (80 pax Japanese coastal shuttle powered with 2 x 400kW hydrogen combustion engines); Hydrocat (hydrogen powered Crew transfer Vessel to be used for offshore wind parks); NH3 Bulker vessel (210.000 dwt bulker) powered by dual ammonia-diesel engine); NH3 Container vessel (6.000 TEU) powered by dual fuel ammonia -diesel engine; Mobile Shore Power genset to supply large sea going ships with clean shore power; H2 Straddle carriers; Maritime H2 Refuelling station in Antwerp; Construction of a 1M tonne green NH3 factory
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure • GHG emissions transparency
Link(s)	

Company	Credit Agricole CIB	Financial Institution
		France

Climate target	In line with the objectives pursued by the Poseidon Principles
Link(s)	https://www.poseidonprinciples.org/

Climate action	In line with the objectives pursued by the Poseidon Principles.
Area(s)	• GHG emissions transparency
Link(s)	https://www.poseidonprinciples.org/

Company	**Daewoo Shipbuilding & Marine Engineering**	Shipbuilder, Equipment and Technology South Korea

Climate target	DSME is developing eco-friendly technologies for ships in order to meet requirements of shipping companies according to their ambitious goals for the reduction of maritime GHG emissions DSME's target, as a shipbuilder, is "to secure technologies for the commercialization of zero carbon emission ships by 2030". In addition, DSME will implement a marketing policy to propose zero emission vessels as default unless clients require otherwise by 2050 at the latest. To achieve the targets, DSME's decarbonization activities will take place in the short-term, mid-term, and long-term future focusing on the following technologies, respectively; • Short-term(Current): LNG fuel with energy saving devices • Mid-term: Hybrid propulsion and ammonia fuel which are expected to be commonly used in the near future • Long-term: Active exploration of the opportunities in alternative fuels as well as carbon neutral methods such as hydrogen carriers, carbon capture vessels, etc.
Link(s)	Company Integrated Report 2021: https://www.dsme.co.kr/e_sustainability.do

Climate action	To respond to the rapidly changing technological advancement and develop eco-friendly, high efficiency products, DSME established research centers specializing in decarbonization and digitalization. By utilizing these state-of-the-art research facilities, DSME is accelerating the development of new technologies focusing on green energy and energy saving solutions for maritime decarbonization as specified below; [Energy Saving Solutions] • Propulsion Efficiency Improving Devices, e.g. Pre-Swirl Stator, Rudder Bulb, Cap Fin, Duct • Hull Resistance Reducing Devices, e.g. Air Lubrication System • Hybrid Propulsion System, e.g. Shaft Generator Motor • Auxiliary Wind Propulsion System, e.g. Rotor Sail
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	Company Integrated Report 2021: https://www.dsme.co.kr/e_sustainability.do

Climate action	[Green Energy Solutions] • LNG: Re-liquefaction system, Regasification system, High Manganese based Type B/ Type C tanks • Ammonia: Pilot plant for ammonia fuel gas supply system, Design development for ammonia cracking system, Design development for ammonia-fueled 23,000TEU containership • Hydrogen: Concept study for LH2 storage tank, Technology development for LH2 carrier including necessary systems such as cargo containment / cargo handling / BOG management / propulsion • Fuel Cells: Development of SOFC & PEMFC for maritime applications with local fuel cell manufacturers, Concept demonstration of 20kW SOFC system, Zero emission tug boat using hydrogen fuel cell- battery propulsion
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	Company Integrated Report 2021: https://www.dsme.co.kr/e_sustainability.do

Company	Danaos Shipping	Ship Owner, Ship Operator
		Greece

Climate target	By 2030 Danaos Shipping will reduce the carbon intensity of the fleet by 50% compared to 2008.
Link(s)	Danaos CSR 2021

Climate action	Development of optimal weather routing procedures on the fleet within 2022 and investment on energy saving areas.
Area(s)	• Other
Link(s)	Danaos CSR 2021

Climate action	The transportation of seafarers for training and administration purposes will be reduced by 50% compared to 2019.
Area(s)	• Other
Link(s)	Danaos CSR 2021

Climate action	Danaos Shipping is committed to develop application within its WAVES data analytics platform for measuring the carbon intensity and assess climate alignment (relative to established decarbonization trajectories) of its shipping portfolio with IMO and all decarbonization initiatives that company participates (eg. Poseidon Principles, Climate Bonds)
Area(s)	• GHG emissions transparency • Other
Link(s)	Danaos CSR 2021

Company	Danish Ship Finance	Financial Institution
		Denmark

Climate target	No target specified.
Link(s)	

Climate action	Danish Ship Finance were one of the founding signatories to the Poseidon Principles and maintain a strong commitment to creating more transparency about the climate impact of ship finance portfolios through our disclosures.
Area(s)	• GHG emissions transparency
Link(s)	https://www.poseidonprinciples.org/signatories/ https://www.poseidonprinciples.org/wp-content/uploads/2020/12/Poseidon-Principles-Annual-Disclosure-Report-2020.pdf

Climate action	In addition to Poseidon Principles, internally Danish Ship Finance have worked with sustainability ratings of all shipping clients since 2019 in complementing our credit ratings to identify clients that are actively taking part in the transition to decarbonization in the shipping industry and more importantly those that are not yet in order for us to be able to work actively with them and encourage them to engage in the agenda. Further to this, we have also taken part in several loan agreement linking the price of financing to clients continued reduction of GHG emissions.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.shipfinance.dk/media/2071/dsf-sustainability-report-2020.pdf

Company	**DB Schenker**	Freight forwarder, Customer, Cargo Owner
		Germany

Climate target	Our company target ist to reach carbon neutrality until 2040, whereby ocean shipping accounts for currently around 20% of our carbon footprint. Its is essential for us/our target to accelerate decarbonization in ocean shipping.
Link(s)	To follow by press release

Climate action	We promote, (co-)pilot and invest in non-fossil fuel alternatives, espcially battery electric for urban deliveries, hydrogen for linehaul trucks, SAF for air freight and PtX for ocean shipping. We build networks with fuel providers, carriers and shippers to help building a market for new fuels. We report our ocean emissions since 2007. We engage in ocean industry platforms such as the Clean Cargo (Working Group) since 2012 and in the Getting to Zero Coalition since 2020.
Area(s)	• Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://ir.deutschebahn.com/en/db-group/sustainability

Company	DFDS	Ship Owner, Ship Operator
		Denmark

Climate target	At DFDS, we are committed to the messages of the Call to Action. We aim to fully decarbonize using net-zero energy sources by 2050. Further, our climate action plan commits to reduce our CO^2 emissions by 45% by 2030. We use 2008 as our baseline year, as stated by the IMO targets.
Link(s)	DFDS CSR Report 2020

Climate action	A crucial step in reaching our 2030 target is to reduce the CO2 emissions from our existing fleet. However, the major transition towards zero emission shipping requires our industry to replace today's fossil-fuel dependent fleets with a new generation of ships that run on sustainable fuels created entirely from renewable energy. We have dedicated a project to the goal of materializing a fully carbon neutral vessel. Project Green Vessel aims to develop a fully climate neutral newbuild or retrofit by 2025.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation
Link(s)	DFDS CSR Report 2020

Climate action	The availability of renewable fuels will be critical to driving the adoption, construction, and use of zero emission vessels. Through our projects, Green Fuels for Denmark and Project HØST, we collaborate with other stakeholders to facilitate largescale production of green hydrogen, green methanol, and green ammonia. We openly share information about which sustainable fuels we are investigating and the volumes we estimate to be required to fuel a business of our size. We are currently contributing to the development of a hydrogen factory in Copenhagen, a green ammonia production facility in Esbjerg, and more to better understand the production of green fuels and contribute to their availability.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	DFDS CSR Report 2020
Climate action	Our short-term plan for reducing the emissions of our current fleet is based on careful analysis of how we operate today, and identification of the areas with the most significant potential for improvement. Our Short-Term Project aims reduce emissions through environmental upgrading, optimizing the vessels' hydro-dynamic performance to reduce friction in the water, and improving decision support systems to help crews and shore-side support teams operate in a more fuel-efficient way. While the changes may be simple, they can have a significant impact on our emission levels. In 2020, we introduced better silicone-based hull coating on four of our vessels. This improvement reduces water resistance and enables us to use less fuel. It is expected to reduce our annual $C0^2$ emissions by 4-6% or 10,000 tons on these four vessels alone.
Area(s)	• Other
Link(s)	DFDS CSR Report 2020

Company	Diana Shipping	Ship Owner, Ship Operator
		Greece

Climate target	We are currently carry out a materiality assessment to further enhance our ESG management efforts
Link(s)	http://www.dianashippinginc.com/images/DSI_2019_ESG_Report.pdf

Climate action	In 2021 the signing of a sustainability linked loan is in line with the Company's commitment towards its long-term sustainability goals.
Area(s)	• GHG emissions transparency • Other
Link(s)	http://www.dianashippinginc.com/investors/press-releases/news-diana-shipping-inc-announces-signing-of-a-sustainability-linked-loan-with-abn-amro-bank-to-refinance-four-separate-existing-loans

Climate action	In 2021, our wholly-owned subsidiary, Diana Shipping Services S.A. has signed an agreement with American Bureau of Shipping (ABS) to implement the ABS Environmental MonitorTM digital sustainability solution across 31 of the Company's vessels managed by Diana Shipping Services S.A.
Area(s)	• GHG emissions transparency • Other
Link(s)	http://www.dianashippinginc.com/investors/press-releases/news-diana-shipping-services-s-a-to-employ-digital-sustainability-solution-to-monitor-environmental-performance-of-vessels

Climate action	We implement the Poseidon Principles in our financed vessels for environmentally responsible ships.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.poseidonprinciples.org/

Company	DNB Bank	Financial Institution
		Norway

Climate target	DNB Bank ASA to achieve net zero emissions from financing and investing activities by 2050. To achieve net-zero emissions by 2050, we have set sub-targets for reducing financed emissions in the period up to 2030, as well as financing targets for sustainable activities.For the shipping portfolio: Reduce the portfolio's emissions intensity by one third from 2019 to 2030.
Link(s)	https://www.dnb.no/en/about-us/loans-investments.html

Climate action	DNB is a co-developer and founding signatory of the Poseidon Principles, committing to measure the carbon intensity and assess climate alignment (relative to established decarbonization trajectories) of our shipping portfolio on an annual basis.
Area(s)	• GHG emissions transparency
Link(s)	https://vp267.alertir.com/afw/files/press/dnb_asa/202103107750-2.pdf - Page 69

Climate action	Target setting: DNB will be a driving force for sustainable transition by financing, investing in and facilitating sustainable activities worth NOK 1.500 billion by 2030.
Area(s)	• Other
Link(s)	https://www.dnb.no/en/about-us/loans-investments.html https://www.dnb.no/portalfront/nedlast/en/about-us/corporate-responsibility/2021/Strategidokument_Brekraft_DNB_Engelsk.pdf

Climate action	DNB has in 2020 and 2021 been project partner in the Nordic Green Ammonia Powered Ship Project (NoGAPS). DNB is also a partner in the Norwegian Green Shipping Programme that develops pilots and studies for sustainable shipping.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.globalmaritimeforum.org/content/2021/06/The-Nordic-Green-Ammonia-Powered-Ship-_Project-Report.pdf

Company	Dow	Charterer
		USA

Climate target	By 2030, Dow will reduce its net annual carbon emissions by 5 million metric tons versus its 2020 baseline (15% reduction). By 2050, Dow intends to be carbon neutral (Scopes 1+2+3 plus product benefits)
Link(s)	https://corporate.dow.com/en-us/science-and-sustainability/commits-to-reduce-emissions-and-waste.html

Climate action	Dow's bulk marine team became an inaugural signatory to the Sea Cargo Charter (SCC) in late 2020. SCC is a framework for measuring, aligning and reporting bulk vessel chartering activities in the interests of achieving established decarbonization targets.
Area(s)	• GHG emissions transparency
Link(s)	https://corporate.dow.com/documents/about/066-00338-01-2020-esg-report.pdf

Climate action	Scope 3 emissions are a component of our carbon-neutral ambition. As a step toward taking meaningful action to manage our Scope 3 contributions, we are continuing to update and digitize our processes for data collection and analysis. These efforts, currently underway, will continue to improve understanding of our value chain impact and opportunities, and further enable a sustainable foundation for targeted future actions.
Area(s)	• GHG emissions transparency
Link(s)	https://corporate.dow.com/en-us/esg/report/environmental-performance/impact/emissions.html

Company	Eagle Bulk	Ship Owner, Ship Operator
		USA

Climate target	We do not yet have a public climate target and expect that we will implement such a target in one of our next ESG Sustainability reports.
Link(s)	

Climate action	Eagle Bulk is an early signatory to the Sea Cargo Charter and contributing member of the Sea Cargo Charter Association. As such, we are currently, and remain committed to, measuring the carbon intensity and assessing the climate alignment (relative to established decarbonization trajectories) of our chartered-in fleet portfolio on an annual basis.
Area(s)	• GHG emissions transparency
Link(s)	Eagle Bulk ESG Sustainability Report - https://www.eagleships.com/esg/ Sea Cargo Charter - https://www.seacargocharter.org/

Climate action	Eagle Bulk voluntarily reports the absolute emissions and carbon intensity of our owned fleet portfolio on an annual basis, both publicly and to our Poseidon Principles signatory lenders. We are currently, and remain committed to continuing this practice and will begin reporting on climate alignment (relative to established decarbonization trajectories) of our owned fleet portfolio in an upcoming ESG Sustainability report.
Area(s)	• GHG emissions transparency
Link(s)	Eagle Bulk ESG Sustainability Report - https://www.eagleships.com/esg/

Climate action	Eagle Bulk is actively investing in emission reduction technologies (such as low friction hull coatings and voyage execution optimization capabilities) to minimize our fleetwide energy demand, thereby reducing the quantity of zero emission fuels required by our fleet and supporting an accelerated transition to zero emission shipping.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	Eagle Bulk ESG Sustainability Report - https://www.eagleships.com/esg/

Company	**Echandia Marine**	Shipbuilder, Equipment and Technology
		Sweden

Climate target	Echandia Marine AB is a technology company that develops true zero emission solutions for maritime applications. We do not set specific climate targets ourselves. Our ambition is to provide functional, safe and economically viable systems that provides a path to radical decarbonization at sea. By our own estimation, our battery systems (excluding coming fuel cell solutions) will reduce CO2 emission by 2 million tonnes by 2025.
Link(s)	https://www.echandia.se

Climate action	Echandia has already delivered a number of projects and systems that actively reduces CO2 by using batteries instead of fossil fuels. Many of these projects are public transportation in inland waterways, such as Rotterdam, Kochi in India and Copenhagen. Kochi water metro estimates a reduction in emission of pollutants (GHG) of 8700 tonnes/ year in 2021and by 17000 tonnes by the year 2035. All the boats planned for the water metro project is electrically propelled. The above estimates are based on reduced pollution due to less road traffic and traffic decongestions. More details on the project can be found on the link below.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://kochimetro.org/water-transport/

Climate action	We are actively pursuing R&D and product development in hydrogen fuel cell systems, as well as ammonia based fuel cells to bring decbarbonization to container and ocean going ships. First pilot installation of hydrogen fuel cell system will take place in fall of 2022. The pilot is a public transport initiative in the nordics.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://plugboats.com/new-high-speed-ferry-electric-hydrofoil-catamaran/

Company	Euronav	Ship Owner, Ship Operator
		Belgium

Climate target	No target specified.

Climate action	Euronav partnered with shipbuilder Hyundai Heavy Industries (HHI) and classification societies Lloyd's Register and DNV in a joint development project (JDP) 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.
Area(s)	• Ordering zero emission and zero emission capable vessels • Pilot and demonstration projects (RD&D) • Other
Link(s)	https://www.euronav.com/media/66433/20210706-eurn-joint-development-program-and-newbuildings.pdf

Climate action	Euronav NV has been awarded a 'B' score for taking coordinated action on climate issues by the Carbon Disclosure Project (CDP). Euronav has submitted its sustainability credentials to the CDP platform as part of an ongoing commitment to increase the company's transparency in this area. The B score obtained puts Euronav in the 'Management band'. Companies in this band are undertaking further steps to effectively reduce emissions, indicating more advanced environmental stewardship.
Area(s)	• GHG emissions transparency
Link(s)	https://live.euronext.com/en/node/3525648

Climate action	Euronav is a founding partner of Maritime Plug and Play, a global innovation platform. The purpose of the program is to connect international startups with the Founding Partners to pilot their technologies and drive the future of maritime as world-class leaders of R&D and innovation. By unlocking investments in new technologies Euronav supports further digitalisation of maritime industry and contributes to making shipping cleaner and more efficient.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.euronav.com/media/66359/210422_eurn_pnp_eng.pdf

Company	Fleet Management Limited	Ship Manager
		Hong Kong

Climate target	No target specified.
Link(s)	Work in progress. Sustainability report for 2021 with focus on Climate Change KPIs and Targets will be available by Jan 2022.

Climate action	Fleet Management Limited (FML) is widely involved in: 1. We are operating ships that are dual-fuelled. We have the experience with ships operating on Methanol, LNG, LPG. We are therefore actively promoting Methanol as one of the fuels-of-the-future to our existing and new clients. 2. We are consortium partners with Maersk Mc-Kinney Moller Centre for Zero Carbon shipping. We are jointly conducting feasibility studies to evaluate green, blue, brown Ammonia and Ammonia ready LPG bunkering in Singapore. 3. FML has invested in building a robust technology platform that collects, monitors and reports the GHG emissions from its managed fleet of 600 ships.
Area(s)	• GHG emissions transparency
Link(s)	https://www.fleetship.com/fleet-explores-ammonia-as-a-marine-fuel-in-singapore/

Company	Forward Ships	Ship Owner, Ship Operator
		Greece

Climate target	Our mission is to build, own, and operate the cleanest, and most efficient fleet of cargo ships in the world. Our patented hydrogen-ready solution is already able to blend LNG and Biogas with up to 20% hydrogen, and combustion concepts have been made for 100% hydrogen. Coupled with hydrogen fuel cell technology, our targets are to reduce total annual GHG emissions by at least 70% by 2050 compared to 2008; and reduce carbon intensity by at least 40% by 2030, pursuing efforts towards 85% by 2050, compared to 2008.
Link(s)	https://www.forwardships.com/imo-2050-press-release https://www.forwardships.com

Climate action	Forward Ships is a signatory of the Call to Action in support of decarbonization and has invested in excess of USD $5 million in developing its patented solutions while continuing with research and development on zero emissions-capable ship designs.
Area(s)	• Ordering zero emission and zero emission capable vessels • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure • GHG emissions transparency
Link(s)	www.forwardships.com

Company	GAC Group	Other services or consultancy
		United Arab Emirates

Climate target	GAC Group has committed to becoming Net Zero Carbon by 2030, and to work with our stakeholders to also achieve the same goals. We will achieve this by calculating and measuring our most significant carbon emissions across all 3 scopes, implementing crucial policies and procedures to reduce our emissions, and investing in carbon offsetting projects.
Link(s)	

Climate action	GAC is able to offer carbon neutral bunker fuels, and working closely in the alternative fuels space to aide shipping's decarbonisation process. As the largest ship agent in the world with a bunker division GAC is able to work as a market maker - bringing customers and suppliers together to get alternative fuel projects off the ground.
Area(s)	• Procuring zero emission shipping services • GHG emissions transparency
Link(s)	

Climate action	As part of our commitment to achieving Net Zero Carbon by 2030, we are looking into blue carbon offsetting solutions to supplement our other initiatives. Within 2022, GAC Group aims to have identified and partnered with a project to offset carbon emissions through seaweed farming or similar. Participation in this project will also be offered to our customers to aid in their work towards Net Zero Carbon.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	In addition to initiatives that we directly control, as service providers in the maritime industry, we understand that there is great potential to support the environment goals of our customers. With focus on UN's Sustainability Development Goal (SDG) 17 and the Partnership for the Goals, we work in cooperation with our customers to identify services and suppliers that best match with their goals.
Area(s)	• Other
Link(s)	

Company	GasLog	Ship Owner, Ship Operator
		Greece

Climate target	Please refer to our ESG report available on our website.
Link(s)	https://www.gaslogltd.com/investors/sustainability/

Climate action	We are evaluating a range of pilot projects, emerging technologies and fuel blend options. Please refer to our ESG report on our website for more details.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://www.gaslogltd.com/investors/sustainability/

Company	Global Ship Lease	Ship Owner, Ship Operator
		UK

Climate target	Global Ship Lease aims to achieve net zero carbon emissions by 2050
Link(s)	https://www.globalshiplease.com/esg/esg-overview https://www.globalshiplease.com/esg/decarbonizing-shipping https://www.globalshiplease.com/static-files/1e67a7c1-adfe-4b2d-8776-af0eb2edcfde

Climate action	GHG emissions transparency. We are committed to publishing emissions data for our owned fleet.
Area(s)	• GHG emissions transparency
Link(s)	https://www.globalshiplease.com/esg/esg-overview https://www.globalshiplease.com/esg/decarbonizing-shipping https://www.globalshiplease.com/static-files/1e67a7c1-adfe-4b2d-8776-af0eb2edcfde

