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

December 2021, Third Edition

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Executive summary

On 22 September 2021, in conjunction with the United Nations' General Assembly, 160 companies and organizations publicly called on governments and international regulators to take decisive action in support of shipping decarbonization. At the time of writing, additional companies and organizations have since joined the **Call to Action for Shipping Decarbonization**.[1] With more than 200 signatories representing the full maritime ecosystem, the Call to Action was delivered to the UK COP Presidency on 27 October 2021 ahead of COP26.

This report captures the climate targets and actions of the current 237 signatories to the Call to Action as of 25 November 2021.[2] It demonstrates a wide support in the maritime ecosystem for shipping decarbonization by 2050, including support from unions. It also shows that the private sector is already committed to a zero emission shipping transition with concrete actions, targets, and plans.

Some signatories have already set specific climate targets. Seven signatories have already achieved full onshore decarbonization. An additional 16 signatories are committed to reaching this target by 2030 or earlier. When it comes to shipping decarbonization, eight signatories have already committed to reaching the goal in 2040, while 55 signatories have committed to reaching decarbonization by 2050.

Overall, the signatories to the Call to Action have reported that they are taking, or will take over the next decades, 408 climate actions and commitments related to shipping decarbonization. Since one action can fall within several areas of activity, the total number of actions counted by area adds up to 643 covering the full maritime ecosystem and most parts of the world. Signatories are headquartered in 52 shipping nations, 28 of which are on the International Maritime Organization (IMO) Council. 65 ship owners and operators form the largest group of signatories. This category includes three of the world's biggest oil tanker companies ranking 1st, 3rd, and 4th respectively. Ship owners and operators represent 52% of global operated capacity (TEU) and 73.5% of cruise shipping's global passenger capacity. Signatories also include six out of 10 biggest ship managers; more than 20% of global bank shipping finance; and three of the world's four largest mining companies.

Measuring and reporting emission data is a first step towards shipping decarbonization. Actions in the area of greenhouse gas (GHG) emissions transparency are reported 153 times across several schemes and initiatives by 145 signatories from the entire maritime ecosystem. A second step towards decarbonization is developing and commercializing solutions. 107 signatories have reported at least one Research, Development, and Demonstration (RD&D) action, with a total of 136 actions.

Following these actions – getting knowledge and certainty about the challenge and potential solutions – zero emission and zero emission capable vessels need to be ordered. And signatories are moving ahead. In total, 69 actions are reported in the area of ordering such vessels with shipowners 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, 72 actions indicate the willingness to use zero emission fuels in the daily operation.

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1 www.globalmaritimeforum.org/getting-to-zero-coalition/call-to-action/

2 Additional signatories might have joined the Call to Action after finalization of this report. Their names will appear on the list of signatories; however, their climate targets and actions have not been included in this analysis.

To fully decarbonize supply chains and the global economy, companies using shipping need to be able to procure zero emission shipping services. Signatories are undertaking 37 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 33 different actions.

Signatories are also actively involved in producing zero emission fuel for commercial operation and establishing zero emission bunkering infrastructure. 57 signatories are committed to these actions with 64 initiatives covering 40 different countries.

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

Close to 240 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. 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, establishing zero emission bunkering infrastructure, and other. 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 are categorized in 14 groups ranging 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 below).

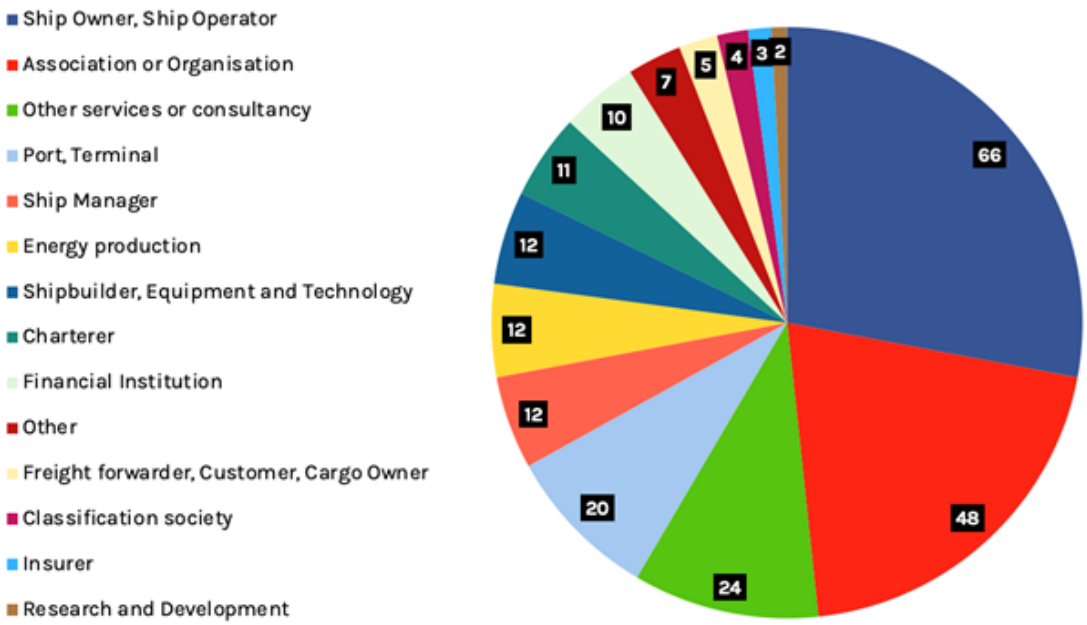

Figure 1: Signatories by organization category

2.1 Actors across the maritime value chain

Three groups of companies make up almost half of all signatories. These are 65 ship owners and operators, 24 companies working with a diversity of services or consultancy, and 20 ports. As such, especially ship owners and operators and ports naturally stand out in this report in terms of actions and commitments presented. Signatories also include six out of 10 biggest ship managers; more than 20% of global bank shipping finance; and three of the world's four largest mining companies.