Climate action	Other. We are committed to decarbonizing our business by taking a full life-cycle approach to the carbon footprint of ships: considering the impact of building and recycling ships, as well as operating them. We see expanding the economic lifecycle of existing ships - and optimizing them to reduce emissions - until next-generation sustainable fuels and propulsion technologies become commercially available and economically viable as being both environmentally responsible and financially prudent.
Area(s)	• Other
Link(s)	https://www.globalshiplease.com/esg/esg-overview https://www.globalshiplease.com/esg/decarbonizing-shipping https://www.globalshiplease.com/static-files/1e67a7c1-adfe-4b2d-8776-af0eb2edcfde

Company	Hamburg Port Authority	Port, Terminal Germany

Climate target	Hamburg Port Authority (HPA) follows the European climate goal of 55% reduction by 2030 compared to 1990. Moreover, HPA has the goal to be a climate neutral operating authority by 2040. With regard to the maritime industry, this means that HPA´s subsidiary called `Flotte Hamburg` also needs to operate and manage its about 50 ships climate neutral by 2040. Furthermore, HPA is advocating for the concept of 'zero emission at berth' as pathway towards a climate neutral shipping industry. This implies a European CO2 emission limit for seagoing as well as inland water vessels. Recently signed national and international MoUs support the zero emission at berth concept. The Northwest European ports pledged to enable maximal deployment of OPS for the large container segment by 2028. Next to this, nine German seaports committed to pro-actively support the decarbonization of the shipping industry by demanding a European CO2 emission limit as well as identifying appropriate innovative measures at berth.
Link(s)	https://www.hamburg-port-authority.de/fileadmin/user_upload/191129_HPA_NHB_2017_2018_gesamtBericht_DE.pdf

Climate action	In order to reach the climate goals and implement environmental strategies, on shore power supply (OPS) plays a crucial role. As first port in Europe, the Port of Hamburg decided to install OPS on large-scale. Already in 2016, the Port of Hamburg took a pioneering role and installed its first OPS station for cruise ships. By 2022 three out of four container terminals will be equipped with OPS, the planning process for the fourth terminal has started. By 2023 all three cruise terminals will be equipped as well. Depending on the utilisation rate, the Port of Hamburg could reduce the amount of annual CO2 emissions at berth by 50% using green electricity instead of fossil fuels.
Area(s)	• Procuring zero emission shipping services
Link(s)	https://www.youtube.com/watch?v=HesyiSkUa-E

Climate action	HPA is part of the project `ZeroEmission@Berth`, which was initiated in 2021 by the German seaports and demands a European CO2 emission limit for all vessels and identification of appropriate innovative zero emission measures. From 2030 onwards, seagoing as well as inland ships should be climate neutral during the time at berth by a European applicable CO2 emission limit. This creates a level playing field, since all ships have to take action to reduce GHG emissions and the polluter pays principle applies. The project intends to identify and if possible also to demonstrate technology open solutions for zero emission at berth next to stationary onshore power.
Area(s)	• Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure
Link(s)	

Climate action	As environmental protection contains multiple aspects, the Hamburg Fleet developed a five-pillar concept for its environmental strategy, which is integrated in the general policy of its parent-company "Hamburg Port Authority": (1) Use of innovative, low emission, fuels, (2) Exhaust gas treatments in newbuildings, (3) Retrofit with exhaust gas treatments, (4) Use and testing of innovative propulsion technologies, (5) Energy–efficient ship operation In combination of the above actions, the Hamburg fleet is able to reduce its air pollution emission (NOx and PM) by 15% though the total engine running hours increase slightly every year. The "zero emission goal" in mind, the Hamburg fleet has built two fire-fighting vessels fitted with plug-in diesel hybrid engines. These allow for a fully electric and zero emission operation for a period of up to 120 minutes. Another ship with the same engine is currently under construction. Further, the Hamburg Fleet has developed a finished construction plan for a smaller ship with fuel cell propulsion and the first dual-fuel hydrogen pilot boat is being planned. Finally, fully electric work boats for the inland water ways of the city are being planned as well.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D)
Link(s)	https://www.hamburg-port-authority.de/de/tochtergesellschaften/flotte-hamburg/gruene-flotte

Company	Hapag-Lloyd	Ship Owner, Ship Operator
		Germany

Climate target	Hapag-Lloyd wants to reduce the emission intensity, measured in CO2 emissions per tonne nautical mile [CO2/tnm], of the owned fleet by 60% until 2030, based on 2008. Additional targets are currently being developed as part of the enhanced sustainability strategy.
Link(s)	https://www.hapag-lloyd.com/content/dam/website/downloads/ir/HLAG_Sustainability_Linked_Bond_Framework.pdf

Climate action	Conversion of a large container ship (15,000 TEU) to be able to run on bio LNG or synthetic LNG. Pilot project for the industry. Order of twelve 23,500 TEU container ships, able to run on bio LNG or synthetic LNG. All vessels will be fitted with a state-of-the-art high pressure dual fuel engines, which will be extremely fuel efficient.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.hapag-lloyd.com/content/dam/website/downloads/pdf/HLAG_SustainabilityReport2020.pdf

Climate action	Successful trials with biofuels on conventional vessels.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.hapag-lloyd.com/content/dam/website/downloads/pdf/HLAG_SustainabilityReport2020.pdf

Climate action	Reporting to CDP for transparency.
Area(s)	• GHG emissions transparency
Link(s)	https://www.cdp.net/

Company	Höegh Autoliners	Ship Owner, Ship Operator
		Norway

Climate target	Target is to be carbon neutral (scope 1 emissions) by year 2040.
Link(s)	https://www.hoeghautoliners.com/videoplayer?id=6257726315001#videoplayer

Climate action	In 2021, we completed our first trail shipment on carbon neutral biofuel and we are now offering this option to our customers. We have furthermore developed a net zero-emission ready vessel concept, the Aurora class and we aim to order a series of this class.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://www.hoeghautoliners.com/about-us/sustainable-business/_/attachment/inline/af275e0a-8ca0-4ffc-abe1-4afa9fc88d41:0052feedc789c852ab90829766ee83a1dd114b29/H%C3%B6egh%20Autoliners%20ESG%20Report%202020.pdf

Company	Höegh LNG	Ship Owner, Ship Operator
		Norway

Climate target	The climate action targets for the Höegh LNG fleet and operations are: • Reduce total carbon dioxide emissions for the existing fleet by 30% in 2024 as compared to 2020 • Have carbon dioxide - and ecosystem-neutral operations by 2050
Link(s)	https://s22.q4cdn.com/480630535/files/doc_financials/2020/ar/H%C3%B6egh-LNG-Holdings-Ltd.-2020-annual-report.pdf

Climate action	Develop and have the first net zero-carbon FSRU in operation by 2030.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://s22.q4cdn.com/480630535/files/doc_financials/2020/ar/H%C3%B6egh-LNG-Holdings-Ltd.-2020-annual-report.pdf

Climate action	Develop technology and infrastructure solutions to facilitate that our customers can deliver green ammonia/hydrogen services from our FSRUs by 2024, and our ambition is that this value-added service deployed for several of our FSRUs by 2030.
Area(s)	• Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure
Link(s)	https://s22.q4cdn.com/480630535/files/doc_financials/2020/ar/H%C3%B6egh-LNG-Holdings-Ltd.-2020-annual-report.pdf

Climate action	By 2025, Höegh LNG, in cooperation with partners, intends to have in operation a carbon capture and storage delivery chain based on floating infrastructure. This will e.g. enable production from natural gas of carbon free hydrogen and ammonia, which can be used as marine fuels.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Other
Link(s)	https://alterainfra.com/articles/stella-maris-ccs-carbon-capture-and-storage

Company	ICE Marine Design	Shipbuilder, Equipment, Technology
		Isle of Man

Climate target	As one of Europe's largest naval architect and marine engineering consultancies, ICE's target is to implement energy saving features in all its ship designs and to advise its customers in the commercial marine, offshore energy and defence sectors of ways to minimise pollution and decarbonise operation of ships and offshore platforms.
Link(s)	www.icedesign.info

Climate action	In addition to implementing energy-saving devices in its ship designs, provideing design assistance to suppliers of such devices and striving to stay informed about alternative fuels for ships, ICE is or has been actively involved in the following projects: • Development and construction of a solar-powered sightseeing demonstration boat for operation in the sensitive UNESCO-protected Danube Delta. • Sponsoring development of a unique aerofoil propelled tugboat for intercontinental towing of large bulk carriers with a fuel saving estimated at 80% compared to current operations. • Developing an all-electric car and passenger ferry. • Design of several wind turbine installation vessels and vessels for wind farm maintenance, its latest design includes an energy saving system (ESS) ready for in-field battery recharging by wind generated electricity ultimately achieving zero pollution operations.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	www.icedesign.info

Company	ING	Financial Institution
		Netherlands

Climate target	ING has joined the Net-Zero Banking Alliance, which means that we have set a target of net-zero by 2050 or sooner and steer our loan book towards keeping the rise in global temperatures to a maximum of 1.5 degrees Celsius, rather than well below 2 degrees Celsius. For our shipping portfolio we apply the Poseidon Principles methodology and steer towards and report on an Alignment Delta based on required Annual Efficiency Ratio (AER) as per the IMO 2050 ambition. Over the next 12 months, we'll work to determine what steps and intermediate goals are needed to get us on this more ambitious net-zero pathway.
Link(s)	https://www.ing.com/Newsroom/News/ING-to-steer-to-net-zero-climate.htm https://www.ing.com/Sustainability/Sustainability-direction/Climate-action.htm https://www.ing.com/Sustainability/Sustainable-business/Terra-approach.htm https://www.ing.com/MediaEditPage/2020-ING-Terra-progress-report.htm - 2021 ING Climate Report to be published mid-September

Climate action	We are now reporting progress in portfolio climate alignment and climate risk management in an integrated manner for greater transparency (Area: GHG Transparency). ING was a founding Signatory of the Poseidon Principles when it was launched in June 2019 and holds an active position in the PP Steering Committee including the Treasury function. In December 2020 ING reported a portfolio alignment score of -0.4%. Although this is based on one year of emissions data only, it reflects our focus to finance market leading shipping companies operating modern tonnage. We're committed to develop and present an action plan with intermediate goals and steps to get us on the more ambitious net-zero by 2050 pathway.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.poseidonprinciples.org/wp-content/uploads/2020/12/Poseidon-Principles-Annual-Disclosure-Report-2020.pdf https://www.ing.com/Newsroom/News/ING-to-steer-to-net-zero-climate.htm https://www.ing.com/MediaEditPage/2020-ING-Terra-progress-report.htm - 2021 ING Climate Report to be published mid-September

Company	**Kuehne+Nagel International**	Freight forwarder, Customer, Cargo Owner
		Switzerland

Climate target	We are addressing CO2 reduction in all of our transport and logistics services worldwide. As a first mover in the industry, we have set ourselves two important goals: (1) be fully carbon neutral in our direct sphere of influence as of 2020 (Scopes 1 and 2 of GHG Protocol), (2) we have decided to proactively address the CO2 footprint of the transportation services performed by our suppliers – airlines, shipping lines and haulage companies – by 2030. The basic concept for achieving CO2 neutrality includes the three steps of identifying (visibility), avoiding/reducing and offsetting emissions.
Link(s)	Sustainability webpage: https://home.kuehne-nagel.com/-/company/corporate-social-responsibility/carbon-offset

Climate action	VISIBILITY: Making greener choices requires more awareness of our CO2 footprint along each step of the supply chain. Therefore, our digital solutions enable our customers to detect and select services with lowest CO2 emissions to optimise routings and reduce environmental impact. In addition, our customers receive full transparency on the estimated CO2 emissions of their shipments in their offers. At Kuehne+Nagel, carbon dioxide emissions are calculated based on the fundamentals of the Greenhouse Gas Protocol (GHG). Seaexplorer, Kuehne+Nagel's online solution for sea freight planning, offers customers complete transparency on the CO2 emissions on virtually every possible trade lane for containarised sea freight, regardless of the shipping company. By choosing environmentally friendly services, customers can reduce their CO2 emissions instantly.
Area(s)	• Procuring zero emission shipping services • GHG emissions transparency
Link(s)	Sustainability report 2020: https://home.kuehne-nagel.com/-/company/sustainability-report-2020

Climate action	REDUCTION/AVOIDING: We support our customers and stakeholders in making their supply chains greener through measures we provide across all transport modes including sea freight. Kuehne+Nagel offers completely climate-neutral shipment options, e.g., via the use of biofuel in both air freight and sea freight, by selecting lower-emission transport routings or environmentally friendly warehouse management equipment and packaging materials. The use of biofuel enables to reduce CO2 emissions instantly. In doing so, Kuehne+Nagel aims to neutralise its collective carbon footprint including all suppliers – airlines, shipping lines and haulage companies – and help all stakeholders to achieve their own bold environmental targets.

Area(s)	• Using zero emission fuels in commercial operation • Procuring zero emission shipping services • Other
Link(s)	Sustainability report 2020: https://home.kuehne-nagel.com/-/company/sustainability-report-2020

Climate action	OFFSETTING: We lessen our carbon footprint, which cannot be reduced to zero beforehand, by investing in certified nature-based offset projects that work towards the UN Sustainable Development Goals (also known as SDG goals). Carbon offsetting is a recognised mechanism that allows counterbalancing CO2 emissions of a shipment that cannot be avoided. This mechanism is also available to our customers.
Area(s)	• Procuring zero emission shipping services
Link(s)	Sustainability report 2020: https://home.kuehne-nagel.com/-/company/sustainability-report-2020

Company	Louis Dreyfus Company	Charterer
		Switzerland

Climate target	CORPORATE TARGETS: GHG Emissions: Reducing emissions by introducing innovative processes, leveraging new technology and opting for clean energy sources, reducing energy consumption, reducing water consumption, and reducing solid waste generation. SHIPPING SPECIFIC TARGET: By 2022, reducing our fleet emissions per ton mile by 15% compared to 2017.
Link(s)	https://www.ldc.com/sustainability/protecting-environment/climate-change/

Climate action	Shipping specific action: Investment in innovative project. Over the course of the year, LDC has dedicated significant efforts to meeting hydrodynamicists and energy-saving device providers. With a focus on wind propulsion, LDC's freight division is now working on a comparative study amongst various technology providers with an aim of upgrading vessels in the coming year.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.ldc.com/sustainability-report-2020/responsible-business/freight/

Climate action	Shipping specific action: Founding signatory of the Sea Cargo Charter. LDC recognizes climate impacts of international shipping activities can only be addressed through an industry-wide coordinated approach. Which is why in 2020 LDC became one of the founding signatories of the Sea Cargo Charter, a pioneering multi-stakeholder initiative that aims to accelerate the global trajectory toward sustainable shipping through accurate and standardized measurement and reporting of shipping emissions.
Area(s)	• GHG emissions transparency
Link(s)	https://www.ldc.com/sustainability-report-2020/responsible-business/freight/

Climate action	Shipping specific action: i4 Insight platform implementation. In 2020, LDC intensified its decarbonization journey further by implementing the i4 Insight platform. This solution, backed by Lloyds Register and which should come to fruition in 2021, leverages modern technologies such as machine-learning and near real-time data, to build accurate, tailored models of our ships' performance to eventually reduce fuel consumption and emission.
Area(s)	• GHG emissions transparency • Other: Energy efficiency
Link(s)	https://www.ldc.com/sustainability-report-2020/responsible-business/freight/

Company	**Liberty Pier Maritime Projects**	Other services or consultancy Germany

Climate target	By 2045, Liberty Pier Maritime Projects GmbH & Co. KG and its ship management arm Liberty Blue Shipmanagement GmbH & Co. KG jointly aim to have a zero emission fleet in domestic commercial operations. By 2050, Liberty Pier Maritime Projects GmbH & Co. KG and its ship management arm Liberty Blue Shipmanagement GmbH & Co. KG jointly aim to have a zero emission fleet in international commercial operations and to be climate neutral.
Link(s)	

Climate action	From 2021, Liberty Pier Maritime Projects GmbH & Co. KG and its ship management arm Liberty Blue Shipmanagement GmbH & Co. KG are jointly committed to ordering zero emission capable vessels.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Climate action	Liberty Pier Maritime Projects GmbH & Co. KG and its ship management arm Liberty Blue Shipmanagement GmbH & Co. KG are committed to developing and improving digital and other management tools to measure GHG emissions from the full supply chain to compare activities and optimise operations.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	Liberty Pier Maritime Projects GmbH & Co. KG and its ship management arm Liberty Blue Shipmanagement GmbH & Co. KG are aiming today for a clean vessel operation by using green methanol for its newbuildings.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Company	Lloyd's Register	Classification society
		UK

Climate target	LR Group has committed to an ambitious science-based target of 40% reduction by 2035 from all emission scopes and to ultimately achieve net-zero no later than 2050, this is in line with the latest climate science to limit warming to 1.5C.
Link(s)	https://sciencebasedtargets.org/companies-taking-action?sector=Professional%20Services#table

Climate action	LR is committed to decarbonising shipping, the LR Maritime Decarbonisation Hub, a joint initiative between Lloyd's Register Group and Foundation launched in November 2020 is a dedicated centre of excellence to accelerate the safe, sustainable and cost-effective decarbonisation of world shipping in support of delivering greenhouse gas reduction targets.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	https://www.lr.org/en-gb/latest-news/lr-launches-dedicated-maritime-decarbonisation-hub/

Climate action	We are taking action by building partnerships to develop evidence, insight and practical experience to accelerate the transition. Examples of our partnerships include 'The Castor Initiative' a joint development project with partners across the shipping value chain to design, build, and commission the world's first ammonia-fuelled tanker by 2025.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.lr.org/en/latest-news/unveiling-the-castor-initiative/

Company	Maersk Broker	Other services or consultancy
		Denmark

Climate target	Maersk Broker aims to assist the shipping industry in reducing its emissions as quickly as possible and at a bare minimum to reach the goal of running entirely on net-zero energy sources by 2050. Our target is for the maritime industry to experience a just transition towards a greener future and we work towards a transition where no willing shipowner will be left behind. We see ourselves as a relevant decarbonization advisor for companies of all sizes and aim to diffuse the newest knowledge to ensure that every shipowner makes investment-decisions on an informed basis. In addition, we commit that by 2050, MB will be climate neutral in relation to direct GHG emissions.
Link(s)	

Climate action	Maersk Broker Advisory Services, the consultancy arm of Maersk Broker, have joined forces with McKinsey & Company to assist the maritime industry in its decarbonization journey. We have joined forces to develop an optimization tool to provide a tailor-made roadmap for cost-effective decarbonization of entire fleets. The overarching goal is to help players in the maritime industry to find their most cost-optimal pathway to net-zero. We aim to assist shipowners to navigate in the uncertainty created by ambiguous cost pathways of alternative fuels and efficiency technologies.
Area(s)	• Other
Link(s)	https://maerskbroker.com/about-us/news/maersk-broker-advisory-services-launch-partnership-with-mckinsey-company-to-assist-the-maritime-industry-in-its-decarbonisation-journey?PID=2307&M=NewsV2&Action=1

Climate action	We assist shipowners in GHG emission transparency by offering a Carbon Intensity Indicator (CII) benchmarking service. We help stakeholders in automating the calculation of CII metrics and ensure that all shipowners understand new regulations and how to comply with these. In addition, we offer transparency by offering access to our benchmarking service where individual CII metrics are compared to data from similar vessels. By allowing vessel emissions to be benchmarked with a narrowly defined peer group, it becomes easier to identify problematic assets and initiate corrective actions.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	We aim to educate our colleagues and our clients on relevant climate actions whenever possible. Two specific examples on this: Maersk Broker Advisory Services have a continuous dialogue about green financing with banks, leasing houses, capital funds and other financiers operating in the maritime industry. We make sure that knowledge on the access to favorable financing is shared with relevant companies to ensure that investments are made in future-proof vessels. By monitoring new trends and initiatives, such as the Sea Cargo Charter, we are able to alert and inform relevant colleagues to make sure they understand commercial opportunities that exist to accelerate the energy transition and work towards having such initiatives included in deals.
Area(s)	• Other
Link(s)	

Company	Maersk Tankers	Ship Manager Denmark

Climate target	The Global Maritime Forum's Getting to Zero Coalition aims at having zero emission vessels that are commercially viable on the oceans by 2030. As an active member of the Getting to Zero Coalition, we are committed to these ambitions. At Maersk Tankers, we welcome and subscribe to the directives laid out in the EU's 'Fit for 55' package to meet the targets of the Paris Agreement. The package aligns with the EU's 55% GHG reduction target for 2030, compared to 1990 levels, and will put shipping on the path to net-zero by 2050. We further support the proposals for the maritime sector's transition towards eco-friendly fuels and for shipping to be incorporated into the EU's emission Trading Scheme (ETS). We are taking our part in driving the decarbonization of the industry. As a service provider of commercial management, we use our scale, expertise and commitment to develop and deploy shipping solutions and operations that help shipowners to boost the environmental performance of their vessels.
Link(s)	See sustainability update and policy on this page: https://maersktankers.com/strategy/sustainability