65 ship owners and operators form the biggest part of the signatories. Figure 2 below shows a breakdown of this category: 34% own and/or operate dry bulk ships; 30% own and/or operate tankers; 22% own and/or operate container ships; 5% own and/or operate cruise ships; and the remaining 9% fall into multiple subcategories. Three signatories are some of the world's biggest oil tanker companies ranking 1st, 3rd, and 4th respectively.[3] Ship owners and operators represent 52% of global operated capacity (TEU).[4] As for cruise ship companies, signatories represent 73.5% of global passenger capacity.[5]

3 https://marine-digital.com/article_10largestoiltankercompanies

4 https://alphaliner.axsmarine.com/PublicTop100/

5 https://cruisemarketwatch.com/capacity/

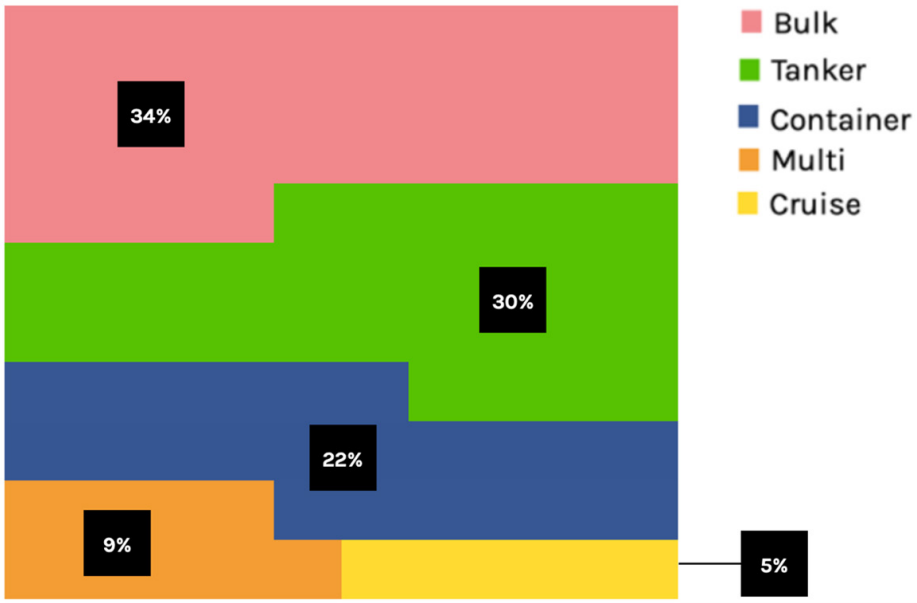

Figure 2: Breakdown of ship owners and operators

20 ports and terminals are spread out over 11 countries. They represent seven out of the 10 largest ports in Europe, which handle more than 80% of the total TEU handled by European ports. Ports form a central hub in the maritime value chain and an important link of integration between the maritime and energy systems. Ports can facilitate decarbonization of shipping in four main ways: the provision of bunkering infrastructure for low- and zero-carbon fuels, the provision of onshore power for ships at berth, the optimization of port calls and the provision of incentives to energy efficient ships. These measures were recognized by the IMO in a resolution from 2019 which encourages voluntary cooperation between ships and ports to cut greenhouse gas emissions.[6] Investments in bunkering infrastructure as well as related facilities and (safety) procedures will have the most significant impact on decarbonization of shipping.

The ports that have signed up to the Call to Action are frontrunners and have been investing in emission reduction for more than a decade, often incited to do so by local air quality considerations. Several of these ports are major energy hubs for which energy transition presents opportunities beyond shipping. Some ports are located in areas that are most vulnerable to the effects of climate change.

The 48 organizations represent multiple international actors and are, therefore, a considerable addition to the Call to Action. Out of these 48 organizations, 29 are transport worker unions, 10 are NGOs, and nine are associations. The unions are all members of the International Transport Workers' Federation (ITF), which has also signed the Call to Action. This underpins the importance of shipping decarbonization for seafarers around the world as key actors in a just and equitable transition. Unions and seafarers are an integral part of how zero emission solutions will be developed and implemented based on the knowledge and skills of seafarers.

6 https://wwwcdn.imo.org/

2.2 Geographical spread

Although signatories cannot be taken to represent countries, the geographical and cultural spread of where signatories are based does illustrate how widely the Call to Action is supported. The signatories are headquartered in 52 different nations with strong maritime cultures. 28 of these nations are members of the IMO Council (with 40 members); nine are among world's top 10 maritime nations by beneficial ownership; six out of 10 biggest flag states. These 52 nations also represent more than 85% of the world's merchant fleet value (by beneficial ownership).[7] 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 beyond the headquarter country.

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.[8] The intergovernmental International Renewable Energy Agency (IRENA) has 165 member states.[9] The International Association of Ports and Harbors (IAPH) comprises some 200 Regular Members including leading ports in 90 countries, comprising public port authorities, private port operators, and government agencies responsible for ports.[10]

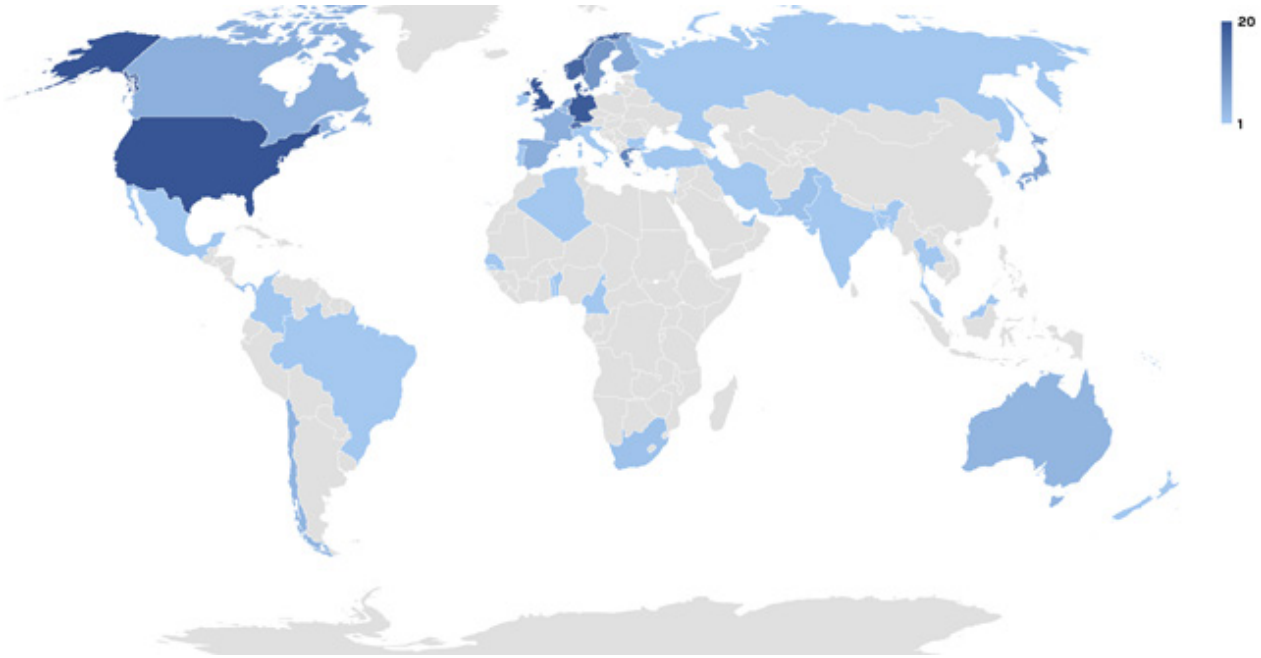

Figure 3: Signatories to the Call to Action are headquartered in all geographies

7 http://stats.unctad.org/maritime

8 www.afr-h2-p.com

9 www.irena.org/irenamembership

10 www.iaphworldports.org/about-iaph/member-ports

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 16 signatories are committed to reaching this target by 2030 or earlier. The climate actions of these 24 signatories, including six ports and five 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

Around 30% of signatories have already made individual commitments to decarbonize shipping activities. Seven signatories have committed to shipping decarbonization by 2040, and 55 signatories have committed to shipping decarbonization by 2050, including 22 ship owners, operators, and managers, six 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.

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

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 408 climate actions and commitments that they are taking now or will take over the next decades. When analyzed by area, actions and commitments total 643. The chart below shows the number of signatories and actions by area.

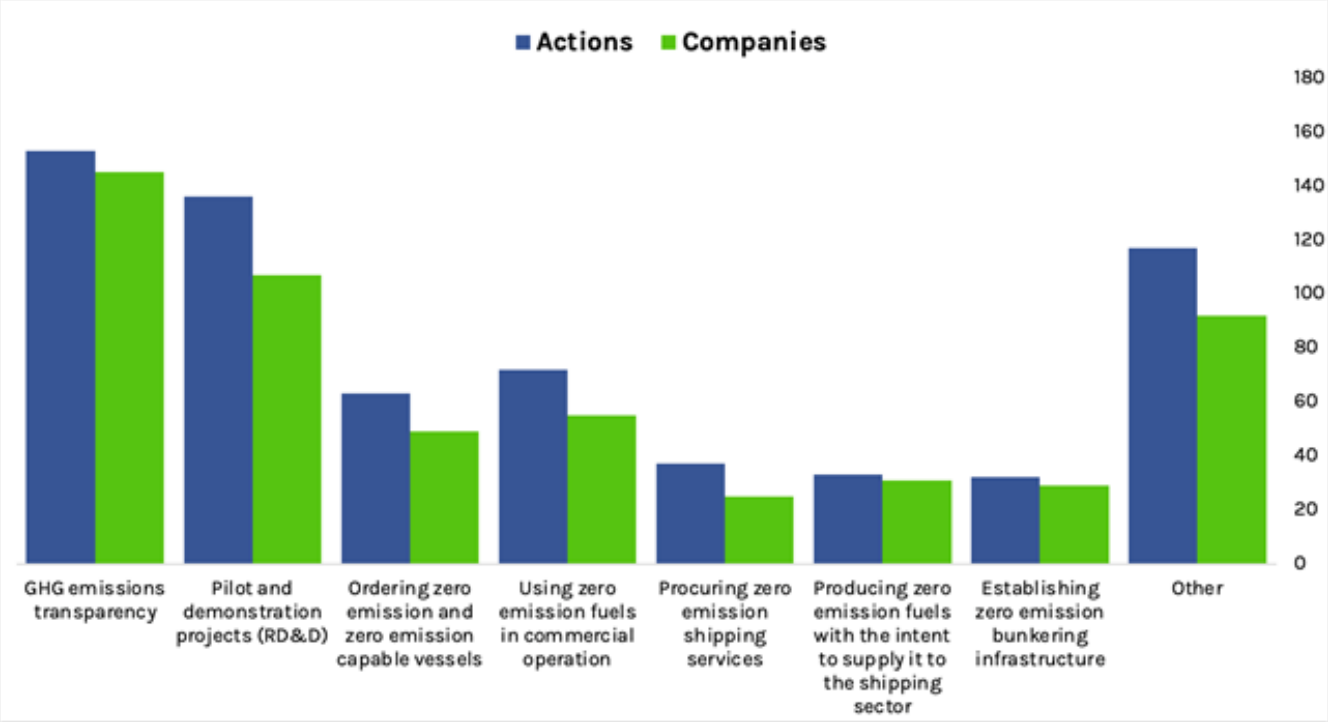

Figure 4: Number of signatories and actions by area

These 643 climate actions are undertaken by all signatory categories. The maritime industry is highly complex and interconnective, which is also represented in the wide mix of signatory categories per climate action area. Figure 5 further details the share of signatories' climate actions by signatory categories and action areas (excluding the unspecified area "other actions"). It shows that especially ship owners and operators, charterers, service and consultancy companies, ports, and energy companies are engaged across all or most action areas. This is further detailed in following sections.