Climate action	ZeroNorth. We are fostering digital innovation to cut industry emissions and increase returns. One example is ZeroNorth, a digital business carved-out of Maersk Tankers with the vision to digitalise shipping for the climate. Through its core offering, the software Optimise, it epitomises how digitalisation can support the industry's move towards more sustainable development. ZeroNorth was founded by Maersk Tankers in 2020 to make the tramp shipping industry more sustainable through digitalisation. The company helps vessel owners and operators operate their vessels more efficiently to reduce GHG emissions, supporting the industry's drive towards more sustainable development, and to increase earnings. Optimise helps cut carbon emissions through determining the optimal speed for each voyage, using multiple data points, such as dynamic vessel and voyage specifics, predictive weather, fuel consumption and market data. It converts this information into tangible actions and recommendations, transparently showing the impact of commercial decisions. We use Optimise on our entire commercially managed fleet with the goal of minimising GHG emissions.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://zeronorth.com/

Climate action	Fuel and Voyage Optimisation Maersk Tankers has had a focus on bunker optimisation for years. Our dedicated team of fuel optimisation experts focuses on supporting partners with the technical know-how to optimise fuel performance and lower emissions based on an extensive set of data on each vessel's performance profile. With a thorough overview of what each vessel is capable of, we support shipowners on initiating the right actions to improve fuel performance. This includes addressing power management behaviour by the crew, hull performance, dry-docks and retrofits. On a voyage level, we utilise our operational expertise, supported by digital tools such as ZeroNorth's Optimise, to conduct each voyage as efficient as possible. In collaboration with Cargill and Mitsui, we offer a service called Njord, which aims to bring to market energy saving solutions along with attractive financing to shipowners, a valuable offering in an otherwise fragmented industry. The partnership will use its technical and operational expertise to identify and ensure technological upgrades and equipment are retrofitted onboard vessels to improve and better measure vessel performance and reduce GHG emissions. We are continuously looking at new ways for optimising and trading more efficiently.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://maersktankers.com/newsroom/agile-and-adept-service-to-benefit-pool-partners

Climate action	Creating transparency through data as a starting point for action: Sea Cargo Charter Maersk Tankers is a signatory and part of the Steering Committee of the Sea Cargo Charter (SCC), which offers a global framework for measuring climate alignment and establishes a common baseline to quantitatively disclose chartering activities and assess them against set climate goals. Maersk Tankers joined the SCC's steering committee in 2021 to help partners fulfil reporting requirements from cargo owners and making sure their activities are monitored and reported. Under the SCC framework, we gather data and report on behalf of pool partners on an ongoing basis to ensure they comply with latest regulations. We believe in the potential of a globally standardized framework to measure chartering activities against climate goals and ensure transparency.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.seacargocharter.org/

Company	MAN Energy Solutions	Shipbuilder, Equipment and Technology
		Germany and Denmark

Climate target	Building on our unique range of capabilities, we create pioneering solutions to master the business, technical, and operational challenges of decarbonization. By 2030, these technologies will comprise a major part of our business, meaning we will generate at least 50% of the company's order intake from such technologies.
Link(s)	https://www.man-es.com/company/about-us/decarbonization

Climate action	In September 2021 MAN Energy Solutions will bunker the container Vessel "ElbBlue" with 20tons of climate neutral synthetic LNG on a trip from Brunsbüttel to Rotterdam. The "ElbBlue" will be the first container vessel in the world to use SNG drop in fuel on a commercial trip.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	MAN Energy Solutions is developing the world's first Ammonia engine, which will enter the market in 2024
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.man-es.com/discover/two-stroke-ammonia-engine

Climate action	MAN Energy Solutions have developed methanol burning engines and have accumulated more than 90,000 hours of successful service. In July 2021 we assisted Maersk in ordering the worlds first carbon neutral container feeder vessel with our methanol burning engine.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	https://www.man-es.com/marine/applications/container

Company	Marine Capital	Ship Manager
		UK

Climate target	Marine Capital is committed to achieving net zero by 2050 for all assets that are managed on behalf of clients.
Link(s)	

Climate action	Marine Capital put forward a suggestion to the UK government to conduct a feasibility study on the decarbonisation of the UK domestic shipping industry. The Maritime and Coastguard Authority has provided funding to support the production of this feasibility study which will be undertaken by Marine Capital in partnership with UMAS and Lloyd's Register. The aim of the study is to provide a commercial roadmap for the implementation of the UK government's Clean Maritime Plan and the decarbonisation of the domestic shipping fleet. Marine Capital is also working on the establishment of a Green Marine Technology Fund which would support investment in green marine tech that produces measurable reductions in GHG emissions.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Company	MISC Group of Companies	Ship Owner, Ship Operator Malaysia

Climate target	MISC Group's Towards Decarbonisation strategy is aimed at decarbonising shipping operations by 2050. In 2021, we have set our priorities on reviewing the comprehensiveness of our organisational boundary and recalibrating our baseline year as well, with the aim to set a new carbon intensity for 2030 and 2050 in addition to a total GHG ambition for 2050. MISC Group is developing the detailed scenario studies on our projected GHG emissions to theoretically review the maximum reduction of carbon emissions as we progressively renew and/or implement retrofits on our current conventional and LNG-dual fuel fleet to zero carbon emissions vessels. This study will assist MISC Group to provide a more accurate projection of the total residual emissions by 2050. Our quantitative targets for both carbon intensity and total GHG will be publicly disclosed by the end of Q4, 2021 and in our upcoming Sustainability Report 2021 as well.
Link(s)	https://www.insage.com.my/ir/interactiveAR/MISC/interactiveAR2020/118-119/

Climate action	MISC had embarked on a collaboration with 4 strategic industry partners in 2020 to develop an ammonia fuelled zero-carbon emission vessel (ZEV); and in early 2021 the collaboration had expanded to include two more strategic industry partners. This expanded collaboration is now known as The Castor Initiative and its strategic priorities are in alignment with IMO 2030 and ultimately IMO 2050 targets set for the shipping industry. A key milestone of the collaboration was achieved in September 2020, as Lloyds Register (LR) (our key classification society partner in The Castor Initiative) awarded an Approval in Principle (AiP) to Samsung Heavy Industries (our key shipyard partner in The Castor Initiative) for its ammonia-fuelled tanker design with the aim of commercializing the design. We plan to progressively conduct our fleet renewals by 2030 across the group as soon as the ZEV is commercially viable.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	The Castor Initiative: https://www.insage.com.my/ir/interactiveAR/MISC/interactiveAR2020/120-121/

Climate action	MISC Group has declared a commitment "Towards Decarbonisation" as follows: Transition to low carbon operations; Zero-carbon emission vessel by 2030; Decarbonized shipping operations by 2050 **Short Term** (2021-2025): Transition to low carbon operations: (1) Reduce carbon intensity emissions via continual improvement in Energy Efficiency Designs and optimize vessel operations, (2) Progressive fleet renewal to low carbon fuel (ie. LNG dual fuel vessels) until commercially viable zero-carbon emission vessels are available **Mid Term** (2030): Zero-carbon emission vessel by 2030 - We are working together on a joint development project - The Castor Initiative with our strategic partners for an ammonia-fuelled tanker to support shipping's drive towards a decarbonised future. **Long Term** (2030 - 2050): Decarbonized shipping operations by 2050: Progressive fleet renewal to decarbonised fuel using commercially viable zero-carbon emission vessels MISC Group is developing detailed scenario studies on our projected GHG emissions to theoretically review the maximum reduction of carbon emissions as we progressively renew and/or implement retrofits on our fleet from the current conventional and LNG-dual fuel into zero carbon emissions vessels. Our quantitative targets for both carbon intensity and total GHG will be publicly disclosed by end Q4, 2021 and in our upcoming Sustainability Report 2021 which will be launched in 2022.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://www.insage.com.my/ir/interactiveAR/MISC/interactiveAR2020/118-119/

Climate action	MISC Group is a supporter of the Taskforce on Climate-related Financial Disclosure (TCFD) framework. In 2021, we have identified our climate-related risks and opportunities, completed our scenario analysis and our action plan is to integrate climate-related risk management into our company strategic risk management processes. We will be disclosing our TCFD Report in our Sustainability Report 2021 by Q1, 2022 and our ambition is to be completely compliant with the TCFD framework by the reporting year of 2023.
Area(s)	• Other
Link(s)	https://www.insage.com.my/ir/interactiveAR/MISC/interactiveAR2020/58-59/

Company	Mitsui & Co	Other: Trading & Investment
		Japan

Climate target	Formulating Mitsui's goal to achieve net-zero emissions as our Vision for 2050, and aiming to reduce GHG impact (= Emissions - Reduction contribution) by 2030 to half of what it is in 2020 as the path to achieve the above goal. Increasing the percentage of renewable energy (including hydropower) in Mitsui's equity-based electricity generation capacity to 30% by 2030.
Link(s)	https://www.mitsui.com/jp/en/sustainability/environment/climate_change/index.html

Climate action	At Mitsui, we introduced the internal carbon pricing system in April 2020 in order to increase the medium to long-term resilience of businesses emitting large volumes of GHG, and to encourage the development of projects that are effective at reducing GHG emissions. Regarding new business projects, in projects with potential risks or opportunities from GHG regulations, etc., we have added analysis of the potential impact of a 2°C scenario to the project screening factors, as well as the reasonableness of countermeasures in the event these risks are realized. We will also use the internal carbon pricing system for assessing risks in existing projects.
Area(s)	• Other
Link(s)	https://www.mitsui.com/jp/en/sustainability/environment/climate_change/index.html

Climate action	On April 23nd, 2021, Mitsui became a Strategic Partner of the Maersk Mc-Kinney Moller Center for Zero Carbon Shipping (MMMCZCS), a not-for-profit international research and development center dedicated to the decarbonization of the shipping industry. Through collaboration with the shipping industry across the supply chain, the MMMCZCS will carry out R&D and develop practical solutions relating to alternative fuels and new technologies related to ship operation.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.mitsui.com/jp/en/topics/2021/1241073_12171.html

Company	Mitsui O.S.K. Lines	Ship Owner, Ship Operator
		Japan

Climate target	1. Reduce GHG emissions intensity by approximately 45% by 2035 (versus 2019*) 2. With the concerted effort throughout the Group, achieve net zero GHG emissions by 2050 * Intend to acquire certification in compliance with SBT guidance for marine transport
Link(s)	https://mol.disclosure.site/en/themes/101?_ga=2.221751832.1622823858.1628648634-1326796080.1591665631

Climate action	Mitsui O.S.K. Lines, Ltd. is committed to deploy net zero emissions ocean-going vessels in the 2020s.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://mol.disclosure.site/en/themes/101?_ga=2.221751832.1622823858.1628648634-1326796080.1591665631

Company	MSC Cruises	Ship Owner, Ship Operator
		Switzerland

Climate target	MSC Cruises is committed to the following 1. Net zero emissions of our fleet by 2050 2. Accelerating by three years the IMO 2030 efficiency ambition/CLIA efficiency target of 40% reduction in carbon emissions by 2030 - so aim to meet this by 2027
Link(s)	https://www.msccruises.com/en-gl/About-MSC/MSC-Sustainability.aspx

Climate action	ENERGY EFFICIENCY • Incorporation of comprehensive energy efficiency measures across the fleet • Implementation of itinerary optimisation tools • Achieving a 30% reduction in emissions intensity compared to 2008 by 2027 (three years earlier than the IMO ambition/CLIA target) • Utilise shore power facilities whenever available These efforts will be enhanced by the work programmes of the PROJECT CHEK partnership, a 3 year (2021-2023) EU funded initiative to investigate numerous, potentially synergistic ,emissions reduction and avoidance methods on a cruise ship, which will include development and testing of optimised itinerary software.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	

Climate action	USE OF ALTERNATIVE FUELS The first of three LNG ships will enter service in 2023, the only lower carbon emissions fuel available at scale today. These ships will be capable of using bio/syn LNG and will be used to test the technical and commercial capability of solid oxide fuels cells, which can use LNG (or its bio/syn alternatives) or hydrogen as an energy source On the existing fleet, we are committed to sourcing low carbon fuels, including biofuels and e-fuels that are commercially available at scale and meet strict sustainability criteria. Our ambition is to replace up to 25% of traditional fuel with sustainable alternative fuel by 2030.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	ZERO EMISSION SHIPS Shore power retrofitting plan for the legacy fleet. Our LNG ships will transition into zero emission, with the scale up of solid oxide fuel cells and the use of bio/syn LNG. PROJECT CHEK includes the investigation of hydrogen engines for cruise ships, among a series of other technologies. An MOU is in place with SNAM and Fincantieri to investigate the feasibility of hydrogen powered cruise ships with a focus on design and construction requirements as well as relevant hydrogen supply chain. Extensive R&D acitivity on going with partners and industry leaders on innovative technologies and new fuel cells.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D);
Link(s)	

Company	MSC Mediterranean Shipping Company	Ship Owner, Ship Operator
		Switzerland

Climate target	Carbon intensity (EEOI) reduced 70% by 2045 from 2008 baseline. First net zero carbon emissions capable ship in service by 2030. Complete net decarbonization in 2050. All to be kept under continuous review.
Link(s)	https://www.msc.com/gbr/sustainability/enabling-logistics-decarbonisation

Climate action	Strategic Partnership with a major energy provider to support both fuel supply and technology deployment for decarbonization. A broad range of additional collaborations and partnerships related to decarbonization with energy providers, equipment manufacturers, and service providers. Major retrofitting project of more than 250 ships to increase energy efficiency. Deployment of energy saving technologies such as in service continuous hull maintenance, advanced coatings, remote performance monitoring, and air lubrication. Where supported by customer demand and/or reasonable pricing support, utilization at large scale of sustainable biofuels up to 45% blend at ports where such fuels are found to be available at scale. During 2020, we used 850K MT of sustainable biofuels up to 47% blend sourced at the Port of Rotterdam, in order to gain experience and to reduce our carbon footprint.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Chairing the Global Industry Alliance to Support Low Carbon Shipping, and playing a major role in development and trialling of port call optimization tools through that IMO-facilitated alliance. Incorporating alternative fuel pathway flexibility into our newbuilding program. Supporting fuel cell, battery, fuel treatment, and alternative fuel pilot projects.
Area(s)	• Ordering zero emission and zero emission capable vessels • Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	First net zero carbon emissions capable ship in service by 2030.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Company	Norden	Ship Owner, Ship Operator
		Denmark

Climate target	Annually improve relative energy efficiency by benchmarking vessel emissions relative to the Paris Agreement-aligned targets outlined by Sea Cargo Charter Carbon neutral in 2050 aligned with Danish Shipping and the Danish government's climate partnership
Link(s)	https://cms.norden.com/sites/cms.norden.com/files/2021-03/NORDENAR2020_0.pdf#page=46

Climate action	Monitoring of vessel emissions to improve fuel efficiency by hull cleaning, paint, speed etc. and operational efficiency; reduced ballasting, optimised cargo intake, avoidance of waiting time, route planning etc. NORDEN is a founding signatory of the Sea Cargo Charter, which commits company members to disclose transparent and comparative reporting of shipping emissions.
Area(s)	• GHG emissions transparency
Link(s)	https://cms.norden.com/sites/cms.norden.com/files/2021-03/NORDENAR2020_0.pdf#page=46 https://www.seacargocharter.org/

Climate action	Cooperation with biofuel supplier on low-carbon biofuel made from waste cooking oil. Three tests have been carried out on NORDEN vessels, and we expect to be able to offer this fuel type to customers in 2022. NORDEN and Spanish engineering company Bound4Blue is carrying out a feasibility study to examine the possibility of installing wind sail technology on one of NORDEN's vessels. The overall objective is to install a number of sails on a NORDEN owned vessel to determine the fuel savings and thus CO2 reductions created by the sails during normal operation.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://cms.norden.com/sites/cms.norden.com/files/2021-03/NORDENAR2020_0.pdf#page=46

Climate action	NORDEN is a Corporate Partner of the new Maersk Mc-Kinney Moller Center for Zero Carbon Shipping. As a corporate partner, NORDEN will contribute directly to the work of the center with key export knowledge on projects related to the development and implementation of future fuels and zero carbon technologies.
Area(s)	• Other
Link(s)	https://zerocarbonshipping.com/

Company	**Norsepower**	Shipbuilder, Equipment and Technology
		Finland

Climate target	Norsepower delivers Rotor Sails/ auxiliary wind propulsion for large ships, which in typical cases enable reducing the fuel consumption and emissions of the target ship from 5% up to 20%. Norsepower's target is to deliver 200 Rotor Sails by 2024, which enable reducing the CO2 emissions of shipping with 150 000 tonnes on annual basis.
Link(s)	https://www.norsepower.com/emissions-reduction

Climate action	Norsepower's aims to deliver 200 Rotor Sails by 2024, which enable reducing the CO2 emissions of shipping with 150 000 tonnes on annual basis.
Area(s)	• Others
Link(s)	https://www.norsepower.com/emissions-reduction

Company	Companhia de Navegação Norsul	Ship Owner, Ship Operator
		Brazil

Climate target	Norsul decarbonization strategy is aligned with IMO targets and supported by below actions.
Link(s)	https://www.norsul.com/carbono-neutro/

Climate action	Norsul is transparently informing clients of all its emissions and offsetting these emissions since January 2020 by verified Amazon Forest credits and emission inventory of owned vessels as from 2021. Norsul is assisting / participating in forums with Brazilian ports/ bunkering logistics and govern for development of renewable energy able to generate green Hydrogen and its derivative which could be used on our new coastal fleet.
Area(s)	• GHG emissions transparency. • Other
Link(s)	https://www.norsul.com/carbono-neutro/

Climate action	Norsul is deploying many technical measures such as devices for energy saving on existing ships and operational measures such as eco speed and trim optimization etc., which together could enable a reduce of about 20% on emissions.
Area(s)	• GHG emissions transparency. • Other
Link(s)	https://www.norsul.com/carbono-neutro/

Climate action	Until 2030, Norsul is engaging in partnership for R&D of new fuels such as Bio methane to be used on certain trades on existing coastal fleet.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.norsul.com/carbono-neutro/

Company	Northwest Seaport Alliance	Port, Terminal
		USA

Climate target	Our climate target, unanimously adopted by our Managing Members on April 6, 2021, is zero emissions -- of both diesel particulate matter (DPM) and greenhouse gas (GHG) emissions, across all seaport-related sources -- by 2050.
Link(s)	https://s3.us-west-2.amazonaws.com/nwseaportalliance.com.if-us-west-2/prod/2021-04/FINAL_2020_NWPCAS_Strategy.pdfhttps://s3.us-west-2.amazonaws.com/nwseaportalliance.com.if-us-west-2/prod/2021-04/Joint-Resolution-NWPCAS_SIGNED_2021.pdf

Climate action	We have set a goal of installing shore power on all major container shipping terminals by 2030. Shore power is installed at one terminal already; two more terminals will be complete by the end of 2023.We are working with our marine terminal operators to begin the transition to zero-emission cargo-handling equipment. As a first step, we are working with our operating partner to bring six electric yard tractors to one of our railyards by the end of this year (2021).
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.nwseaportalliance.com/environment/clean-air/investing-cleaner-air

Climate action	Through our Clean Truck Program we are working with our drayage trucking community to reduce emissions from the existing diesel fleet and begin the transition to zero-emission drayage trucking by 2050.
Area(s)	• Other
Link(s)	https://www.nwseaportalliance.com/environment/clean-air/clean-truck-program

Climate action	We update and publish our comprehensive GHG emissions inventory every 5 years; the next update will occur next year, based on 2021 data.
Area(s)	• GHG emissions transparency
Link(s)	https://pugetsoundmaritimeairforum.org/2016-puget-sound-maritime-air-emissions-inventory/

Company	NYK Line (Nippon Yusen Kabushiki Kaisha)	Ship Owner, Ship Operator Japan

Climate target	In 2018, NYK has set the following targets and received SBT Initiative Verification for our commitment to GHG reduction. (1) 30% by 2030 compared to 2015, (2) 50% by 2050 compared to 2015. Both targets are based on per unit of transportation work and when converting the base year of our current targets to 2008, our reduction level is equivalent to about 53% in 2030 and 66% in 2050.
Link(s)	NYK's GHG Reduction Targets - https://www.nyk.com/english/esg/envi/plan/

Climate action	NYK Line, IHI Power Systems Co., Ltd., and Nippon Kaiji Kyokai (ClassNK) (i.e., "the Companies") are participating in a demonstration project for the commercialization of high-power Fuel Cell (FC) vessels. This project is Japan's first effort to develop a commercially available FC vessel and carry out a demonstration operation involving the supply of hydrogen fuel. By using FCs as a power source, it will be possible to completely eliminate GHG emissions during navigation. Through this project, the Companies will develop an about150 ton class (i.e. passenger capacity: approx.100) high-power FC vessel that will function as a medium-sized tourist ship, and in 2024 carry out a demonstration operation of the FC vessel together with a demonstration supply of hydrogen fuel. The Companies have begun an FC vessel and hydrogen-fuel-supply feasibility study in September2020 and will start designing the vessel and hydrogen-fuel-supply equipment in 2021. Construction and production are expected to start in 2023, and pilot operation of the vessel along the coast of Yokohama port is scheduled to begin in 2024.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	Demonstration Project Begins for Commercialization of Vessels Equipped with High-power Fuel Cells: https://www.nyk.com/english/news/2020/20200901_01.html