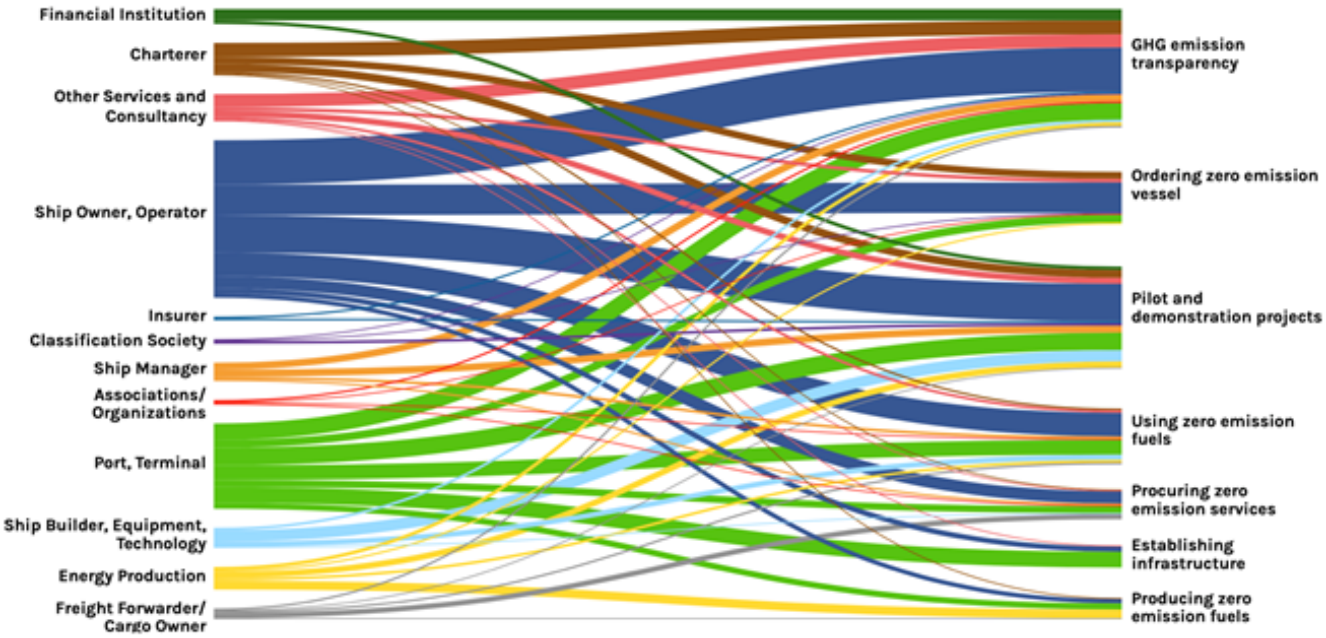

Figure 5: Share of signatories' climate actions by signatory category (left) and action area (right)

4.1 GHG emissions transparency

As could be expected, GHG emissions transparency is the area with the most reported actions – 153 mentions in total. This is necessary first steps 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. A recent initiative mentioned for this third edition of the report is the Cargo Owners for Zero Emission Vessels (coZEV) launched in October 2021, under which shippers/buyers make commitments to provide a specific volume of freight to zero emission vessel(s) and have set a target for exclusively buying zero-emission maritime freight by 2040. This is made possible because the shippers/buyers will be able to track their maritime emissions to check alignment with their goals.

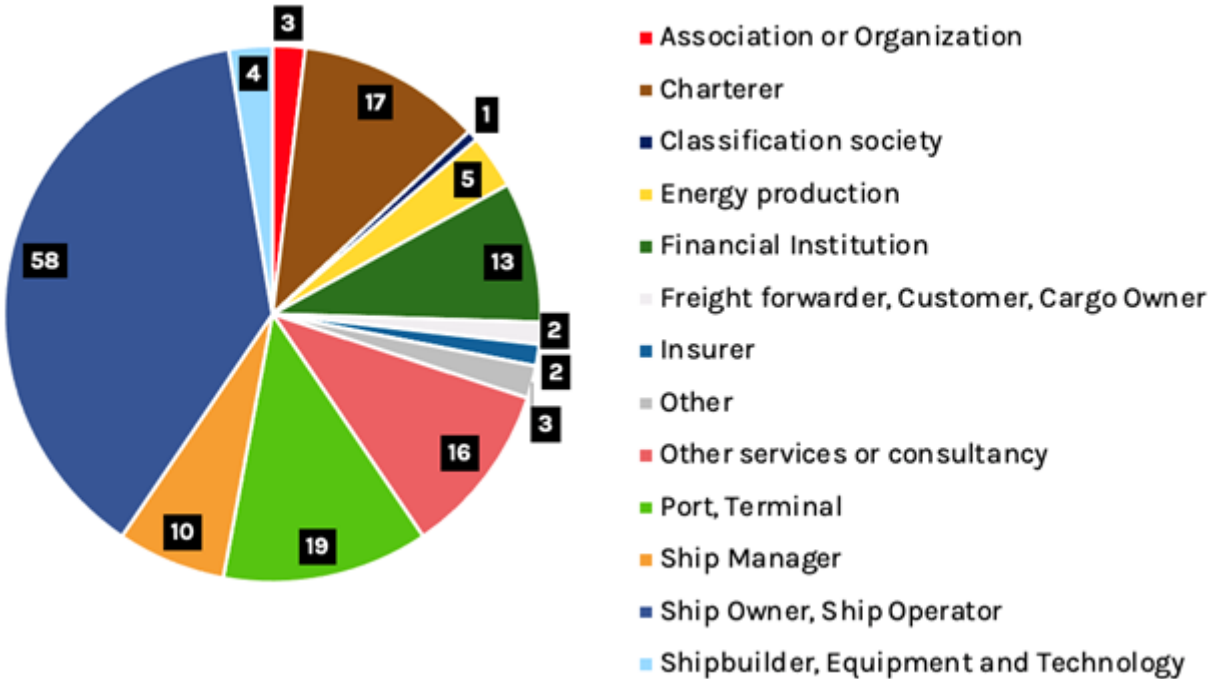

Figure 6: Number of signatories by organization category reporting actions in the area of GHG emissions transparency

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).

Star Bulk Carriers, a Greek ship owner and operator, aims at improving GHG transparency in multiple ways: through publishing their carbon footprint and carbon intensity of the company's fleet, sharing the carbon intensity data of their vessels and fleet with our stakeholders through initiatives such as the Poseidon Principles and the Sea Cargo Charter, participating in the Carbon Disclosure Project to further analyze, assess, and continuously improve the company's strategy, goals, and practices on decarbonization, engaging in sustainability linked loan facilities with their banks with the commitment to comply with specific carbon intensity targets for the vessels being financed, employing telemetry across their fleet to monitor accurately and real-time the energy efficiency and CO2 emissions of their vessels.

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: 107 signatories have reported at least one RD&D action, with a total of 136 reported actions focusing on RD&D. As shown in figure 7, 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 service providers like classification society actors, financial institutions, other services or consultancies.

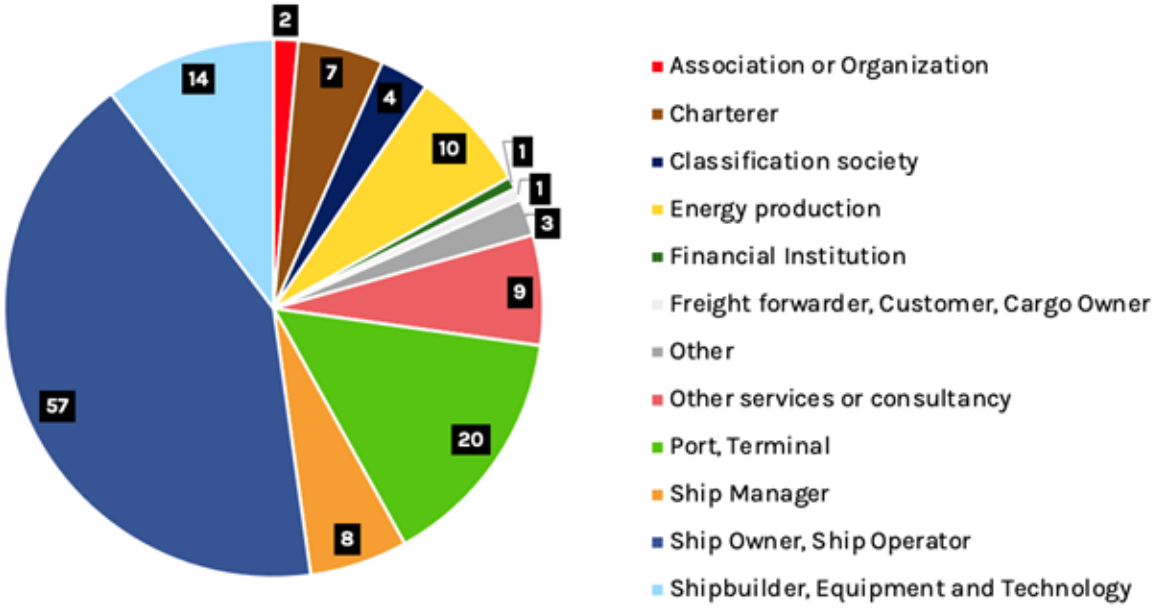

Figure 7: Number of signatories by organization category reporting actions in the area of pilot and demonstration projects (RD&D)

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, 63 actions are being undertaken by signatories in this area, with shipowners 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.

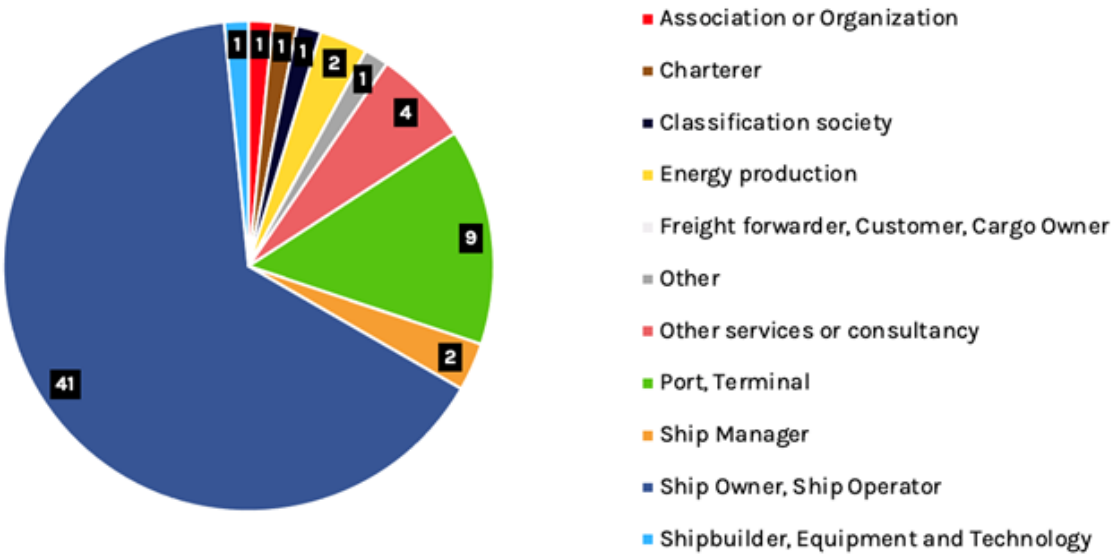

Figure 8: Number of signatories by organization category reporting actions in the area of ordering zero emission and zero emission capable vessels

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 delivering 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, 72 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.