Climate action	NYK Line, IHI Power Systems Co., Ltd., and Nippon Kaiji Kyokai (ClassNK) (i.e., "the Companies") signed a joint research and development agreement to put the world's first ammonia-fueled tugboat into practical use. The Companies will proceed with R&D from both technical and operational aspects for the introduction of ammonia as a marine fuel for tugboats. Specifically, they tackled themes such as technological development of the hull, engine, and fuel supply system, and development of safety navigation methods. After evaluating the practicality of the R&D results, the Companies will begin study of the construction of the ammonia-fueled tugboat and the plan for construction. This joint R&D envisions the implementation of ammonia marine fuel in tugboats that require high output, and the Companies will firmly establish the technical and operational requirements for that purpose.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	Joint R&D Starts for Practical Application of Ammonia-fueled Tugboat: https://www.nyk.com/english/news/2020/20200903_01.html

Climate action	In August 2020, NYK Line, Japan Marine United Corporation, and Nippon Kaiji Kyokai (ClassNK) (i.e., "the Companies") signed a joint R&D agreement for the commercialization of an ammonia-fueled ammonia gas carrier (AFAGC) that would use ammonia as the main fuel, in addition to an ammonia floating storage and regasification barge (A-FSRB). Furthermore, in June 2021, the Companies signed an MOU with Yara International additionally to jointly study the practical application of AFAGC. AFAGC - The Companies will be engaged in the R&D of a liquefied ammonia gas carrier. This project is expected to contribute to the early realization of zero emissions for oceangoing vessels. A-FSRB- The Companies will be engaged in the R&D of a barge that is equipped with a floating storage and regasification facility exclusively for ammonia for the first time in the world.This project is expected to contribute to the early introduction of ammonia fuel by utilizing the barge as an alternative to land facilities (storage tanks, regasification facilities, etc.) for the stable supply of ammonia fuel.
Area(s)	• Pilot and demonstration projects (RD&D
Link(s)	Joint R&D Starts for Use of Ammonia in Marine Transportation to Reduce GHG Emissions: https://www.nyk.com/english/news/2020/20200812_01.html Agreement Reached with Yara International for Joint Study of Ammonia-Fueled Ammonia Gas Carrier: https://www.nyk.com/english/news/2021/20210602_01.html

Company	Occidental	Energy production
		USA

Climate target	Occidental is committed to advancing the vision of a lower-carbon world. We're focused on reducing our total carbon impact by decreasing operational emissions, increasing energy efficiency, and capturing and retiring more carbon than our products create—and providing solutions to others looking to do the same. In 2020, Occidental announced an ambition to achieve net-zero for Scope 1, 2, and 3 emissions. There are two defined goals on our pathway to net-zero: • Net-zero for our operational and energy use emissions (Scope 1 and 2) before 2040, with an ambition to achieve before 2035 • Net-zero for our total emissions inventory including product use (Scope 1, 2, and 3) with an ambition to achieve before 2050
Link(s)	https://www.oxy.com/Sustainability/overview/Documents/ClimateReport2020.pdf

Climate action	Occidental, through its Oxy Low Carbon Ventures business, is developing industrial scale CO2 geologic storage sites to permanently store millions of tons per year of anthropogenic CO2. These geologic storage hubs are expected to receive CO2 from a variety of facilities fitted with carbon capture technology, which may include biomass-to-fuels, liquefied natural gas, blue hydrogen and blue ammonia fuel production projects. Initiatives for capturing and permanently storing CO2 enable transportation fuels with net-zero or net-negative carbon intensity.
Area(s)	• Other
Link(s)	https://www.oxylowcarbon.com/

Climate action	Oxy Low Carbon Ventures is working with Carbon Engineering, a British Columbia based direct air capture company, to commercialize its AIR TO FUELS™ technology. The AIR TO FUELS™ process is expected to integrate four growing fields – renewable electricity generation, direct air capture, green hydrogen production, and sustainable fuel synthesis – to deliver a highly scalable, clean fuel solution with an ultra-low life cycle carbon intensity to meet the growing demand for these fuels from a variety of industries.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://carbonengineering.com/air-to-fuels/

Climate action	There is no one size fits all approach to emissions reductions. Given the challenges of decarbonizing the shipping sector, a broad suite of technologies and fuels are needed to achieve net-zero emissions. A complementary solution is net-zero oil. Net-zero oil pairs direct air capture technology with permanent geologic storage of atmospheric CO2 in oil reservoirs that result in a fuel product counterbalancing the associated emissions from production, processing, and fuel combustion. Occidental is working to scale direct air capture and storage to provide net-zero oil. Occidental is working with Carbon Finance Labs and Xpansiv to provide a global marketplace for data-driven, environmental, social and governance inclusive commodity products that incorporate emission reductions from carbon capture, utilization, and storage projects. Transparent and accurate life-cycle carbon accounting for fuels produced using carbon capture, utilization, and storage will provide verified emissions reductions.

Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • GHG emissions transparency
Link(s)	https://www.oxylowcarbon.com/

Company	Oceanic Investment Management	Financial Institution
		Isle of Man

Climate target	
Link(s)	

Climate action	We will continue to track the speed and efficiency of the various fleets in our real time vessel monitoring system which provides us with indications of fuel efficiency when steaming, and congestion related delays and inefficiencies.
Area(s)	• GHG emissions transparency
Link(s)	https://www.oceanicim.com/recent-observations

Climate action	We will evaluate all investment decisions in light of ability to develop solutions to meet emissions targets. We allocate investment capital to shipping companies and projects that make a strong contribution to reduction of emissions - either through modernising their fleets, developing more efficient logistics solutions or developing technologies in areas such as propulsion or auxiliary power that assist in sustainable propulsion solutions.
Area(s)	• Other
Link(s)	https://www.oceanicim.com

Company	Odfjell	Ship Owner, Ship Operator
		Norway

Climate target	Odfjell's climate targets: (1) Odfjell will cut greenhouse gas emission by 50% by 2030 compared to 2008*, (2) Odfjell is dedicated to pursuing a zero-emission strategy and will only order vessels with zero-emission technology from 2030, (3) Odfjell will have a climate-neutral fleet from 2050, (4) Odfjell will actively support initiatives to develop technology and infrastructure for zero emissions and support international regulation to drive zero-emission for our industry * Intensity target, Emissions based on transport work, and Annual Efficiency Ratio
Link(s)	https://www.odfjell.com/about/our-stories/odfjell-sets-ambitious-climate-targe ts/

Climate action	Odfjell has developed a fleet transition plan to transform the fleet and reduce Carbon Intensity by 50% compared to 2008. The plan contains operational and technical measures for our fleet to achieve this. Odfjell has also issued a Sustainbability Linked Bond, where the 2030 target is linked to bonds and loans. Odfjell will report development of AER reduction quarterly and annually. Annual reporting of AER will be verified by external party, who also will verify that the company follow the fleet transition plan towards 2030 target. We are developing a concept for a zero emission chemical tanker and also invest in zero emission fuel cells.
Area(s)	• Ordering zero emission and zero emission capable vessels • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.odfjell.com/sustainability/ and annual report

Climate action	Odfjell is dedicated to pursuing a zero-emission strategy and will only order vessels with zero-emission technology from 2030
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D);GHG emissions transparency
Link(s)	

Climate action	Odfjell will actively support initiatives to develop technology and infrastructure for zero emissions and support international regulation to drive zero-emission for our industry
Area(s)	• GHG emissions transparency
Link(s)	

Company	Olympic Shipping and Management	Ship Manager
		Greece

Climate target	Achieve net-zero emissions by 2050.
Link(s)	

Climate action	In discussion with classification society, shipyard, and engine manufacturers in order to evaluate the possibility / requirements to convert one vessel in order to use zero emission fuels.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Climate action	In discussion with methanol fuel cell manufacturer in order to examine the possibility to power some of the vessel's equipment from a fuel cell.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	In discussion with a propeller manufacturer in order to examine the use of a high efficiency propeller on a vessel.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Company	Pacific Basin Shipping	Ship Owner, Ship Operator
		Hong Kong

Climate target	Around 99% of Pacific Basin's GHG emissions are generated by our owned and chartered vessels, and 1% is generated by our onshore operations. Since 2020, Pacific Basin's onshore operations are carbon neutral. By 2030, Pacific Basin will reduce the carbon intensity of our owned fleet by 40% compared to 2008. By 2050, all of Pacific Basin's owned and chartered fleet will comprise zero emission vessels.
Link(s)	https://www.pacificbasin.com/en/sustainability/documents/esgreport2020.pdf

Climate action	We have not contracted any newbuilding vessels with shipyards since 2013 and Pacific Basin is committed to only ordering newbuilding vessels which will meet the goal of net zero emissions by 2050. We will wait to contract new ships until zero (or very low) emission vessels, or vessels which are capable of meeting net zero emissions by 2050 are available and commercially viable in our segments and appropriate global refuelling infrastructure is in place. In the meantime, our fleet growth strategy involves modernising our fleet by trading up our older ships to high-quality, younger, larger, more efficient second-hand ships.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.pacificbasin.com/en/sustainability/documents/esgreport2020.pdf

Climate action	Pacific Basin has invested in wide-ranging fuel efficiency enhancements and practices for many years and is committed to continue to improve the carbon efficiency of our existing ships through further investment in technical and operational measures. We support the IMO's global regulations to drive technical and operational measures to ensure global shipping meets its short-term goal of improving global shipping's carbon efficiency by 40% by 2030 compared to 2008. We will comply with these IMO and any other carbon efficiency regulations, which means our fleet will continue to become more carbon efficient over the course of this decade. We target for the vast majority of our owned and chartered fleet to achieve an IMO CII rating of C or better. Every year, Pacific Basin targets to maintain our 90% laden-to-ballast ratio, representing very high utilisation and helping to maximise our carbon efficiency (per tonne-mile).
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	Since 2020, Pacific Basin's onshore operations are carbon neutral, and we started to offer carbon neutral shipping (through carbon offsetting) to our cargo customers in 2021.
Area(s)	• Other
Link(s)	

Company	Panama Canal Authority	Other: Canal
		Panama

Climate target	By 2030, Panama Canal Authority will achieve carbon neutrality across the company's entire carbon footprint.
Link(s)	Sustainability at the Panama Canal: http://greenroute.micanaldepanama.com/index.php/sustainability/ Panama Canal Green Connection Website: http://greenroute.micanaldepanama.com/ CO2 Emissions Dashboard: http://greenroute.micanaldepanama.com/index.php/dashboard/

Climate action	The Panama Canal Authority is committed to developing and improving digital and other management tools, to measure GHG emissions to optimize operations. The Panama Canal Authority is committed to providing customers and stakeholders with GHG emissions reports from their transits using its Emissions Calculator. The Panama Canal is committed to recognize and promote vessels registered in the Environmental Ship Index (ESI) through the Green Connection Environmental Recognition Program.
Area(s)	• GHG emissions transparency
Link(s)	Sustainability at the Panama Canal: http://greenroute.micanaldepanama.com/index.php/sustainability/ Panama Canal Green Connection Website: http://greenroute.micanaldepanama.com/ CO2 Emissions Dashboard: http://greenroute.micanaldepanama.com/index.php/dashboard/

Climate action	Panama Canal Authority is committed to establishing a green shipping corridor between the Atlantic and Pacific Oceans by 2030.
Area(s)	• Pilot and demonstration projects (RD&D);
Link(s)	Sustainability at the Panama Canal: http://greenroute.micanaldepanama.com/index.php/sustainability/ Panama Canal Green Connection Website: http://greenroute.micanaldepanama.com/ CO2 Emissions Dashboard: http://greenroute.micanaldepanama.com/index.php/dashboard/

Climate action	All Panama Canal Authority's projects will be directed to support decarbonization. By 2030, the Panama Canal Authority will have low emission vessels and zero emission vehicles in its fleet to reach carbon neutrality.
Area(s)	• Ordering zero emission and zero emission capable vessels • Other

Link(s)	Sustainability at the Panama Canal: http://greenroute.micanaldepanama.com/index.php/sustainability/ Panama Canal Green Connection Website: http://greenroute.micanaldepanama.com/ CO2 Emissions Dashboard: http://greenroute.micanaldepanama.com/index.php/dashboard/

Company	Port Esbjerg	Port, Terminal
		Denmark

Climate target	The Port of Esbjerg has a vision to become carbon neutral by 2030 where the set vision systematizes the path towards carbon neutrality by using the green energy systems available to decarbonize the impact of the port. The details vary with the type of green fuels where these fuels will be produced within the Port's vicinity and hence the entire energy consumption will be based on the renewables.
Link(s)	https://www.sebrochure.dk/port-esbjerg/WebView

Climate action	All power that is fed to the port shall either be based on a green fuel or shall be transformed from a green fuel where there will always be an availability of choices of green fuels (for instance-Ammonia, hydrogen etc) such that the port operations can be made to feed the demanding power requirements. This will therefore give the freedom from any fuel- driven dependencies, making the maritime operations more permeable to the green economy. The emphasis is on facilitating the availability of green energy to the commercial vessels to run on Green Shore Power and the available machinery and vehicles to operate on the same. Further, Port of Esbjerg in future years would escalate its abilities through innovative green and digital technologies, (i) to produce, store, manage, utilize, and distribute (export) green energy, and (ii) to properly capture and dispose of the environment toxicants. In this way, we step towards a paradigm in which all the port functions and operations are self sustainably running on green energy and all the toxic producing operations are completely neutralized. This will eventually connect the port to the green industrial ecosystem available within the spatial cluster of the port and hinterland, and thereby enter the path towards carbon neutrality.
Area(s)	• All
Link(s)	

Company	Port of Aarhus	Port, Terminal
		Denmark

Climate target	Port of Aarhus is committed to reduce total annual GHG emissions scope 1 and 2 by 100% in 2030. Furthermore, Port of Aarhus commits to measure and reduce scope 3 emissions.
Link(s)	https://www.portofaarhus.dk/media/dqnfqj1y/4281-aarhus-havn-b%C3%A6redyg-tighedsrapport-2020.pdf

Climate action	The majority of Port of Aarhus' GHG emissions occur from own vessels tugboats and pilot vessel. The Port will before 2030 aim to use zero emission fuel in own operation. The port is a part of the Environmental Ship Index (ESI).
Area(s)	• Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://www.portofaarhus.dk/publikationer/

Climate action	Port of Aarhus commits to facilitate working with the value chain to be able to provide zero emission fuels for the vessels arriving the port. The port will try to convert existing infra- structure and the new port development bunkering infrastructure for zero emission fuel is part of the planning.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	

Climate action	Port of Aarhus publish an yearly report which provide transparency of the GHG emissions from Port of Aarhus
Area(s)	• GHG emissions transparency
Link(s)	https://www.portofaarhus.dk/publikationer/

Company	Port of Amsterdam	Port, Terminal
		Netherlands

Climate target	Port of Amsterdam aims to be a port with zero shipping emissions by 2050
Link(s)	https://www.portofamsterdam.com/en/discover/sustainable-port

Climate action	New build of the Port of Amsterdam representation vessel to a H2 fueled vessel. Future retrofits of Port of Amsterdam patrol vessels to use emission neutral fuels. Concrete actions will be published via our website by our Team Clean Shipping.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.youtube.com/watch?v=56wH1iNTI3U&ab_channel=H2SHIPS https://sustainableworldports.org/project/port-of-amsterdam-h2ships-project/

Climate action	Development of a public quay for Truck to Ship bunkering of new marine energy carriers. Including safety studies for new fuels. The quay is to facilitate shipping pioneers in their pilot and startup phase as was done with the existing Green Quay that was developed in 2013 for the bunkering of the first LNG fueled vessels.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	https://sustainableworldports.org/clean-marine-fuels/about-our-cmf-working-group/cmf-members/port-of-amsterdam/

Climate action	In 2020 Port of Amsterdam developed an emission calculation model for both sea and inland Shipping and the port industry. The model calculates both air pollutant and GHG emissions. Emissions as of 2018 will be published as from the port's sustainability reporting.
Area(s)	• GHG emissions transparency
Link(s)	https://www.portofamsterdam.com/nl/ontdek/amsterdam-en-de-haven/leefbaarheid/kunnen-we-uitstoot-cruiseschip-of-energiecentrale-meten

Company	Port of Antwerp	Port, Terminal
		Belgium

Climate target	The port of Antwerp wants to be climate neutral by 2050. We also want to be the spark that sets the change in motion. We can't do that alone. We are looking for partners inside and outside the Port of Antwerp: people, companies and organizations who think for the future and demonstrate sustainable courage. Specifically for shipping we aim to put in place the right framework and infrastructure to support the sector in getting to zero.
Link(s)	general: https://www.oursustainableport.com/en/climate-neutrality, https://www.portofantwerp.com/en

Climate action	Walk-the-talk: We integrate new fuels in our own fleet. By 2023 a (hybrid) methanol powered tug and an hydrogen powered tug will be operational in the port.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	Hydrotug: https://www.portofantwerp.com/en/Sustainable%20port#hydrotug Methanol Tug (fastwater): https://newsroom.portofantwerp.com/fastwater-consortium-fast-tracks-commercial-pathway-to-climate-neutral-methanol-as-marine-fuel

Climate action	The Port of Antwerp is fully engaged to integrate low carbon fuels in its bunker market. LNG is a reality today. By 2025 we will integrate methanol, hydrogen and electrical power in our bunkering market.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	https://www.portofantwerp.com/en/multi-fuel-port

Climate action	We will ensure the availability of e-Methanol on the Ports platform. For this we have the power-2-methanol project aiming to build and test the concept of converting CO2 with Hydrogen to produce sustainable methanol. The sustainable methanol will be produced by capturing CO2 and combining it with green hydrogen produced by electrolysis using renewable energy.
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://powertomethanolantwerp.com/

Company	Port of Barcelona	Port, Terminal
		Spain

Climate target	The Barcelona Port Authority has set its GHG reduction targets in three different levels: Reduction of emissions of the port activity; Port Authority and Port community. The global GHG reduction target is to reduce total annual GHG emissions by 50% by 2030 compared to 2017. This target is in line with the UE Paris objectives (emissions reduction by 60% by 2030 and by 100% by 2050 compared to 2008)
Link(s)	http://www.portdebarcelona.cat/en/web/autoritat-portuaria/memoria-vigent

Climate action	Promote energy savings and energy efficiency in the Port Authority buildings as well as in the rest of buildings located at the Port area. Promote the production of renewable energies at the port area. It includes the production of solar photovoltaic and wind energy. Promote consumption shared communities that could generate and consume renewable energies in a decentralized network Implementation of smart grid in the port area. Promote the use of clean fuels for vessels, trucks and terminal equipment Construction of On-Shore Power Supply infrastructure in the port area.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Other
Link(s)	http://www.portdebarcelona.cat/en/web/el-port/sistema

Company	Port of Gothenburg	Port, Terminal
		Sweden

Climate target	By 2030, the Port of Gothenburg will reduce the total annual GHG emissions by at least 70% compared to 2010. The goal includes port operations as well as shipping emissions and landside emissions from trucks and trains within the greater Gothenburg area.
Link(s)	https://www.portofgothenburg.com/gothenburg-port-authority/sustainable-port-authority/

Climate action	Port of Gothenburg is committed to speed up the transition to fossil-free fuels in the transport sector, and have joined forces with Volvo Group, Scania, and Stena Line, to bring about a significant reduction in carbon emissions. The companies involved will introduce a series of interlinked measures designed to accelerate the switch to fossil-free fuels, under an umbrella project called Tranzero. Gothenburg Port Authority will produce the necessary infrastructure and access to fossil-free fuels for heavy vehicles, including electric power, HVO, biogas, and hydrogen gas. Volvo and Scania will put commercial offerings in place for their heavy truck customers, ensuring that in time land transport becomes fossil free in accordance with the goals laid down by the port. Stena Line will also have a key role to play by ensuring new fossil-free vessels are brought into service on the Gothenburg-Frederikshavn route by 2030, moving from vision to reality with its battery-powered vessel concept Stena Elektra.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure
Link(s)	https://www.portofgothenburg.com/the-project-of-the-port/tranzero/

Climate action	Port of Gothenburg is committed to increase the number of ships calling at the port that connect to shoreside power systems when at berth instead of keeping their engines running. The first high voltage shoreside power facility was installed in Gothenburg already in 2001, and since then the number of power facilities have grown year by year, with an average of one third of the ship calls now having access to a shoreside power facility. The next shoreside power project, which will be the first shoreside power connection for tankers in a hazardous area, is already on its way in the Energy Port.
Area(s)	• Procuring zero emission shipping services • Pilot and demonstration projects (RD&D)
Link(s)	https://www.portofgothenburg.com/news-room/press-releases/the-port-of-gothenburg-will-offer-shoreside-power-for-tankers-from-2023/

Climate action	Port of Gothenburg is committed to continue to provide positive incentives for ships that go beyond the regulations for limiting their environmental impact. Currently, the Port of Gothenburg provides a discount on port dues based on the two incentives Environmental Ship Index and Clean Shipping Index.

Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.environmentalshipindex.org/https://www.cleanshippingindex.com/ https://www.portofgothenburg.com/about-the-port/greener-transport/environmental-discount-on-the-port-tariff/

Company	Port of Kiel	Port, Terminal Germany

Climate target	To become 100% climate neutral by 2030 across all port operations doing this by: 1. supplying green shore power to 60% of all our ferry and cruise ship during berthing times in Kiel by 2022 2. supplying green shore power to 80% of all our ferry and cruise ship during berthing times in Kiel by 2025 3. continuous reduction of CO_2-emissions of the Port of Kiel through continuosly retrofitting our vehicle fleet to alternative propulsion techniques (electric, fuel cell or alternatives to diesel oil) 4. only using green power across all our infrastructure estate (already in place since 2012)
Link(s)	

Climate action	Supplying green shore power to 60% of all our ferry and cruise ship during berthing times in Kiel by 2022 2. Supplying green shore power to 80% of all our ferry and cruise ship during berthing times in Kiel by 2025.
Area(s)	• Using zero emission fuels in commercial operation • Establishing zero emission bunkering infrastructure
Link(s)	

Climate action	Continuous reduction of CO_2-emissions of the Port of Kiel through continuosly retrofitting our vehicle fleet to alternative propulsion techniques (electric, fuel cell or alternatives to diesel oil)
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Only using green power across all our infrastructure estate (already in place since 2012)
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.portofkiel.com/gruene-energie.html

Company	Port of London Authority	Port, Terminal
		UK

Climate target	AQS and Net Zero. The PLA has set port wide targets to reduce the emissions of nitrogen oxides and particulate matter by 20% by 2026, 40% by 2031, 50% by 2041, and 77-78% by 2051 relative to the 2016 baseline. The PLA has committed to a 60% reduction in our Scope 1, 2 and selected Scope 3 carbon emissions against our 2014 baseline by 2025 and to achieve net zero by 2040. 80% of the PLA's greenhouse gas emissions are from our vessels.
Link(s)	For the Port https://server1.pla.co.uk/assets/airquality2020v1.pdf For the PLA http://pla.co.uk/Port-of-London-Authority-to-more-than-halve-emissions-by-2025

Climate action	Port of London Energy Diversity Mapping Study A study to investigate the potential energy provision options and infrastructure needed to meet the demand of different provision of fuel scenarios and decarbonise the PLA's operations by 2040, and the Port of London across all 95 miles through the capital city. The study aimed to strengthen the Thames' future investment and planning strategy by understanding the integration of optimal energy and fuel solutions across the entirety of the tidal Thames.
Area(s)	• Other
Link(s)	http://pla.co.uk/New-study-commissioned-as-London-targets-zero-carbon-port

Climate action	Demonstration of hydrogen for maritime uses Zero emission shorepower provision in an estuary port as a service for the Thames. Through an innovation challenge the port is investigating investment in a solution to provide shorepower as early as 2025 into London. Replacing the diesel with hydrogen fuel cell based system at an operational marine site, for example to charge a hybrid vessel and help other power requirements. The aim of the project is to demonstrate how the fuel can be used for existing needs, and challenges can be overcome to do so for application across the river, such as storage, safe bunkering, geographic constraints, supply chain, and skills required.
Area(s)	• Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure
Link(s)	https://www.pla.co.uk/Port-of-London-Authority-launches-Sustainable-Innovation-Fund

Climate action	Net Zero PLA Monitoring and reporting the reductions in own organisation's emissions against both yearly forecast and overall target progress. Early switch of harbour vessel operations to HVO to reduce emissions and local impacts of operations, the operation and use of a hybrid pilot cutter and planning for the first zero emission vessels between 2023 and 2025. The plan also includes climate resilience energy infrastructure and future proofing marine sites with bunkering infrastructure ready for zero emissions.
Area(s)	• Ordering zero emission and zero emission capable vessels; GHG emissions transparency
Link(s)	https://www.pla.co.uk/Port-of-London-Authority-to-more-than-halve-emissions-by-2025

Company	**Port of Rotterdam Authority**	Port, Terminal Netherlands

Climate target	The Port of Rotterdam Authority considers the failure of the energy transition as a top risk. We aim to bring the Port of Rotterdam in line with the Paris Climate Agreement objectives (net zero by 2050). We are working towards achieving a carbon-neutral and circular port.
Link(s)	https://www.portofrotterdam.com/en/news-and-press-releases/port-of-rotterdam-aims-to-take-the-lead-in-the-energy-transition https://www.portofrotterdam.com/en/doing-business/port-of-the-future/energy-transition/carbon-neutral https://jaarverslag2020.portofrotterdam.com/jaarverslag-2020/6-overige-informatie/taskforce-on-climaterelated-financial-disclosures

Climate action	MAGPIE - The project name is an acronym for: sMArt Green Ports as Integrated Efficient multimodal hubs, an international alliance of 45 companies, knowledge institutes and port authorities, headed by the Port of Rotterdam Authority. The consortium executing 10 pilot projects and demonstration projects that focus on sustainable and smart logistics in port operations. This includes production, transport, storage, distribution (fuels) and charging (electric power). The partners will also design and implement several digitalisation and automation solutions in the context of the energy transition. In addition, they will be exploring how best to encourage companies to raise the sustainability of their logistics processes. And finally, one of the consortium's outputs involves the development of a master plan that sets out how transport in, to and from the ports can be made carbon-free by 2050 – and what needs to be done in this context before 2030 and 2040. The project will run for five years.
Area(s)	• Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure • GHG emissions transparency
Link(s)	https://www.portofrotterdam.com/en/news-and-press-releases/eu-awards-nearly-eu-25-million-in-funding-to-green-port-project-rotterdam

Climate action	INCENTIVE SCEME FOR CLIMATE-FRIENDLY SHIPPING- The Incentive Scheme is intended to promote projects and demonstrations in Rotterdam that utilise new climate-friendly fuels in maritime shipping. To decarbonise logistics that run via Rotterdam, in 2018 Port Authority CEO Allard Castelein announced a EUR 5 million incentive scheme for climate-friendly shipping. Efficiency measures in shipping could reduce CO2 emissions substantially. Nevertheless, if the maritime shipping sector aims to satisfy the international community's ambition on climate change, it will need to switch to climate-friendly alternative options. This scheme will support ship owners, charterers, fuel suppliers and producers and related parties experimenting with low-carbon or zero-carbon fuels that can help to substantially lower the sector's CO2 emissions. As of January 2019 parties can apply for this specific funding.

Area(s)	• Using zero emission fuels in commercial operation • Other
Link(s)	https://www.portofrotterdam.com/en/doing-business/port-of-the-future/energy-transition/incentive-scheme-climate-friendly-shipping

Climate action	ROTTERDAM SHORE POWER STRATEGY- The Municipality of Rotterdam and the Port of Rotterdam Authority are working together on the joint rollout of shore-based power for sea-going vessels in Rotterdam. By 2030, they want a significant share of sea-going vessels to 'plug in' once they have moored along one of the port's quays. Over the next five years, the partners will be initiating a series of projects that are intended to accelerate and scale up the adoption of shore-based power. The partners have based their shore-based strategy on three different pillars: (1) quality of the surrounding social environment, ensuring that all public quays in built-up areas will ultimately be fitted with shore-based power points. (2) 'big steps forward wherever possible', to construct new shore-based power capacity for ferries, ro/ro ships, offshore vessels and cruise liners. (3) development of innovations for special vessel categories like e.g. liquid bulk carriers, which are difficult to accommodate with the existing shore-based power facilities. In the years ahead, the aim is to realise eight to ten concrete shore-based projects, which will be divided between the programme's three main pillars.
Area(s)	• Using zero emission fuels in commercial operation • Establishing zero emission bunkering infrastructure
Link(s)	https://www.portofrotterdam.com/sites/default/files/strategy-for-shore-power-in-the-port-of-rotterdam.pdf?token=TApUnMEf

Company	Vancouver Fraser Port Authority	Port, Terminal Canada

Climate target	The Vancouver Fraser Port Authority has a vision to be the world's most sustainable port. Reducing air emissions is a key component of achieving that vision. Through the Northwest Ports Clean Air Strategy ("the Strategy"), we have a vision to phase out emissions from seaport-related activities by 2050, supporting cleaner air for our local communities and fulfilling our shared responsibility to help limit global temperature rise to 1.5 degrees Celsius. This vision encompasses emissions from ocean going vessels, harbour vessels, cargo handling equipment, trucks, rail, port administration and tenant facilities. The Strategy guided by principles that support a holistic approach to phasing out emissions, ensuring we maximize co-benefits and minimize unintended consequences along the way, creating a sustainable path forward. Corporately we are targeting a 40% reduction in emissions by 2030, relative to 2010.
Link(s)	https://www.flipsnack.com/portvancouver/sustainability-report-2016/full-view.html https://www.portvancouver.com/wp-content/uploads/2021/04/NWP_CAS_Report_2020WEB.pdf

Climate action	Since 2007, our EcoAction Program has provided financial incentives of up to 47% off harbour dues to vessels that go beyond compliance to reduce air emissions, and more recently underwater noise. Through a sustainable, bonus-malus based rate structure, this equates to more than $2 million/year in incentives for progressive shipping lines. Our flexible, results-based approach supports business decisions that make the most sense for each shipping line. Current eligible options for reduced fees include shore power, alternative fuels/power sources/technologies, NOx Tier 3 engines, acceptable (higher) scores in third party rating systems including Environmental Ship Index, RightShip, Green Award, Clean Shipping Index, Clean Cargo Working Group and Green Marine, acceptable levels of better than required attained Energy Efficiency Design Index, vapour control/recovery systems, acceptable Ship Classification Society environmental designations and select underwater noise reducing technologies.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure • Other
Link(s)	https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/climate-action-at-the-port-of-vancouver/ecoaction-program/

Climate action	Shore power has been available at the Canada Place Cruise Terminal since 2009, and at our Centerm and Deltaport container terminals since 2018 and 2019 respectively. Nearly 700 successful shore power connections have resulted in the avoidance of burning more than 8,000 tonnes of fossil fuels, and a reduction of more than 25,000 tonnes of greenhouse gas emissions and nearly 700 tonnes of air quality emissions. Electricity from the utility grid used for shore power in the Port of Vancouver is very low emission, being almost entirely hydroelectric-based. Contributing to the success of this program, has been the negotiation of a special rate structure for shore power, that makes connecting more cost competitive with running diesel generators while at berth. Additionally, through our EcoAction (Vessel Incentive) Program, we gather information on shore power equipped vessels calling the port for use in developing the business case to expand the program.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://www.portvancouver.com/environmental-protection-at-the-port-of-vancouver/climate-action-at-the-port-of-vancouver/shore-power/

Climate action	The Clean Technology Initiative promotes a transition to low and zero emission technologies through a series of demonstration and pilot projects in a variety of port applications. The program is jointly funded by the Government of British Columbia and the Vancouver Fraser Port Authority with significant in-kind contributions by industry partners. The initiative considers mature alternative energy options including battery-electric terminal tractors and drayage trucks, natural gas drayage trucks, 95+% renewable diesel (HDRD) for drayage trucks, a switch locomotive and a patrol vessel, and 95+% biodiesel in a medium speed marine engine.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure
Link(s)	

Company	Ports of Bremen / Bremerhaven	Port, Terminal Germany

Climate target	bremenports GmbH & Co. KG is climate neutral since 2013. The port infrastructure of the Free Hanseatic City of Bremen, that we manage in Bremen & Bremerhaven, shall be climate neutral in 2023, until 2018 we already reduced these GHG-emissions over 71,5% compared to 2011. Together with the terminal operating companies in Bremen & Bremerhaven we look for a climate target to the whole port areas in both cities; so far we aim to reach the target in between 2030 to 2040.
Link(s)	https://bremenports.de/greenports/wp-content/uploads/sites/3/2017/04/PERS-Rezertifizierung_Report_2015_final_web_12.2016-2.pdf see pages 41-54 https://bremenports.de/greenports/wp-content/uploads/sites/3/2017/04/PERS-Rezertifizierung_Report_2018_en.pdf see pages 7 & 41f. https://bremenports.de/greenports/wp-content/uploads/sites/3/2021/01/PERS-brochure.pdf https://bremenports.de/greenports/wp-content/uploads/sites/3/2021/07/bp_GRi-Report_2019-20_Einzelseiten_en.pdf see pages 50f. https://bremenports.de/greenports/en/senator-schilling-congratulates-bremenports-on-nordwest-award/ https://bremenports.de/greenports/en/10-years-since-launch-of-greenports-sustainability-strategy/

Climate action	The Ports of Bremen/Bremerhaven (bremenports) developed in between 2008 to 2011 the Environmental Ship Index (ESI) together with the Ports of Le Havre, Antwerp, Rotterdam, Amsterdam & Hamburg and provides environment-based tonnage charges (discounts) since 2012. Furthermore bremenports decorates since 2014, based on the ESI-Scores, the most environmental friendly ship and a shipping company calling the Bremen Ports. For internal analysis we use a ship-emission-simulation-tool developed by ISL to monitor ship emissions (but up to now without a scope on GHG).
Area(s)	• GHG emissions transparency • Other
Link(s)	https://bremenports.de/greenports/wp-content/uploads/sites/3/2021/01/PERS-brochure.pdf https://bremenports.de/greenports/wp-content/uploads/sites/3/2017/04/PERS-Rezertifizierung_Report_2015_final_web_12.2016-2.pdf see pages 41-46

Climate action	In 2021 we published a Memorandum of Understanding (MoU) together with the other German seaports to target on zero-emission@berth. It will be accompanied by a common position paper which addresses necessary actions and by an innovation contest that we want to launch together in October 2021. Together with the German government, the Free Hanseatic City of Bremen decided in 2020 to fund On-Shore-Power-Supply-Facilities (OPS) at eight berths for seagoing vessels; the realisation is started. Together with the other ports in the Hamburg-LeHavre-Range bremenports signed a further MoU in June 2021 for the common OPS ambitions to the container terminals in these ports.
Area(s)	• Establishing zero emission bunkering infrastructure • Other
Link(s)	https://bremenports.de/mit-reedern-fuer-saubere-schifffahrt/ https://bremenports.de/en/senate-resolves-to-provide-shore-power-for-maritime-shipping/

Climate action	In March 2021 bremenports presented the project “H2Bx.MariTransGate” and applied for public funding. The projects aims • to support the realisation of the climate neutral port area in Bremerhaven, • the local production of zero-emission-fuels (green hydrogen, green methan or green methanol) as fuel for shipping and • the development of dedicated terminals for the import of zero-emission-fuels. As bremenports is not an energy provider, a bunker provider or a terminal operator, we are looking for investors and operator of such facilities. Furthermore, we want to support the construction and use of zero-emission work-boats and other pilot-ships.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure
Link(s)	https://bremenports.de/en/seven-projects-for-a-climate-neutral-port/ https://bremenports.de/greenports/en/hydrogen/ https://bremenports.de/greenports/en/senate-commissions-a-hydrogen-study/ https://bremenports.de/wp-content/uploads/2021/05/Praesentation_Wasserstofftechnologie_englisch.pdf

Company	Precious Shipping	Ship Owner, Ship Operator
		Thailand

Climate target	Our target is to develop an innovative solution to meaningfully reduce the carbon footprint of our fleet. Specifically, by 2023, we aim to deploy a technology solution to reduce our auxiliary engine fuel consumption by 50%. If this pilot is successful, we will deploy this on our entire fleet by 2026.
Link(s)	No announcement has been made in regard to this plan since it is still in the R&D stage

Climate action	We are working on developing a hybrid battery plus renewable (wind and solar) solution for emission reduction. The solar panel solution would involve installation of flexi solar panels on hatch covers and / or the 2nd deck. The wind energy solution would involve deploying vertical axis wind turbines at various locations on the vessel. Both of these installations have operational as well as structural implications, which are being considered by our operations team together with the classification society. Power generated from the renewable energy source will be combined with a battery unit which will support a more steady operation of the auxiliary engine and fewer running hours.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.preciousshipping.com/en/sustainability-report/

Company	PSA International	Port, Terminal
		Singapore

Climate target	Reduce absolute Scope 1 and 2 carbon emissions by 50% by 2030, and by 75% by 2040, H136against a 2019 baseline year Achieve net zero carbon emissions by 2050 Establish a Scope 3 inventory by 2022 as a first step towards setting a Scope 3 emissions reduction target
Link(s)	https://www.globalpsa.com/sustainability-report/

Climate action	PSA International's first Sustainability Report 2020 reflects our commitment to drive accountability and continuous improvement in our sustainability performance as a business. It also highlights PSA Group's total GHG emissions and a breakdown of our emissions profile in the reporting year to encourage data transparency and disclosure. PSA is pursuing numerous measures to propel us towards our climate ambitions. We are moving away from the use of diesel by choosing lower-carbon fuels such as biodiesel and LNG in the operation of our prime movers. We are also accelerating the electrification of our yard cranes and prime movers to reduce our reliance on diesel fuel while pursuing measures to enhance energy efficiency and renewable energy. Other PSA Business Units (BUs) around the world have also embarked on sustainability initiatives including PSA Marine, which successfully deployed two dual-fuel LNG harbour tugs, the PSA Aspen and the PSA Oak.
Area(s)	• Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://www.globalpsa.com/sustainability-report/

Climate action	PSA is actively trialling and implementing the use of cleaner, alternative fuels. PSA Singapore entered into a joint initiative with multiple government agencies and corporations in 2020 to study and pioneer ways to utilise hydrogen as a viable low-carbon energy vector, while PSA Antwerp has begun trials with a hydrogen-powered tractor and mobile hydrogen refilling station. In 2020, we also joined the Coalition for the Energy of the Future, a global group of 17 companies with a collective goal to develop future energies and technologies to reduce the climate impact of transport and logistics. The Coalition now has 10 projects under development, including topics such as alternative fuels, zero-emission vehicles and inter-modal green hubs.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.globalpsa.com/sustainability-report/

Climate action	Beyond our operations, PSA sees immense opportunities in reducing climate impact and enabling more efficient and sustainable supply chains for the entire maritime and logistics ecosystem. One of our initiatives was the development and launch of CALISTA®, a global supply chain platform that brings together the key physical logistics and non-physical activities of logistics on a digital ecosystem that serves the community of logistics stakeholders. As we continue to innovate to improve cargo flow choices for shippers, we are also exploring the development of a carbon footprint calculator on CALISTA that can help customers make more informed decisions on transportation planning.
Area(s)	• Other
Link(s)	https://www.globalpsa.com/sustainability-report/

Company	Purus Marine	Ship Owner, Ship Operator
		Norway

Climate target	Purus Marine is a maritime holding company that owns environmentally-advanced vessels and infrastructure equipment, contracted long-term to high quality end users. We serve a wide variety of maritime sectors, including the industrial shipping, short-sea, ferry, offshore wind, seafood and environmental remediation sectors. Our mission is to support the maritime industry's transition to a zero-carbon and sustainable future by owning vessels and infrastructure equipment that reduce carbon emissions and ocean pollution. Our climate target is for our fleet to achieve net-zero emissions within the 2030 decade.
Link(s)	

Climate action	From 2021, Purus Marine is committed to ordering lower-carbon vessels, including commercially viable zero-emission and zero-emission capable vessels. By 2030 Purus Marine is committed to only order commercially viable ultra low-carbon and zero-emission capable vessels.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	Purus Marine will discuss this commitment in its annually sustainability report, the first of which will be published for the 2021 year. Purus marine will reflect this commitment by publishing it on our website, www.purusmarine.com.

Climate action	From 2021, Purus Marine is committed to using the appropriate low carbon fuel for each of its vessels as soon as commercially viable.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	Purus Marine will discuss this commitment in its annually sustainability report, the first of which will be published for the 2021 year. Purus marine will reflect this commitment by publishing it on our website, www.purusmarine.com.

Climate action	From 2021, Purus Marine is committed to developing and improving digital and other management tools to measure GHG emissions from the full supply chain to compare activities and optimize operations, and to provide our stakeholders with GHG emission reports.
Area(s)	• GHG emissions transparency
Link(s)	Purus Marine will discuss this commitment in its annually sustainability report, the first of which will be published for the 2021 year. Purus marine will reflect this commitment by publishing it on our website, www.purusmarine.com.