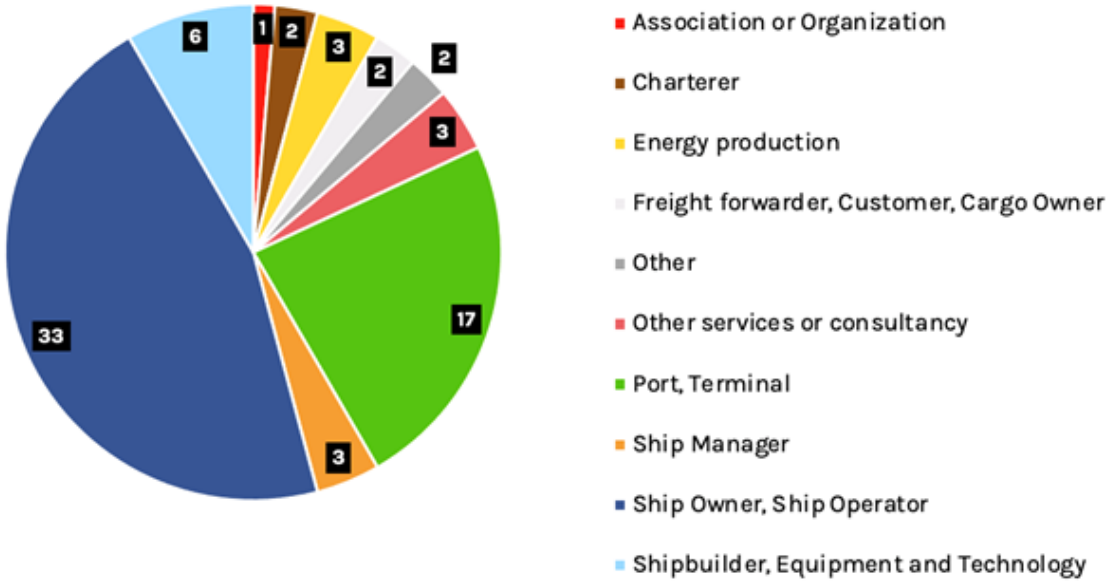

Figure 9: Number of signatories by organization category reporting actions in the area of using zero emission fuels in daily operation

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 37 actions in this area. Ship owners, cargo owners, and ports are leading on this action.

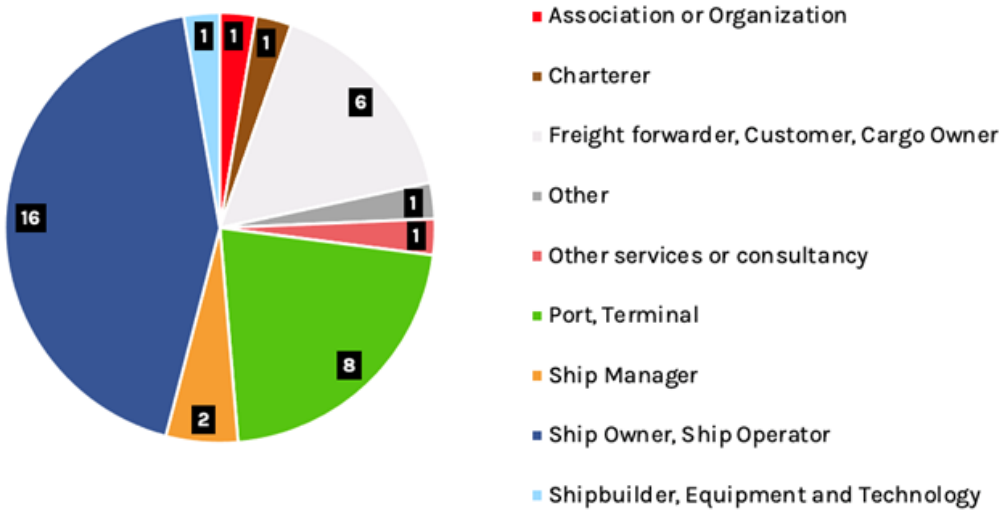

Figure 10: Number of signatories by organization category reporting actions in the area of procuring zero emission shipping services

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 33 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.

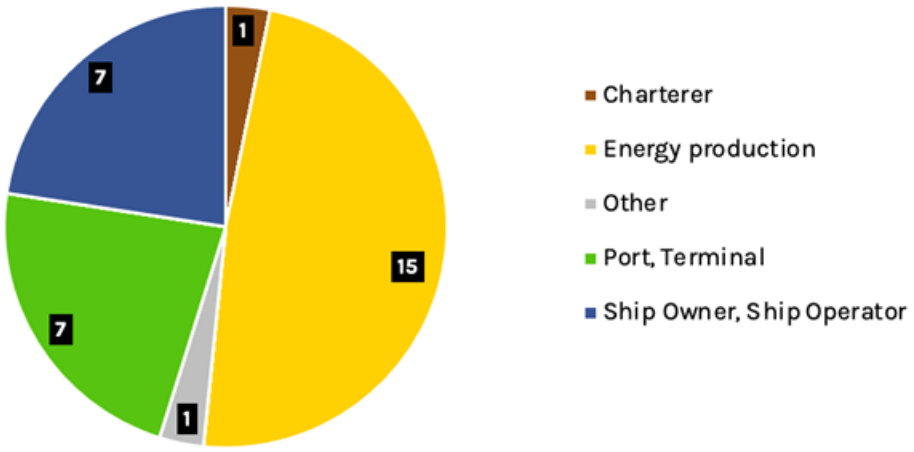

Figure 11: Number of signatories by organization category reporting actions in the area of producing zero emission fuels with the intent to supply it to the shipping sector

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.

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

Facing the challenge of decarbonizing the economy through greater electrification, **Iberdrola**, a Spanish energy producer, is already in conversations with several Spanish Port Authorities to provide clean solutions (i.e. cold-ironing) and support maritime ports to be net-zero emissions in the coming future. As an example, Iberdrola is planning the Y Basque Green Hydrogen Project for the purpose of facilitating the decarbonization of heavy road transport, buses, and light industrial vehicles, as well as for port and airport use in the region and in the chemical industry.

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, 32 actions focused on establishing zero emission bunkering infrastructure are reported by signatories, mostly ports (20) and ship owners (8).

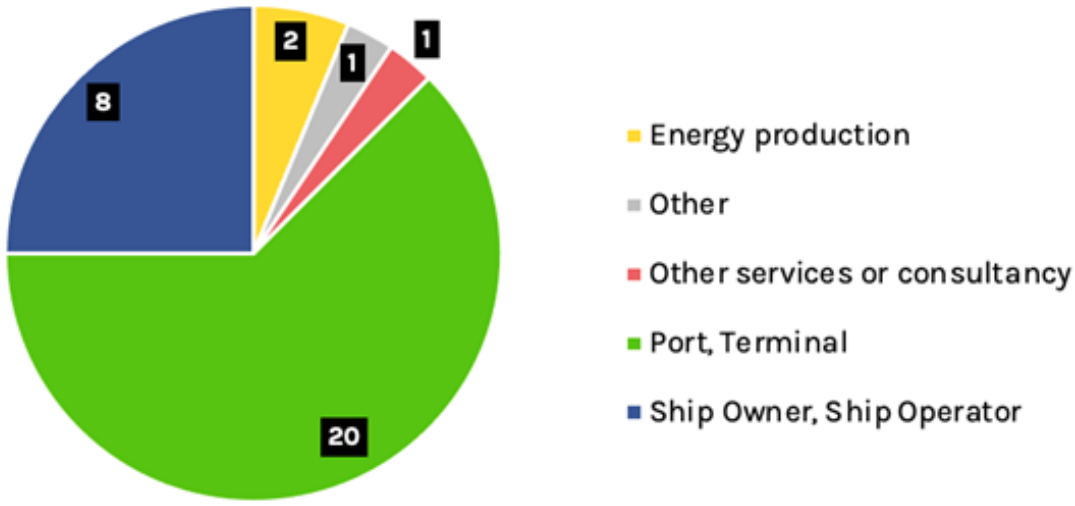

Figure 12: Number of signatories by organization category reporting actions in the area of establishing zero emission bunkering infrastructure