Company	Renewable Hydrogen	Other: Project developer
		Australia

Climate target	Renewable Hydrogen Pty Ltd is assisting in the planned development of both Green Ammonia and Green LNG production and export projects in Australia. For both the pathways of Ammonia and LNG, the production plants will be entirely powered by renewable energy including wind, solar and hydroelectric power. Both products will be exported from Australia for various uses including as marine bunker fuel to enable at least a 70% reduction in greenhouse gas emissions from ships powered by such fuel by 2040.
Link(s)	

Climate action	Developing both Green Ammonia and Green LNG as carriers for the export of Green Hydrogen will contribute to the Australian government's objectives as set out in its National Hydrogen Strategy which can be accessed via the link below. Page 40 of Australia's National Hydrogen Strategy specifically recognises the potential for Green Ammonia as a bunker fuel for shipping.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Other
Link(s)	https://www.industry.gov.au/data-and-publications/australias-national-hydrogen-strategy

Climate action	The Australian government, via its renewable energy funding agency ARENA, has provided part funding to assist in the development of technology for solar powered production of Green Methane which can be exported as Green LNG, including for use as marine bunker fuel. This government funding has been provided to Southern Green Gas Ltd to which Renewable Hydrogen Pty Ltd provides project planning assistance.
Area(s)	• Other
Link(s)	https://www.southerngreengas.com.au/renewable-methane.html

Company	**RightShip**	Other services or consultancy Australia

Climate target	As a company, we aim for zero emissions across all our offices and we continually review our operations and services to ensure that where emissions are produced, we account for them and we work to prevent those emissions being produced again.
Link(s)	https://www.rightship.com/about-us/

Climate action	Our main Sustainability focused product is the GHG Rating, which provides customers with a clear indication of how a vessels design parameters compare to others of a similar vessel type and dead weight. This allows chartering customers to have a clearer understanding of how the vessels were built and to have an expectation of the emissions produced through its operational use. We also conduct Carbon Accounting work, which looks to compile a fleets voyages and resulting emissions, to allow either the charterer or ship owner/ operator to identify areas for improvement in its operational performances. The Carbon Accounting tool factors in the GHG emissions associated with transportation of goods. To do this, we utilise voyage data and our unique vessel specific database to generate a clear picture of the emissions performance of a specific vessel, voyage, cargo type or location over a specific time. The data we verify can also be submitted to the Sea Cargo Charter, as part of their "Preferred Pathway" for verified data submissions. Our Maritime Emissions Portal (MEP) tool provides ports with readily available emissions inventory data, combined with analytic tools to report on and extract the inventory that can be used to manage the local air quality in a more informed way. The MEP leverages RightShip's ship-specific emissions methodology, unique vessel database, and when combined with Automatic Identification System (AIS), delivers an estimation of ship-sourced emissions. The emissions inventory is provided for CO2, SOx, NOx, PM10 PM2.5 and VOC specifically associated with port activities.
Area(s)	• GHG emissions transparency
Link(s)	https://www.rightship.com/products/sustainability-products/

Climate action	As a company, we have implemented several internal policies to help reduce our emissions through our day to day activities. As the world has become accustomed to working remotely, we have reviewed our travel policy and amended what constitutes as necessary criteria for business travel, essentially meaning that unless an event is strictly an "In Person" event, we will continue to present and talk remotely where possible. Where emissions through business travel are generated and are unavoidable, these will be offset. We are also continually reviewing the energy consumed in our offices and where we are able to make adjustments and procure energy from Green energy providers, we will. We also engage with building management to discuss initiatives that require their involvement to implement, such as motion activated lighting, LED lights, voltage optimisation, etc.
Area(s)	• Other
Link(s)	

Company	Rio Tinto	Charterer
		Singapore

Climate target	Rio Tinto supports the IMO's 2030 goals and the ambitions of the Paris Agreement to reach net zero by 2050. This is reflected in our climate targets for Marine: • Meet IMO goal of 40% reduction in shipping emissions intensity of our products by 2030; and • Ambition to reach net zero emissions from the shipping of our products by 2050
Link(s)	Rio Tinto Climate Change Report 2020 https://www.riotinto.com/en/sustainability/climate-change

Climate action	Rio Tinto is committed to supporting efforts, in both industry and government, that accelerate the adoption of zero emission vessels; and introducing zero emission or zero emission capable vessels as part of our vessel portfolio by 2030.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services
Link(s)	

Climate action	Rio Tinto is also committed to working across industry, government, international organizations and the academe to support, and potentially lead, pilot and demonstration projects surrounding efficiency levers, zero carbon alternative fuels, and other technologies that enable the decarbonisation of the maritime industry.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	For GHG emissions transparency, Rio Tinto reports its emissions in our Climate Report. Moving forward, we will be actively leveraging digital platforms to enhance the tracking and reporting of GHG emissions across our marine operations.
Area(s)	• GHG emissions transparency
Link(s)	

Company	**Robert Bosch**	Shipbuilder, Equipment and Technology
		Germany

Climate target	Since 2020, the Bosch Group with its more than 400 locations worldwide has been climate neutral. An independent auditing company has officially confirmed this. But that's not all: We want to shape climate action beyond our immediate sphere of influence and also systematically reduce upstream and downstream emissions, which we aim to reduce by 15 percent by 2030.
Link(s)	https://www.bosch.com/company/sustainability/environment/

Climate action	Beside above mentioned global Bosch climate targets our own business unit is supporting the Marine market with new technologies for injection of zero carbon or net carbon fuels and support therefore customers that want to achieve the climate targets of IMO.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	Will be published at Congress 18th Symposium Sustainable Mobility, Transport and Power Generation. 23. - 24. September 2021, Graz, Austria

Company	Saga Shipholding (Norway)	Ship Owner, Ship Operator
		Norway

Climate target	By 2030, Saga Shipholding (Norway) AS will reduce 10% of EEXI of average of total fleet. By 2050, Saga Shipholding (Norway) AS will have a zero emission vessel in international commercial operations.
Link(s)	https://sagashipholding.no/

Climate action	From 2021, Saga Shipholding (Norway) is committed to ordering only better EEXI vessels than the current fleet.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Climate action	By 2050, Saga Shipholding (Norway) AS will have a zero emission vessel in international commercial operations.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation
Link(s)	

Company	Shell	Energy production
		Netherlands

Climate target	Shell's target is to become a net-zero emissions energy business by 2050, in step with society's progress in achieving the goal of the UN Paris Agreement on climate change.* * see disclaimer below
Link(s)	https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html#vanity-aHR0cHM6Ly93d3cuc2hlbGwuY29tL25ldHplcm9hbWJpdGlvbi5odG1s=true&iframe=L3dlYmFwcHMvY2xpbWF0ZV9hbWJpdGlvbi8

Climate action	We have set short- and medium- term targets to reduce the carbon intensity of the energy products we sell, in step with society. These targets are measured using the Net Carbon Footprint metric and methodology. Our targets are to reduce carbon intensity by: 2-3% by 2021; 3-4% by 2022; 6-8% by 2023; 20% by 2030; 45% by 2035*; 100% by 2050* * The 2035 and 2050 targets also take account of any action taken by customers Disclaimer: Shell's operating plan, outlook and budgets are forecasted for a ten-year period and are updated every year. They reflect the current economic environment and what we can reasonably expect to see over the next ten years. Accordingly, Shell's operating plans, outlooks, budgets and pricing assumptions do not reflect our net-zero emissions target. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans, outlooks, budgets and pricing assumptions to reflect this movement. Also, in this Call to Action for Shipping Decarbonization we may refer to Shell's "Net Carbon Footprint", which includes Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions. The use of the term Shell's "Net Carbon Footprint" is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.seacargocharter.org

Company	Siemens Energy	Shipbuilder, Equipment and Technology
		Germany

Climate target	In April 2021, the Science Based Targets Initiative (SBTi) validated our absolute greenhouse gas reduction targets not only for our own operations but also for our sold products: Siemens Energy commits to reduce absolute scope 1 and 2 GHG emissions 46% by 2030 from a 2019 base year. Siemens Energy commits to increase annual sourcing of renewable electricity from 59% in 2019 to 100% by 2023. In addition, Siemens Energy commits to reduce absolute scope 3 GHG emissions from use of sold products 28% by 2030 from a 2019 base year. The targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep warming to 1.5°C. Siemens Gamesa (SGRE) where Siemens Energy holds 67% was the first renewable energy manufacturer to commit to the SBTi in September 2018 already. In 2020, the SBTi verified that SGRE's emission reduction strategy is aligned to meet the 1.5°C Paris Agreement goal.
Link(s)	https://www.siemens-energy.com/global/en/company/sustainability.html https://www.siemensgamesa.com/sustainability

Climate action	To reduce absolute GHG emissions in our own operations (scope 1 and 2) we focus on defining measures to avoid emissions: • Reducing energy consumption: Energy efficiency projects at different locations, including installation of LED lighting (dimmers, motion sensors), installation of smart meters to increase transparency, building automation systems (e.g., heating, ventilation, air conditioning). • Using renewable electricity: 100% of Siemens Energy's global electricity consumption shall be met by power from renewable sources by 2023. • Reducing SF6 emissions: we develop reduction pathways to reduce SF6 emissions at our sites. • New mobility concepts: We want to reduce our vehicle fleet's emissions and the related fuel costs. The details of an appropriate car policy are currently being worked out. In addition, we are working on a strategy to remove or compensate unavoidable emissions before 2030. Due to the relevance of the topic, it was decided to include emission targets into the Senior Management's Long Term Incentive scheme. SGRE achieved carbon neutrality in its own operations in 2019, including offsetting unavoidable emissions. It expanded its ambitions by setting a net-zero emissions target by 2040.
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector • GHG emissions transparency
Link(s)	https://assets.siemens-energy.com/siemens/assets/api/uuid:ce31f501-4351-4511-8c60-2715119fab88/sustainability-report-2020-siemens-energy.pdf

Company	Siemens Gamesa Renewable Energy	Energy Producer
		Spain

Climate target	Siemens Gamesa Renewable Energy has announced that it aims for a net zero value chain by 2040, which also includes that all maritime GHG emissions needs to be avoided by 2040. Further, Siemens Gamesa is committed to develop the low-carbon solutions that enables low-carbon fuel production.
Link(s)	https://www.siemensgamesa.com/en-int/newsroom/2021/07/210721-siemens-gamesa-press-release-launches-new-sustainability-strategy

Climate action	Siemens Gamesa Renewable Energy has announced that it aims for a net zero value chain by 2040, which also includes that all maritime GHG emissions needs to be avoided by 2040. Further, Siemens Gamesa is committed to develop the low-carbon solutions that enables low-carbon fuel production. Siemens Gamesa is contributing by: • Publishing yearly GHG emission reports for increased transparency and awareness of GHG emissions (scope 1 and 2 + partial scope 3) • Focus on lowering GHG emissions from own vessels activities ie. recently leased a special-built crew transfer vessel to USE low-carbon fuel (HVO100 for now) • Enabling the potential for low-carbon fuel by integrating green H2 production into business offerings (from R&D to pilot to commercial offerings)
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector • GHG emissions transparency
Link(s)	GHG emissions report: https://www.siemensgamesa.com/-/media/siemensgamesa/downloads/en/sustainability/siemens-gamesa-ghg-report-2020-en.pdf Green H2: https://www.siemensgamesa.com/en-int/products-and-services/hybrid-and-storage/green-hydrogen

Company	Skuld	Insurer
		Norway

Climate target	Skuld is a world leading marine insurance provider. Skuld's purpose statement is 'Protecting Ocean Industries'. It underlines our sustainability commitment to members, clients, and brokers, to the world's ocean industries, and to global society. We are acutely aware of climate challenges and the imperative to pursue sustainable development. We have embraced sustainability as a strategic initiative. As a member of various industry groups, including the International Group of P&I Clubs and CEFOR, we work collectively and relentlessly together with our industry peers to influence current regulations and meet requirements set by the UN, IMO and regional and local authorities. Skuld own emissions are limited to those of a financial supplier, as we do not operate ships or physical production facilities. Nevertheless, we continuously focus on reducing our own carbon footprint through reduced travel, procurement of greener electricity in Skuld offices and to ensure we exceed expectations in all matters concerning own emissions
Link(s)	https://www.skuld.com/about/sustainability/ https://www.skuld.com/about/sustainability/sustainability-report/

Climate action	We foresee wider use of alternative fuels as vessels work to meet emissions requirements. We will conduct careful analysis as of our Rules and/or Terms and Conditions to ensure they are sufficient to cater for these and other new risks. Several other IMO initiatives and regulations will be launched during the coming years. Skuld's underwriting team will be kept fully aware of and trained in any new regulations and their impact on members and clients. Breaches of the sulphur cap regulations may result in substantial fines. To motivate our clients into full compliance, Skuld takes a strict line on the insurability of these fines. We do not cover them. Nor, from the 2020/21 policy year, do we cover additional fuel-related handling costs which arise because fuels or bunkers are unfit for use due to non-compliance with the sulphur emissions regulations. Coverage is limited to cases where off-spec bunkers cause a risk of engine damage.
Area(s)	• GHG emissions transparency • Other
Link(s)	

Company	Solomon Islands Ports Authority	Port, Terminal
		Solomon Islands

Climate target	Solomon Ports embarked on zero emission ports journey in 2018 with an ambitious target to transform one of our ports to a “Zero Emission” port by 2030. So far, we have been successful in sourcing 40% of our energy demand through renewable sources. We continuously strive to increase the percentage every year at least by 10% to achieve our target by 2030.
Link(s)	https://www.sipa.com.sb/ https://www.sipa.com.sb/blog/

Climate action	Solomon Ports has been promoting and actively implementing the use of renewable energy in ports to reduce carbon emission form ports whilst advocating the need for zero emissions vessels. As a small Pacific Island nation/port challenged by climate change impacts, we have been insisting on emission reduction targets including the vessels to mitigate the impacts of climate change to small islands ports regionally and globally.
Area(s)	• GHG emissions transparency
Link(s)	https://www.sipa.com.sb/ https://www.sipa.com.sb/blog/

Company	Solstad Offshore	Ship Owner, Ship Operator
		Norway

Climate target	Solstad Offshore has defined a pathway towards zero emissions by 2050. So far, we are on track with 20% reduction in CO2 emissions achieved since 2008 (adjusted for activity level). To meet our 50% reduction target in 2030 we need to step up the use of low/zero emission technology from 2024/25 at latest. Most of the ongoing IMO emission reduction initiatives does not cover our fleet (DP vessels) and urgent action is need from us in the bunsinees to set the targets for the future to ensure we allign with the Paris agreement.
Link(s)	https://www.solstad.com/sustainability/zero-emissions/ https://www.solstad.com/wp-content/uploads/2021/05/SOFF-Quaterly-Report-1_2021.pdf

Climate action	Solstad Green Operations (SGO) is a fuel saving program. With the help of both clients and crew, we've been able to save as much as 15-20% fuel during operations. If a vessel manages to save minimum 500 liters (0.5 m3) of fuel per day in an environmental initiative, this is recorded as a Solstad Green Operation in our records. The Solstad Green Operations program was introduced in 2009, and has been a great success – not least thanks to the crew on all our vessels that have contributed immensely. We have set the standard for others to follow when it comes to efficient and environmentally friendly offshore shipping, but there's still a long way to go to reach zero.
Area(s)	• Others
Link(s)	ttps://www.solstad.com/sustainability/zero-emissions/

Climate action	Electrifying the fleet. Solstad has now upgraded 8 vessels with Lithium-ion batteries and shore power. This allows these vessels to have zero emission while berthed (2-3 times a week) and considerable lower emissions while operating on Dynamic Positioning. Typical annual fuel and emission reduction is 10-15%. Another 2-5 vessels will most likely be upgraded over the next year.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://corvusenergy.com/projects/normand-sygna/

Climate action	Solstad is in the process of designing new vessels that can operate whithout emissions with and estimate delivery in 2024/25. Vessels will use a combination of batteries/ charging, fuel cell technbolgy and/or dual fuel engines using green hyrogen based fuels.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Company	Sparebanken Vest	Financial Institution
		Norway

Climate target	By 2040, Sparebanken Vest will achieve net zero emissions (direct and indirect). Shippingportfolio: • By 2023 Sparebanken Vest will reduce the carbon intensity by 15 % compared to 2019 (baseline).* • By 2030 Sparebanken Vest will reduce the carbon intensity by 50 % compared to 2019 (baseline).* *Calculated with AER
Link(s)	https://www.spv.no/english/investor-relations/Annual-and-interim-reports

Climate action	Covenants to report ships CO2 emissions on a yearly basis.
Area(s)	• GHG emissions transparency
Link(s)	https://www.poseidonprinciples.org/

Climate action	Green loans and sustainability linked loans.
Area(s)	• Other
Link(s)	https://www.spv.no/english/sitecore/content/spv-no/english/about-sparebanken-vest/csr

Climate action	Covenants to deliver Action Plans when needed.
Area(s)	• Other
Link(s)	

Company	Stena Bulk	Ship Owner, Ship Operator
		Sweden

Climate target	We aim to continue providing the world with safe and high-quality transportation of energy and resources, while reducing the environmental impact of our operations and staying relevant as an employer. Our sustainability roadmap is an ambitious plan not only to tackle the big challenges ahead of us, but to turn these challenges into opportunities. We believe IMO's targets aren't sufficient and want to push ourselves to achieve carbon neutral operations by 2040 and be a completely net-zero business by 2050. To do so, we are developing ambitious partnerships and evaluating technologies and fuels through pilot projects, with the goal to have all of our new-builds carbon-neutral ready by 2030 and to have zero-emission vessels on the water before 2035.
Link(s)	https://www.stenabulk.com/press-and-news/press-releases/stena-bulk-unveils-decarbonisation-plan-become-net-zero-business-2050

Climate action	Ordering 3 zero-carbon ready methanol powered MR tankers Exploring low carbon fuels with our joint-venture partners, as well as the feasibility to use carbon capture to generate negative emissions
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Procuring zero emission shipping services
Link(s)	https://www.stenabulk.com/press-and-news/

Climate action	Performing 3 trials of sustainable 2nd and 3rd generation biofuels, offering it to our customers as an option on individual voyages and across our fleet as a whole Evaluating the scalability and availability of biomass resources for multiple applications, together with the oil and gas majors Conducting two projects looking at the technical challenges of using hydrogen and ammonia on tankers with local universities, as well as ammonia production and supply more generally with a group of our customers
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.stenabulk.com/press-and-news/

Climate action	Developing a digital platform to track, share, and evaluate all emissions on individual voyages, making it available to other ship owners, operators, charterers, and others
Area(s)	• GHG emissions transparency
Link(s)	https://www.stenabulk.com/press-and-news/

Company	**Swire Bulk**	Ship Owner, Ship Operator
		Singapore

Climate target	Swire Bulk is committed to: • the long term goal of net zero for Scope 1 and 2 emissions by 2050; • a reduction for Scope 1 and 2 emissions reductions by 50% from 2018 baseline by 2030 including through use of low and zero carbon fuels and where required their production using low grid conversion factor (green) -sourced electricity; • reviewing and considering adopting a science-based target when this is issued by SBTI for our sector, expected at the end of 2021; • reducing Scope 3 emissions by careful selection and engagement with suppliers; • investing in emission-reduction projects in collaboration with our key partners; • offset all business air-travel emissions by executives through purchase of carbon credits
Link(s)	Our parent group is a Private Company in UK, so it issues a very limited annual report. Our Public Group parent has issued the same climate targets in it's 2020 Sustainability Report as cover us on the private side at https://www.swirepacific.com/sdreport/2020/swire-thrive/climate.php

Climate action	Swire Bulk owns and operates one of the most modern fleets of handy and ultra size geared and gearless bulk carriers. The average age of our (currently) 31 vessel fleet is <4 years' old, and all ships have been built to the most environmentally efficient specification.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/project-cerulean.html

Climate action	To find further efficiencies, Swire Bulk is investing in newly available technological advancements which will result in lower fuel consumption and thus further reduction of emissions to air. Our technical fleet management team is working on the following initiatives for our eight new-building vessels which were launched in 2020: (1) Plumb bow and optimised streamlining design; (2) Twisted leading edge rudder with rudder bulb; (3) Pre-swirl vanes / fan ducts; (4) Trim optimisation module adopted in loading computer / Cargo Planners Software. Application of Hempel X7 and next generation X8 silicon paint for our bulk carriers will significantly reduce fuel consumption and need for hull cleaning. In 2019 we started to use Hempel's silicon paint system (Hempaguard X7) on our bulk vessel MV Eredine during dry-docking. We are worked to install LED lights for our entire owned fleet in 2020. LED lights are up to 80% more efficient than traditional lighting such as fluorescent and incandescent lights. The benefit of this greater efficiency is the significant decrease in power demand, thus using less energy and decreasing greenhouse gas emissions. In addition, LED lights also have a longer working life span utilising less maintenance time for the vessel's crew. Less hazardous waste at the end of their working lives is also another benefit.

Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency;
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/investing-new-technologies.html

Climate action	We have a strong focus on EEOI through limiting/eliminating our ballast ratio in cooperation with industrial customers, and through triangulation/parceling/re-designing vessels for deck cargo The normalised figures are monitored by all managers through EEOI graphs (of emissions per tonne / mile - averaged per vessel in fleet) - which we have been tracking since Jan 2015, and this is used as a KPI in a Sustainability Linked Loan. We set ourselves an internal emissions reduction target of 2% more aggressive than IMO, and with effect from 01 Jan 2021 we have adopted an even more robust target of 50% reduction from our 2018 baseline, and net zero Carbon emissions by 2050 We continue to measure emissions of SOx, NOx, Particulate Matter (PM) and Volatile Organic Compounds (VOCs). As they are directly related to Scope 1 emissions, their numbers have been fluctuating accordingly with an average of 14% increase on 2018 figures. We are working to quantify our Black Carbon emissions as these are a recognised climate change forcing factor, though the quantification of the direct relationship is still a WIP
Area(s)	• Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/energy-consumption-emissions.html

Company	Swire Shipping	Ship Owner, Ship Operator
		Singapore

Climate target	Swire Shipping is committed to: • the long term goal of net zero for Scope 1 and 2 emissions by 2050; • a reduction for Scope 1 and 2 emissions reductions by 50% from 2018 baseline by 2030 including through use of green fuels and green-sourced electricity; • reviewing and considering adopting a science-based target when this is issued by SBTI for our sector, expected at the end of 2021; • reducing Scope 3 emissions by careful selection and engagement with suppliers; • investing in emission-reduction projects in collaboration with our key partners; • offset all business air-travel emissions by executives through purchase of carbon credits; • offering carbon neutral shipments to our clients
Link(s)	Our parent group is a Private Company in UK, so it issues a very limited annual report. Our Public Group parent has issued the same climate targets in it's 2020 Sustainability Report as cover us on the private side at https://www.swirepacific.com/sdreport/2020/swire-thrive/climate.php

Climate action	The Project Cerulean Case Study serves as one highlighted pilot project for implementation of the Pacific Blue Shipping Partnership, spearheaded by the Governments of Fiji and the Republic of the Marshall Islands at the International Maritime Hub during COP26 in November. • Project Cerulean is a joint research and development collaboration between Project Partners: Swire Shipping and the University of the South Pacific's Micronesian Center for Sustainable Transport, and representing around GBP 4m in targeted investment from Swire Shipping. • Building upon mature Wind-Assisted Ship Propulsion (WASP) technology, the pilot vessel is targeted to deliver GHG emission savings more than 25% during its operational trials. • Post conclusion of construction in Q3 2022, the vessel will undertake two-years of proving trials servicing outer island communities in Pacific Island Countries. If operations prove the concept to be technically and commercially viable, additional vessels may be ordered. This expansion of the project will aid meeting the 40% decarbonisation targets set for 2030 by Pacific Blue Shipping Partnership countries. Project partners are committed to 100% decarbonise by 2050, exceeding the IMO targets by two times • Vessel construction and operational trials are expected by end 2022 and 2024 respectively. Comprehensive monitoring, reporting, and verification of project inputs, results, and associated emissions, socio-economic/environmental outcomes to be released in both academic and industry publications upon completion. • The opportunity for targeted marine research and maritime sector training is expected to deliver a range of both environmental and socio-economic benefits to the Pacific Island Countries participating in the project.

Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/project-cerulean.html

Climate action	See Swire Bulk, climate action 2.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/investing-new-technologies.html

Climate action	See Swire Bulk, climate action 3.
Area(s)	• GHG emissions transparency
Link(s)	https://www.swirecnco.com/SD/SD_Report_2019/energy-consumption-emissions.html

Company	Swiss Re	Insurer
		Switzerland

Climate target	Swiss Re is committed to achieving net-zero emissions on the asset and liability side by 2050 and on the operations side by 2030
Link(s)	www.swissre.com/sustainability/stories/pioneering-un-net-zero-swiss-re.html

Climate action	As a signatory to the Paris Pledge for Action and the UN Global Compact Business Ambition for 1.5˚C, as well as a co-founder of the UN-convened Net-Zero Insurance Alliance (NZIA) and the Net-Zero Asset Owner Alliance (AOA) Swiss Re is supporting the transition to a low carbon economy.
Area(s)	• GHG emissions transparency
Link(s)	ww.swissre.com/sustainability/stories/pioneering-un-net-zero-swiss-re.html

Climate action	On top of the 30% reduction achieved from 2015 to 2018, Swiss Re targets an additional 35% reduction in carbon emissions for its listed equities and corporate bond portfolio by 2025.
Area(s)	• Other
Link(s)	www.swissre.com/sustainability/stories/responsible-investments-swiss-re-net-zero-investment-portfolio.html

Climate action	Since 2018 Swiss Re does no longer provide re/insurance to businesses with more than 30% exposure to thermal coal utilities or mining. Swiss Re is committed to completely phasing out thermal coal related business in OECD countries by 2030, and in the rest of the world by 2040.
Area(s)	• Other
Link(s)	www.swissre.com/media/news-releases/nr-20210316-swiss-re-announces-ambitious-climate-targets.html

Company	**Synergy Marine Group**	Ship Manager Singapore

Climate target	This year, we have embarked on a full inventorization of our carbon footprint and aim to use this as a foundation to have Science Based Targets for emission reductions from our operations in place within 2022.
Link(s)	

Climate action	a. By 2030, Synergy is committed to having at least 2% vessels capable of running on zero emission fuels as part of its managed fleet. b. By 2030, Synergy is committed to offering zero emission shipping solutions to its customers. c. Synergy is committed to participate and invest in zero emission shipping pilot and demonstration projects, including use of wind propulsion, batteries and fuel cells. d. Synergy is committed to investing in research and development of technologies to enable the deployment of zero emission vessels and to lead the design and implementation of training modules for future fuels and technologies.
Area(s)	• Procuring zero emission shipping services • Pilot and demonstration projects (RD&D)
Link(s)	

Company	TCI GECOMP	Energy production
		Spain and Chile

Climate target	No target specified.
Link(s)	

Climate action	TCI GECOMP SL as energy producer is firmly committed to a carbon-free future that must be powered by renewable energy and zero emission fuels. TCI GECOMP SL is currently working on the development of green hydrogen production projects, from renewable energies and electrolisys, to be used as an energy vector and a zero emission fuel. Applications for hydrogen in TCI GECOMP SL current and expected projects are very varied but are equally necessary to build up a value chain for the production of renewable hydrogen that allows a development on this zero emission fuel commercially viable.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.tci-gecomp.com/en/green-hydrogen-projects/

Climate action	In 2020 TCI GECOMP SL signed a technology development agreement with the company Buquebus to initiate technological and economic feasibility studies to introduce hydrogen technology in the Argentine fleet of vessels. TCI GECOMP SL will develop the strategy for incorporating hydrogen as a fuel in the shipping company's operations. The first hydrogen-based applications are expected to be available before 2025.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.tci-gecomp.com/en/project/h2-buquebus-2/

Climate action	TCI GECOMP SL main activities are been developed in Chile and Spain, two countries with declared interests in the export of hydrogen due to their privileged conditions for the production of hydrogen from renewable sources. TCI GECOMP participates in different associations and entities to promote and communicate about the global development of an economy based on decarbonaised industries and zero emissions activities, where green fuels such as hydrogen (as well as any commodity) can be supplied guaranteeing zero emission not only iat the source but also along the entire value chain, and this is where the decarbonization of shipping transport is essential.
Area(s)	• Other
Link(s)	https://www.aeh2.org/socios/tci-gecomp-sl/ https://www.h2chile.cl/post/h2-chile-presenta-su-nuevo-directorio-2020-2021 https://ec.europa.eu/docsroom/documents/42749/attachments/1/translations/en/renditions/native https://www.tci-gecomp.com/tci-gecomp-se-incorpora-al-patronato-de-la-fundacion-para-el-desarrollo-de-las-nuevas-tecnologias-del-hidrogeno-en-aragon/

Company	Torvald Klaveness	Ship Owner, Ship Operator
		Norway

Climate target	Klaveness has set a target to have carbon neutral Administration by 2025, carbon neutral vessels by 2030 and achieve zero emissions for all of our operations latest by 2050.
Link(s)	https://www.klaveness.com/

Climate action	We are part of Sea Cargo Charter and we will in our sustainability report publish the total annual emissions from our owned and operated vessels based on the carbon intensity measure EEOI. We will also report all emissions from our administration
Area(s)	• GHG emissions transparency
Link(s)	https://www.combinationcarriers.com/sustainability/#sustainability-header

Climate action	We have a strategy to have carbon neutral operation by 2030 and zero emission operation by latest 2050. To achieve this, all vessels ordered in or after 2021 will be Zero Emission ready.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.klaveness.com/our-business/#zerolab-header

Climate action	We are investing in commercializing zero emission shipping by creating a system for carbon in-setting and offer zero emission freight to customers latest by 2025.
Area(s)	• Procuring zero emission shipping services
Link(s)	https://www.klaveness.com/our-business/#zerolab-header

Company	Trafigura	Charterer
		Switzerland

Climate target	Group target to reduce operational greenhouse gas (GHG) emissions by at least 30 percent in absolute terms by the end of financial year 2023, compared to 2020, targeting a sustainable reduction of over one million tonnes of CO2e from Group operations (Scope 1 & 2). To set a meaningful Scope 3 emissions reduction target by end of financial year 2023.
Link(s)	https://www.trafigura.com/brochure/2020-trafigura-responsibility-report

Climate action	Trafigura has received external verification of Trafigura's Scope 1, 2, and 3 GHG emissions data.
Area(s)	• GHG emissions transparency
Link(s)	https://www.trafigura.com/brochure/2020-trafigura-erm-assurance-statement

Climate action	Trafigura calls for the adoption of a market-based measure that would charge a levy on carbon-intensive shipping fuels and subsidise low- and zero-carbon fuels. Trafigura submitted a proposal to the IMO for a partial 'feebate' system to decarbonise global shipping. We propose a self-financing system where a levy is charged on the use of fuels with a CO2-equivalent intensity above an agreed benchmark level, and a subsidy is provided for fuels with a CO2-equivalent profile below that level. Our own in-depth analysis and commissioned independent research indicates that the levy should be between USD250-300 per tonne of CO2-equivalent.
Area(s)	• Other
Link(s)	https://www.trafigurainsights.blog/esg/time-for-a-carbon-levy-on-shipping-fuel/

Climate action	Trafigura is providing lower-carbon marine fuels via our subsidiary TFG Marine. TFG Marine is offering customers International Sustainability and Carbon Certification (ISCC)-certified B20, B30, and B50 biofuels blends in the ARA region.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.tfgmarine.com/media/1062/tfg-marine-biofuels-ara.pdf

Company	Tufton Investment Management	Other: Investment Manager
		UK

Climate target	Tufton commits to align its maritime portfolio to the Paris Agreement's temperature goal by transitioning the portfolio to zero carbon energy sources by 2050.
Link(s)	https://www.tufton.com/responsible-investing/environmentalWebsite will be updated by end of September 2021.

Climate action	Tufton is committed to investing in zero emission capable vessels before 2030.Tufton has engaged with investors as well as engine manufacturers and brokers with the intention of investing in zero emission fuel capable vessels before 2030. As a specialist investment manager, Tufton aims to facilitate the decarbonisation of shipping while delivering strong risk adjusted returns to investors.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.tufton.com/responsible-investing/environmentalWebsite will be updated by end of September 2021.

Climate action	Tufton is committed to investing in greenhouse gas emission reduction technologies including Energy Saving Devices ("ESD") and deployment of digital and other management tools to reduce maritime greenhouse gas emissions.Tufton is selecting ESDs for retrofit on its portfolio vessels to reduce fuel consumption and emissions. An example of ESD being retrofitted includes rotor sails on a large bulker by mid-2022 which is expected to reduce emissions by c.10%. Other ESDs recently retrofitted on portfolio vessels include schneekluth ducts, propeller boss cap fins, variable frequency drives and premium hull coatings.Tufton has invested in an electronic platform for fleet wide monitoring of fuel consumption and emissions reduction. Tufton is also trialling a sensor-based analytical system for optimizing fuel consumption and reducing emissions using high frequency data.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://www.tufton.com/responsible-investing/environmental https://www.tufton.com/news Information about these initiatives will be updated on Tufton's website by end of September 2021.

Climate action	Tufton is committed to increasing the use of zero emission fuels in commercial operation by 2030.Sustainable biofuels produce net zero emissions and are expected to be a part of the shipping fuel mix in the medium term. Tufton is currently trialling the use of sustainable biofuel and aims to increase its usage in portfolio vessels over time.
Area(s)	• Using zero emission fuels in commercial operation;
Link(s)	https://www.tufton.com/news Information about this initiative will be updated on Tufton's website by end of September 2021.

Company	Ultranav	Ship Owner, Ship Operator
		Chile

Climate target	Ultranav will play an active role in exceeding IMO's mandatory targets of reducing CO2 intensity by at least 40% until 2030 and total GHG emissions by 50% until 2050 By 2022, Ultranav will define a pathway aiming to achieve a neutral carbon footprint in its land-based operations and administration. By 2030, Ultranav is committed to reducing the carbon intensity of the operated fleet preferably by 50%, but at least by 40% compared to 2008. Ultranav will drive initiatives with the objective of predominantly deploying zero emission vessels in domestic trades by 2045 By 2050, Ultranav is committed to deploy a zero emission fleet in international commercial operations.
Link(s)	https://ultrabulk.com/sustainability/ https://ultratank.com/sustainability/

Climate action	Chartered: Ultranav is committed to prioritize the chartering of zero emission vessels as soon as they become commercially viable and available, even before 2030
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://ultrabulk.com/sustainability/ https://ultratank.com/sustainability/

Climate action	Owned: As from 2021, Ultranav is committed to ordering only 'zero emission ready' vessels and from 2030 only zero emission vessels.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://ultrabulk.com/sustainability/ https://ultratank.com/sustainability/

Climate action	Ultranav is committed to developing and improving digital and other management tools to measure and disclose GHG emission intensity for operated vessels and total GHG emissions from owned and operated vessels.
Area(s)	• GHG emissions transparency
Link(s)	https://ultrabulk.com/sustainability/ https://ultratank.com/sustainability/

Company	Unifeeder Group	Charterer
		Denmark

Climate target	Unifeeder is dedicated to reducing Greenhouse Gas (GHG) emissions and has set a target of reducing GHG emissions by 50% by the year 2040 compared to 2008.
Link(s)	https://www.unifeeder.com/sustainability

Climate action	We are measuring our actual CO2e emission of the full supply chain. This is shared with customers in a detailed view. We are using voyage optimization software to measure and evaluate the emission as well as optimizing the vessel performance.
Area(s)	• GHG emissions transparency
Link(s)	https://www.unifeeder.com/corporate/sustainability/actual-emission-tracker

Company	V. Group	Ship Manager
		UK

Climate target	We have set ourselves high targets in lessening our environmental footprint, and I am pleased to say that across all SASB (the Sustainable Accounting Standards Board) environmental metrics these targets have been met. One area of note is our special focus on decarbonising within the areas we can control. Optimising auxiliary engine use has achieved an 8% reduction in average vessel carbon emissions compared with last year. This means that the Group has had a net 4% reduction in carbon emissions, even with our managed fleet growing. Our fleet is now below, or on trend, to meet the IMOs average vessel emissions* targets across all vessel types and sizes. In other areas of our environmental strategy the positive story continues. Our focus on replacing single-use plastic water bottles with refillable steel bottles has led to a 5% reduction in plastic during 2020, and this is a trend I expect will continue in 2021. We recognise the importance many of our customers are placing on ESG, including vessel financing arrangements linked to climate goals. We will continue to support our clients in delivering upon their ESG commitments through our strong capabilities of real-time monitoring and tracking of safety, environmental and financial data. Our ShipSure digital platform allows clients to view their dashboard to make real-time, data-driven decisions which enabling them to accurately manage their own ESG interactions and stakeholder obligations in a transparent manner. V. Group remains committed to providing our Customers with best-in-class service in all areas. ESG is no different.
Link(s)	https://online.flippingbook.com/view/719831554/

Climate action	As an industry, merchant shipping has faced many challenges over the decades, but few have required the same level of coordinated response as is now required. Climate change, decarbonisation, the increased amount of associated government regulation, all in the face of a global pandemic, has required a seismic shift in our approach. While it is all too easy to dwell on the negatives, it is incumbent upon those that have the privilege to hold positions of leadership to look forward; to balance the need for commercial certainty with environmental ambition. We must ensure that we bring about real and structural change to our environment interaction, social standards, and governance positions at the correct pace to remain commercially viable. For most people, ships are out of sight and out of mind and it is only when one of the main trade arteries gets blocked for a few days, that the public get a small glimpse of the critical nature of 'just in time' shipping that we all have to live with. Public perception is unlikely to change but for those in government and industry, there needs to be a clear understanding that the merchant fleet of some 56,000 vessels, manned by more than 1.5 million seafarers, transporting over 90% of Global Trade is what makes society work. Without these ships and professionals who sail them, everything stops. At V. Group, we will be supporting the IMO's decarbonisation 2030 and 2050 targets for GHG emissions and the Global Maritime Forum's Call for Action, in order to have a strong voice at the hugely important COP26 meeting. We will not however let the extraordinary efforts of all our seafarers during the pandemic go unrecognised. Seafarers who have spent many additional months at sea and away from their families, who themselves have had to deal with extraordinary hardships due to the virus. It is up to all in the shipping sector to ensure that governments across the world enable free and speedy transit of seafarers as a fundamental to their nation's well-being and safety of the natural environment.
Area(s)	• Using zero emission fuels in commercial operation • Procuring zero emission shipping services • GHG emissions transparency
Link(s)	https://online.flippingbook.com/view/719831554/

Company	Viterra Chartering	Charterer
		The Netherlands

Climate target	Target not specified.
Link(s)	

Climate action	Ernst and Young (EY) performed a limited assurance engagement and independent audit of Viterra Chartering's 2020 figures within the EEOI key performance indicator (KPI) included in Viterra's sustainability report for 2020.
Area(s)	• GHG emissions transparency
Link(s)	https://files.viterra.com.au/Sustainability_Report_2020/31/ https://files.viterra.com.au/Sustainability_Report_2020/43/

Climate action	Viterra Chartering supports the climate ambitions set by the Getting to Zero Coalition. We intend to become a signatory of the Sea Cargo Charter to align our performance to global shipping/climate targets and to provide transparency in our sustainability reporting. In order to do this, we will continue to monitor and audit our performance and minimise our negative impact on the environment.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	We are a member of the World Business Council for Sustainable Development (WBCSD), a global advocacy association made up of 200 international companies that have a focus on sustainable development. It provides leadership to drive change and improve sustainability within each business and increases the opportunities for us to collaborate with like-minded companies in creating a sustainable future. WBCSD introduces sustainable agricultural practices along the supply chain and convenes the Soft Commodities Forum. WBCSD has supported us to strengthen our sustainability communication and environmental, sustainability and governance risk assessment processes.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://files.viterra.com.au/Sustainability_Report_2020/13/ https://www.wbcsd.org/

Company	**Volvo Car Corporation**	Freight forwarder, Customer, Cargo Owner
		Sweden

Climate target	We have the ambition to be a climate neutral company by 2040, in line with the 2015 Paris Agreement which seeks to limit global warming to 1.5°C above pre-industrial levels, and supporting SDG 13 Additionally our approved Science Based Target committments are • Volvo Car Group commits to reduce absolute scope 1 and 2 GHG emissions 60% by 2030 from a 2019 base year. • Volvo Car Group commits to reduce scope 3 GHG emissions from use of sold products 52% per vehicle kilometer by 2030 from a 2019 base year.
Link(s)	https://group.volvocars.com/sustainability https://sciencebasedtargets.org/companies-taking-action

Climate action	Ambitions towards 2025: We are aiming to reduce our lifecycle carbon footprint per car by 40 per cent between 2018 and 2025. We plan to achieve this through the following carbon reductions (per car) across our value chain: • 50 per cent reduction in tailpipe emissions • 25 per cent reduction in supply chain emissions • 25 per cent reduction in operational emissions (including emissions from logistics and manufacturing)
Area(s)	• Procuring zero emission shipping services
Link(s)	https://investors.volvocars.com/annualreport2020/index.html

Climate action	Ambitions towards 2030: Volvo Car Group commits to reduce absolute scope 1 and 2 GHG emissions 60% by 2030 from a 2019 base year. Volvo Car Group commits to reduce scope 3 GHG emissions from use of sold products 52% per vehicle kilometer by 2030 from a 2019 base year. (Approved SBTI-target)
Area(s)	• Procuring zero emission shipping services

Company	**Wärtsilä**	Shipbuilder, Equipment and Technology
		Singapore

Climate target	Wärtsilä's purpose is to enable sustainable societies with smart technology. As a global forerunner in decarbonising the marine and energy markets, we continuously invest in sustainable innovation and product development to deliver digital solutions and smart technologies that focus on customer needs, and which exceed regulatory requirements. The key features of our environmental solutions and services include: low emission and noise levels, high efficiency, digital intelligence, system level optimisation, compliance with environmental regulations, fuel flexibility, renewable energy integration with engines and storage systems, dynamic capabilities, low water consumption, lifecycle support and optimisation, reliability, safety, and a long lifespan
Link(s)	https://www.wartsila.com/sustainability/innovating-for-sustainability

Climate action	Wärtsilä launches major test programme towards carbon-free solutions with hydrogen and ammonia. The company is pioneering the adoption of hydrogen and ammonia as viable engine fuels through advanced testing in Wärtsilä's fuel-flexible combustion engines. Full-scale engine tests have been recently carried out in Wärtsilä's engine laboratory in Vaasa, Finland, to assess the optimum engine parameters for running on these fuels. Testing will continue throughout the coming years with the aim of defining the most feasible internal combustion engine-based solutions for power plant and marine applications, thereby enabling the transition to a decarbonised future with green fuels. For the marine market, the company expects to have an engine running on an ammonia blend already this year. Wärtsilä anticipates having an engine concept with pure ammonia fuel in 2023.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.wartsila.com/media/news/14-07-2021-wartsila-launches-major-test-programme-towards-carbon-free-solutions-with-hydrogen-and-ammonia-2953362

Climate action	Wärtsilä and Grieg Edge, the innovation hub of Norwegian shipping group Grieg Star, are jointly running a project to launch an ammonia-fuelled tanker producing no greenhouse gas emissions by 2024. The partners plan to have MS Green Ammonia distribute green ammonia from a planned factory in Berlevåg, Norway to various locations and end-users along the coast.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.wartsila.com/media/news/18-12-2020-wartsila-and-grieg-to-build-groundbreaking-green-ammonia-tanker-2836740