For shipping decarbonization to be commercially viable and operational, establishing bunkering facilities in combination with producing zero-emission fuels are fundamental aspects. 57 signatories are involved with such activities, spread out over 64 actions. These actions do not merely take place in the country where the company is headquartered but are undertaken globally. Figure 13 shows where infrastructure is establishing and where zero emission energy is produced, or where this is planned to happen to reach decarbonization by 2050. This map shows that our signatories are currently working in 40 countries, working with a wide range of renewable energy and bunkering technologies. This information stems from the signatories' websites and their text in the signatory forms. This might, therefore, include limited and or outdated information. It does not distinguish between current and planned action.

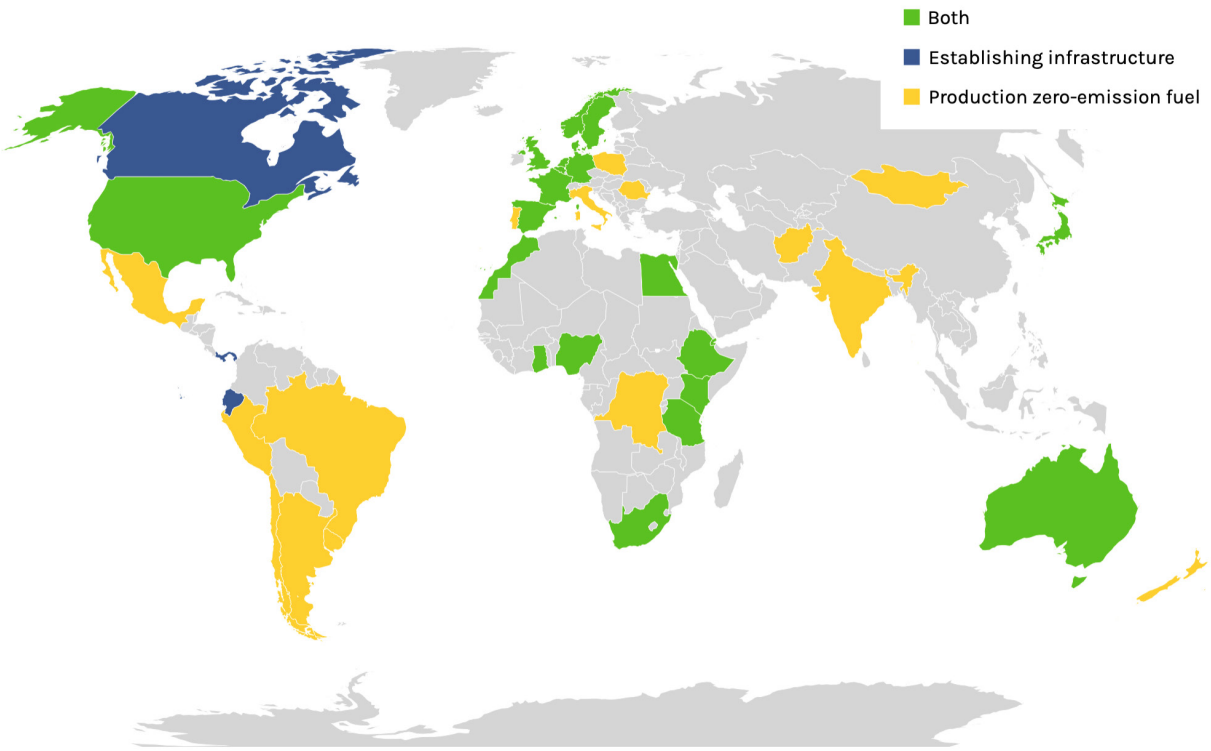

Figure 13: Map of where signatories undertake actions related to establishing bunkering infrastructure and/or producing zero-emission fuels.

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 (FSRU's) by 2024, and their ambition is that this value-added service is 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 supporting 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.

Algeciras Port Authority, a port in Spain, is developing green H2 infrastructure, and promoting its use for vessels.

5 Concluding remarks

This report has aggregated and showcased 643 climate actions and commitments from the 237 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. 65 ship owners and operators form the largest group of signatories. Three are some of the world's biggest oil tanker companies ranking 1st, 3rd, and 4th respectively. Ship owners and operators also represent 52% of global operated capacity (TEU) and 73.5% of cruise shipping's global passenger capacity.

The signatories are headquartered in 52 different maritime nations. 28 of these nations are members of the IMO Council (with 40 members); nine are among world's top 10 maritime nations by beneficial ownership; six out of 10 biggest flag states. These 52 nations also represent more than 85% of the world's merchant fleet value (by beneficial ownership). 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' 643 reported actions and commitments have been categorized according to specific areas. Most actions are categorized as GHG emissions transparency and pilot and demonstration projects, which are only natural as these are the first basic 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. These next steps in shipping decarbonization are already underway.

While close to 240 companies and organizations have already signed up the Call to Action, and it has been delivered to the COP26 Presidency, there is still ample room for more to sign up and submit their climate targets and action commitments. 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
- The Next Wave: Green Corridors
- The 'climate and energy' portfolio of IAPH's World Ports Sustainability Program contains more examples of how ports handle the energy transition challenge

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.