Climate action	Wärtsilä, as part of a consortium led by the University of Vaasa in Finland, will play a major role in an important project aimed at reducing the environmental impact of shipping. Project CHEK – deCarbonising sHipping by Enabling Key technology symbiosis on real vessel concept designs. The other project partners are BAR Technologies, Cargill Ocean Transportation, Climeon, Deltamarin, Hasytec Electronics, Lloyds Register, MSC Cruises, Silverstream Technologies and World Maritime University. The goal of the CHEK project is to reduce emissions from shipping through the integrated use of low-carbon energy forms and technologies. These include the use of hydrogen fuel, wind power, electric batteries, heat recovery, air lubrication, and new anti-fouling technology.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.wartsila.com/media/news/25-01-2021-wartsila-participating-in-eu-funded-project-to-decarbonise-long-distance-shipping-2849792

Company	Wilhelmsen Ship Management	Ship Manager
		Switzerland

Climate target	No target specified.
Link(s)	

Climate action	Wilhelmsen group is committed to climate action and have made significant investments to contribute to the energy transition and decarbonisation of shipping. Topeka is first and foremost a vessel concept. This project is a Wilhelmsen led project where construction of two vessels will be hydrogen powered and transporting liquid hydrogen. The supply chain consists of the producers of hydrogen, who are pivotal partners in the greater project of making hydrogen a viable energy source. Topeka becomes the distribution tool, with our two vessels running on a fixed schedule route along the west coast of Norway both as conventional freight vessels running on hydrogen making the Topeka vessels unique, and they transport hydrogen to filling stations along the coast. NorSea supply bases will act as filling stations where other marine vessels as well as land-based vehicles can purchase liquid hydrogen fuel. We see an enormous potential to not only help reduce emissions both at sea and on land but help move cargo from road to sea. Topeka received funds from governmental organisations in 2020, with NOK219 million from Enova in Norway and approximately NOK80 million from the EU. Through NorSea, we have a stake in Coast Center Base (CCB), who owns and develops land where future carbon capture storage facilities will be created. Enova awarded funds worth NOK77.4 million to support this project where CCB and partner ZEG Power will establish a pilot facility for carbon neutral hydrogen production at CCB Energy Park outside Bergen, Norway. Wilhelmsen are in other words taking part in most parts of the value chain related to liquid hydrogen as a fuel.
Area(s)	• Pilot & demonstration projects (RD&D)
Link(s)	https://www.wilhelmsen.com/ship-management/esg/performance-with-care-2020-report/innovation/

Climate action	Our focus is on reducing the environmental impact of our own and our customers operations; as well as addressing industry and societal issues in particular, climate action and marine litter and pollution. As part of the Wilhelmsen group, we aim to complete the required work to systematically account for and manage group greenhouse gases (GHG) emissions inventory. We would establish appropriate GHG emission reduction targets to direct activities across entities where we have more than 50% ownership. We also promote responsible consumption and recycling programs onboard and onshore. The company is proactive in reducing plastics in vessel operations by introducing requirements towards suppliers and facilitating industry initiatives to reduce single use plastics in the maritime industry.
Area(s)	• GHG emissions transparency
Link(s)	https://www.wilhelmsen.com/ship-management/esg/performance-with-care-2020-report/emissions/

Company	X-Press Feeders	Ship Owner, Ship Operator
		Singapore

Climate target	We aim to deliver our company's first carbon neutral vessel by 2030
Link(s)	

Climate action	By 2030, X-Press Feeders is committed to deliver our first carbon neutral vessel.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Climate action	By 2040, X-Press Feeders is committed to having vessels using blue or green fuel solution. X-Press Feeders is committed to developing and improving digital and other management tools to measure GHG emissions to compare activities and optimize operations
Area(s)	• Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	

Climate action	X-Press Feeders is investing in research and development of a modular Molten Salt Reactor (MSR) to propel ships and provide energy for manufacturing blue and green fuels.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://corepower.energy/

Company	Yara	Energy production
		Norway

Climate target	Yara has reduced scope 1 emissions by about 45 percent company-wide, which puts Yara in a strong position to meet the EU commission target of 55% reduction by 2030 compared to 1990 levels. Yara has set a KPI to cut absolute emissions in scope 1 & 2 by 30% in 2030 compared to 2019 and announced the ambition to become entirely climate neutral by 2050. Yara has initiated several projects to further reduce its GHG emissions, including the production of green ammonia as well as carbon capture and electrification projects. All targets are more ambitious than current IMO targets.
Link(s)	Yara Sustainability report t 2020: https://www.yara.com/siteassets/investors/057-reports-and-presentations/annual-reports/2020/yara-sustainability-report-2020-web.pdf/ ESG Investor seminar: https://www.yara.com/investor-relations/esg-investor-seminar/

Climate action	Yara has established pilots and full-scale commercial projects in Australia, Norway and the Netherlands for production of green ammonia close to major bunkering hubs. When all projects reach FID, a total capacity of approximately 600.000 Tons of ammonia can be reached within 2026. In Australia, a grant of 42,5 mAUD was allocated to the Yara project. The portfolio of projects is consistently being increased with both green and blue ammonia projects in all relevant geographies incl. US, Middle East, Europe and Australia. All projects have as main target the shipping fuel market (besides target applications as green fertilizer and power in Asia). To create the shipping fuel market, Yara is part of a number of pilot project around the world piloting ammonia as shipping fuel.
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.yara.com/corporate-releases/yara-partners-with-statkraft-and-aker-horizons-to-establish-europes-first-large-scale-green-ammonia-project-in-norway/ https://www.yara.com/news-and-media/news/archive/2020/renewable-hydrogen-and-ammonia-production-yara-and-engie-welcome-a-a$42.5-million-arena-grant/ https://www.yara.com/investor-relations/esg-investor-seminar/ https://www.yara.com/corporate-releases/orsted-and-yara-seek-to-develop-ground-breaking-green-ammonia-project-in-the-netherlands/ https://maritimecleantech.no/2020/01/23/major-project-to-convert-offshore-vessel-to-run-on-ammonia-powered-fuel-cell/

Climate action	Yara aims at setting targets for fueling its own ammonia fleet in the near future. Amongst others, the NoGAPS project is a preperation on this journey. Yara also aims at setting up bunkering facilities for ammonia under collaboration with dedicated partners.
Area(s)	• Ordering zero emission and zero emission capable vessels • Establishing zero emission bunkering infrastructure
Link(s)	https://www.yara.com/news-and-media/news/archive/2020/nordic-consortium-reveals-promising-outlook-for-a-green-ammonia-powered-vessel/ https://maritimecleantech.no/2020/01/23/major-project-to-convert-offshore-vessel-to-run-on-ammonia-powered-fuel-cell/

Climate action	Yara provides public disclosures on climate through the CDP, and we report transparently on scopes 1, 2 and 3 emissions in our Sustainability Report. The GHG and energy data in the Sustainability Report have a reasonable assurance level from an external assurance provider based on the ISAE 3000 standard.
Area(s)	• GHG emissions transparency
Link(s)	Yara Sustainability report 2020: https://www.yara.com/siteassets/investors/057-reports-and-presentations/annual-reports/2020/yara-sustainability-report-2020-web.pdf/

Company	Zeaborn Ship Management	Ship Manager Germany

Climate target	No target specified.
Link(s)	

Climate action	We are building the infrastructure and service function to allow transparent GHG reporting as well as GHG management of deep sea-going merchant vessels to allow Owners and operators take trade their asset with as little emissions possible.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	We are building in-house competences to educate, advise and support our customers in the decision making process how their ships can become carbon neutral. Secondly we are building the competences to manage those assets on behalf of our clients.
Area(s)	• Other
Link(s)	

Climate action	To reduce employees commute emissions we have introduced NewWork@Zeaborn allowing employees to work from home 3x a week if desired, and also launched a program where employees may purchase company subsidized (e-)bikes.
Area(s)	• Other
Link(s)	

Company	**ZeroNorth**	Other services or consultancy
		Denmark

Climate target	It is our hope to help our customers (tramp shipping) to reduce 30m MT tons over the next 2 years.
Link(s)	https://zeronorth.com

Climate action	Our software enables tramp shipping companies and commercial operators to take actions which immediately reduce emissions. By optimising speed and route based on real time data from weather to market to vessel specifics, an operator can take the necessary actions to make the right choice when it comes to reducing CO2 emissions. We make it transparent, actionable and report on it.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	Using Technology to help the industry decarbonise. Digitalisation, data cleaning and building algorithms which help shipping companies and commercial operators to know the optimal way to sail their vessel in order to lower emissions of each voyage.
Area(s)	• Other
Link(s)	

Climate action	Spearheading industry partnerships that work on topics related to performance data transparency, fuel consumption accuracy, data quality and CP speed constraints which when made transparent, help the industry see the need to action and change business as usual.
Area(s)	• GHG emissions transparency
Link(s)	

Company	ZIM Integrated Shipping Services	Ship Owner, Ship Operator
		Israel

Climate target	ZIM is dedicated to the environment therefore we are working these days on improving our climate strategy and updating it to today's standards. ZIM has committed to a 50% reduction by 2050 and reduce carbon intensity by at least 40€ by 2030, pursuing efforts towards 70% by 2050. Compared to 2008, since 2008 we had reduced 24% of our GHG emissions and 75% of our Sox emissions
Link(s)	http://www.zim.com/about-zim/sustainability

Climate action	Amongst other activities, ZIM has ordered 25 new LNG powered vessels. 5 of them are with an 0 GHG ammonia ready fuel tank. ZIM realises, that fossil LNG is not suited to the maritime industry decarbonisation goals over the long term, but truly believes that LNG is excellent bridging fuel to the future synthetic LNG. ZIM is committed to use BioLNG as drop-in fuel as far as commercially available to gradually reduce the CO2 footprint. ZIM is the first liner chosen ammonia ready container ships. By 2028, once the associated vessels are due special survey, ZIM will consider to convert those vessels to ammonia-fuel, subject to maturity of the technology, scalability of green ammonia and bunkering infrastructure.
Area(s)	• Ordering zero emission and zero emission capable vessels • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	http://www.zim.com/about-zim/sustainability

Climate action	ZIM has made more actions to reduce its GHG emissions as: (1) Regular Hull and Propeller cleaning, (2) Route optimisation, (3) Utilisation of low sulfur fuel, (4) Bio fuels pilot.
Area(s)	• Ordering zero emission and zero emission capable vessels • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	http://www.zim.com/about-zim/sustainability

Climate action	ZIM is a member of many groups aiming on improving the environment as: World Shipping Council, Getting to ZERO coalition, Clean Cargo working group (CCWG), CDP, Ecovadis - silver medal in the top 80th percentage of the industry, Poseidon Principles, World Ports Climate Initiative, Maritime Anti corruption Network, Digital Container Shipping Association (DCSA) and more.
Area(s)	• Ordering zero emission and zero emission capable vessels • Procuring zero emission shipping services • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	http://www.zim.com/about-zim/sustainability

Company	Ørsted	Energy production
		Denmark

Climate target	By 2023: Phase out coal completely. By 2025: Carbon neutral operations and energy generation (scope 1 and 2). >98 % reduction in GHG intensity (% reduction in g CO2e/kWh), compared to base year 2006. By 2030: Build app. 50GW of green energy across technologies By 2032: Reduce scope 3 emissions from energy trading and in the supply chain by 50 %, as compared with 2018, to align carbon reductions across the entire carbon footprint with the 1.5°C pathway. By 2040: Carbon neutral footprint, including scope 3, a decade ahead of the 1.5°C pathway by driving out remaining emissions from energy trading and from the supply chain. Our carbon reductions targets has been approved as 1.5 °C-aligned by the Science Based Targets initiative.
Link(s)	www.orsted.com/en/sustainability

Climate action	Developing and scaling sustainable fuel production and uptake: At Ørsted, we work closely with the maritime industry to develop and scale solutions to decarbonise shipping. In our Green Fuels for Denmark project, for instance, we partner with leading Danish companies representing the demand and supply side of sustainable e-fuels – including shipping companies A.P. Møller-Maersk, DFDS and Molslinjen – to realise a vision of a sustainable fuels production facility. The project aims to establish a 1.3 GW electrolyser in 2030 powered by 2-3 GW offshore wind from the Bornholm energy island, which holds the potential to replace >270.000 tpa. of fossil fuel consumption in 2030.Similarly, we collaborate with the maritime industry to develop technical solutions to facilitate uptake of renewable energy in shipping.
Area(s)	• Pilot and demonstration projects (RD&D) • Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	Scope 1, 2 and 3 emissions from vessels reported in our 2020 sustainability report: www.orsted.com/en/sustainability Highlighted projects: https://orsted.com/en/media/newsroom/news/2020/05/485023045545315 https://orsted.com/en/media/newsroom/news/2020/09/981258233744293 https://www.dfds.com/en/about/media/news/hydrogen-ferry-for-oslo-copenhagen

Climate action	Decarbonising own vessels: Ørsted has a target of reducing our own carbon footprint. We work to reduce emissions in our own crew transport and service vessels.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Climate action	Decarbonising suppliers' vessels: In January 2020, we launched our supply chain decarbonisation programme to address scope 3 emissions. Among others, a key action point is to work with our suppliers to optimize their vessel fleets and develop roadmaps to power transport and offshore construction vessels with renewable energy.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

7.3 Signatory forms: Supporting Organizations

Company	**African Hydrogen Partnership**	Other: Association Mauritius

Climate target	The African Hydrogen Partnership Trade Association (AHP) is the only continent-wide African umbrella association solely dedicated to the development of green and natural (native) hydrogen, hydrogen based chemicals, fuel cell technology and related business opportunities in Africa. The AHP represents the whole African continent and all African nations. The AHP Members support and strive to achieve the climate targets of the Paris Agreement as well as the UN Sustainability Goals, and promote natural (native) and green hydrogen as a clean, renewable and sustainable energy carrier and feedstock to achieve the transition to net zero emission societies.
Link(s)	African Hydrogen Partnership: www.afr-h2-p.com

Climate action	The AHP Members • Support and strive to achieve the climate targets of the Paris Agreement as well as the UN Sustainable Development Goals. • Promote NATURAL (NATIVE) and GREEN HYDROGEN as a clean, renewable and sustainable energy carrier and feedstock to achieve the transition to net zero emission societies. • Recognize that hydrogen can be produced in many ways and that there are different carbon free/neutral hydrogen production pathways in order to enable a zero-emission society. • Cooperate in the transition of energy generation, transportation, consumption and sector coupling to hydrogen, fuel cell and related technologies as well as the promotion of a strong African hydrogen industry incorporating these systems and technologies. • Promote fair business practice and provide the necessary support to facilitate the establishment of African hydrogen value chains.
Area(s)	• Other
Link(s)	Link to AHP Charter: https://899bf48d-9609-4296-ac4c-db03c22bc639.filesusr.com/ugd/6a6d83_d3522e8beea84a0884f9df85883397d1.pdf Link to page with AHP bylaws: https://www.afr-h2-p.com/ahp-bylaws

Company	Danish Shipping	Other: Shipowners' Association
		Denmark

Climate target	Denmark is one of the largest maritime nations and we have a responsibility to make the most of our influence at global level. Since 2019, Danish Shipping has had a clear climate ambition consisting of two targets: • Climate neutrality by 2050 without the use of climate compensation. • The first ocean-going zero emission vessel must be in commercial operation by 2030. Following this, Danish Shipping is working on paving the way for the decarbonization of shipping through regulatory, commercial, operational as well as technological solutions.
Link(s)	https://www.danishshipping.dk/en/policy/klimapolitik/

Company	International Association of Ports and Harbors (IAPH)	Other: Association
		Japan

Climate target	No target specified
Link(s)	

Climate action	IAPH runs the Environmental Ship Index (ESI), which provides port authorities around the world with an objective index on the emissions performance of cargo ships, allowing them to provide incentives to shipowners and operators that run ships which perform better in emission terms than what is required through international legislation. IAPH also runs the Clean Marine Fuels working group, which has established a toolbox for port authorities to ensure safe bunkering of alternative fuels. The toolbox is based on the experience with LNG as a marine fuel and is currently being extended to low and zero-carbon fuels.
Area(s)	• Other
Link(s)	www.environmentalshipindex.org www.sustainableworldports.org/clean-marine-fuels

Company	**IRENA**	Other: IGO United Arab Emirates

Climate target	Assist member countries in the energy transition of the shipping sector
Link(s)	https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Sep/IRENA_Renewable_Shipping_Sep_2019.pdf https://www.irena.org/publications/2015/Feb/Renewable-Energy-Options-for-Shipping

Climate action	IRENA supports its Members in their transition towards a sustainable energy future, functioning as the main platform for international cooperation, centre of excellence and repository of knowledge on all matters relating to renewable energy; IRENA's Statute establishes among the objectives of the Agency: the promotion of the widespread and growing adoption of the sustainable use of all forms of renewable energy to promote sustainable development, access to energy, energy security, economic growth, low-carbon economic prosperity and intergenerational responsibility. This while taking into account national priorities and benefits derived from a combined approach to renewable energy and energy efficiency measures. IRENA actively engages in GTZ working groups and other international dialogues to develop renewables-based transition strategies for the shipping sector Together with partner organizations IRENA also focuses an enabling frameworks for energy transitions in hard to decarbonize sectors
Area(s)	• Other
Link(s)	https://www.irena.org/publications/2021/Jan/Innovation-Outlook-Renewable-Methanol https://irena.org/-/media/Files/IRENA/Agency/Publication/2021/Jun/IRENA_WETO_Executive_Summary_2021.pdf

Climate action	IRENA encourages governments to adopt enabling policies for investments in renewable energy, provides practical tools and policy advice to accelerate the deployment of renewable energy, and facilitates the exchange of knowledge and technology transfer to provide clean and sustainable energy for global development. IRENA also fosters public-private dialogue between governments and shipping sector
Area(s)	• Other
Link(s)	

Climate action	IRENA provides data, conducts analysis to support countries in their energy transition, facilitates implementation and convenes stakeholder meetings In the context of GTZ continued analytical support is planned such as the assessment of renewable fuel supply options – renewable methanol innovation outlook was released earlier this year, a similar report for green ammonia will follow later this year. IRENA perspective on shipping sector transformation – several reports have been issued over the years, a new one is scheduled for released in fall 2021
Area(s)	• Other
Link(s)	

Company	**Smart Freight Centre**	Other: NGO Netherlands

Climate target	Smart Freight Centre supports multinational companies to reduce their GHG emissions from freight transport activities by at least 30% by 2030 from a 2015 baseline and to achieve net zero by 2050. Global shipping contributes significantly to total global freight transport emissions and so has a critical role to play in delivering this ambition.
Link(s)	https://www.smartfreightcentre.org/en/what-is-sfc/

Climate action	Smart Freight Centre supports GHG emission transparency through the GLEC Framework, the only globally-recognized multimodal approach to logistics GHG accounting and reporting. We have embedded this into many solutions, including in the maritime sector through Clean Cargo and the Sea Cargo Charter. We continue to promote increased public reporting of validated GHG emissions and will expand our support to multinational companies to make this normal practice.
Area(s)	• GHG emissions transparency
Link(s)	https://www.smartfreightcentre.org/en/how-to-implement-items/what-is-glec-framework/58/

Company	**The Norwegian Shipowners Association**	Other: Association Norway

Climate target	• Norwegian Shipowners' Association members will cut their greenhouse gas emissions by 50 percent per unit by 2030 compared to 2008 (*emissions per unit refer to transport work or other relevant value creation parameters) • Norwegian Shipowners' Association members will only order vessels with zero emission technology from 2030 • Norwegian Shipowners' Association members will have a climate neutral fleet from 2050 • The Norwegian Shipowners' Association will strive for an international ban from 2050 on fuel that is not climate neutral
Link(s)	https://rederi.no/en/rapporter/ See report: "Zero emissions in 2050"

Company	**Universidad Austral de Chile**	Other: University Chile

Climate target	The “Universidad Austral de Chile (UACh)” is an academic community dedicated to higher education, the cultivation and dissemination of science, culture, and artistic creation at the national and international level. Through its actions, it contributes with excellence to the sustainable development and well-being of the country, from the south-eastern zone of Chile, training ethically and socially committed professionals and graduates, creating, and researching in the various areas of scientific, technological, humanistic, artistic, and social knowledge, as well as maintaining an active link with the environment. UACh through its Naval Engineering programme helping to decarbonize the Chilean maritime industry. Currently working in 3 projects supporting current IMO targets of o reduce total annual GHG emissions by at least 50% by 2050 compared to 2008; and reduce carbon intensity by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008.
Link(s)	https://campussustentable.uach.cl/ https://www.uach.cl/uach/_file/competencias-sello-uach.pdf http://ingenieria.uach.cl/#menu_cel_6

Climate action	Committed to support the development of pilot projects run by UACh researchers and funded by the Chilean Goverment such as: 1. FONDEF IT20I0017 “Development of a scalable hybrid propulsion plant that encourages marine electromobility and the control and reduction of emissions”. 2. CASE “Development of a hybrid energy system for a support vessel associated to the aquaculture industry”. 3. Aquaculture Center “Pre-feasibility study and preparation of roadmap for green hydrogen project in PFA plant”. The three applied projects looking for suitable alternative fuels to replace current fossil fuels in a configuration that enables the use of electric drives along with conventional thermal engines. transitional process to support the replacement of thermal engines by electric motors considering the use of alternative fuels to generate the necessary electricity to support the service of the vessel. A LCA considered during the development of the projects in parallel to the development of the National Hydrogen Strategy of the Chilean Government aiming to support the production of alternative fuels based on green hydrogen.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://thems.cl/ https://energia.gob.cl/h2/Estrategia-nacional-de-hidrogeno-verde