- A Strategy for the Transition to Zero-Emission Shipping
- Getting to 5%: An action plan for delivering zero-emission fuels in shipping
- The Role of the Energy Sector in Shipping's Fuel Transition
- 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: fuelling the future of shipping - South Africa's role in the transformation of global shipping through green hydrogen-derived fuels
- Mexico: fuelling the future of shipping - Mexico's role in the transformation of global shipping through green hydrogen-derived fuels
- Indonesia: fuelling the future of shipping - Low carbon shipping fuels for Indonesia's shipping sector
- Policy Options for Closing the Competitiveness Gap Between Fossil and Zero-Emission Fuels in Shipping

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. Some additional information is based on publicly available data and sources are provided in footnotes. 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 distinguished 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 shipowners, 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	Algeciras Bay Port Authority	Port, Terminal Spain

Climate target	Algeciras Port aims to reduce the emissions related with its main activities in order to contribute with the Green Deal goal, this is, to reduce up to 55% the CO2 emissions by 2030 if we compare with the 1990.
Link(s)	https://www.apba.es/medio-ambiente

Climate action	• Developing Alternative fuel infrastructures. • Installation of Onshore Power Supply for ferrys and Vessel for 2030. • Developing green H2 infrastructure, and promoting it use for vessels. Production and supply thereof. • Installation of solar panels to produce renewable energy for own consumption. • Renew vehicle fleet. New ones hybrid or electric, already in process.
Area(s)	• 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 • Establishing zero emission bunkering infrastructure
Link(s)	https://www.apba.es/uploads/files/medio-ambiente/declaracion-medio-ambiental-2020.pdf

Climate action	Reporting the carbon footprint of the port activity in order to have an indicator and reduce it. Developing a rolling motorway (trucks on trains) to reduce C02 emissions, as the railway is known as the most sustainable way of freight transport.
Area(s)	• GHG emissions transparency • Other
Link(s)	

Climate action	Implementing the concept of the Last Generation Port to consolidate an Innovation Hub specialized in Port Logistics by 2030, a new Process Coordination Center and a Digital Operations Orchestration Platform, in order to be a highly reliable and efficient port, reducing waiting times, and with an emission reduction of the order of 50%.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://innovacion.apba.es/

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	**Atlantic Bulk Carriers Management**	Ship Owner, Ship Operator Greece

Climate target	Atlantic Bulk Carriers Management aims to reduce by 2030 the annual Carbon Intensity (AER) of its managed fleet by at least 45% from its 2008 Carbon Intensity, and to achieve net zero CO2 emissions by 2050.
Link(s)	

Climate action	ABCML is committed to start using zero emission fuels as soon as they are commercially available. To that end, ABCML is in favor of a substantial fuel Levy, through IMO, which will help accelerate the research toward Alternative Fuels and reduce their price gap with conventional fuels.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Climate action	ABCML is directly involved in the design and specifications of its new-built vessels, having established, in cooperation with major shipyards, several innovations, some of which have now become industry standards. Examples: Derated Main Engines since the early 1980's, Bow shape modifications, utilization of Generator exhausts, etc. ABCML has its own-funded R&D budget, testing and developing novel Energy Saving Devices.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	ABCML has installed in all vessels Mass Fuel Flow meters and Horsepower (torque) meters, as well as state-of-the-art, real time, Engine-room and Navigation monitoring systems. This allows for very accurate fuel consumption measurement as well as for route and operation optimization. ABCML intents to stay up to date with the latest technology developments and apply them in its ships and operations.
Area(s)	• GHG emissions transparency
Link(s)	

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

Climate target	Auramarine is globally recognised as a leading provider of critical fuel supply and handling solutions and related lifecycle services in the maritime and offshore industries. In those industries, its primary customers are shipowners and operators, shipyards and engine manufacturers. The company also serves the power and process industries. One of Auramarine's climate targets is to help drive the decarbonisation of the maritime industry by supporting its clients in meeting their ambitious climate targets through the onboarding of zero carbon fuels on their vessels. As a critical fuel supply system provider, Auramarine recognises its position as an enabler for change. Indeed a core element of the company's growth strategy to 2026 is focused on becoming "the preferred partner and supplier for leading players in maritime, power and process industries, with a strong foothold in the new marine fuels". Over the next five years, it will apply its leading expertise in fuel supply and handling solutions to develop the most viable systems to utilise zero-carbon fuels.
Link(s)	

Climate action	**Developing safe and efficient fuel supply and handling solutions for zero carbon fuels** Since 1974 Auramarine has delivered over 15,000 reliable, high-performance units to clients all over the world. Its solutions deliver operational efficiency, safety and reliability throughout their lifetimes. The properties of new fuels, such as ammonia, methanol and sustainable biofuels, differ from those of traditional marine fuels. At engine inlet, all fuels must meet the requirements set by the engine manufacturer. It is crucial for safe and viable utilisation of the new zero emission fuels to take these properties into consideration when designing and manufacturing fuel supply systems. As a leading provider of fuel supply systems, Auramarine will support shipyards, ship owners, ship operators and engine manufacturers to meet their GHG reduction and decarbonisation targets by developing and co-developing solutions for safe and efficient use of new fuels.
Area(s)	• Other
Link(s)	

Climate action	**Contribution on industry led decarbonisation initiatives** Auramarine is committed to supporting the uptake of biofuels in the maritime industry as part of the VTT and Business Finland BioFlex project. The three-year collaborative BioFlex project aims to determine the most ecologically and economically sustainable way to evolve the marine energy supply chain and replace fossil fuels. Working alongside research centres, fuel suppliers and engine manufactures, Auramarine will analyse the impact of biofuel on a vessel's fuel supply units to ensure that every element of material and process used in a vessel's fuel supply unit is examined to enable a safe and effective environment for the fuel. This is important in order to provide owners and operators with the confidence necessary to invest in biofuels as part of their roadmap to zero emissions.
Area(s)	• Other
Link(s)	https://www.auramarine.com/auramarine-collaborates-to-help-assess-bio-and-waste-based-oils-suitable-for-power-plants-and-ships/ https://www.bioflexfuel.fi/

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	Bernhard Schulte Shipmanagement	Ship Manager Germany

Climate target	No target specified.
Link(s)	

Climate action	1. BSM is committed to managing zero emission vessels when they become commercially viable and available – expected from 2030.
Area(s)	• Other
Link(s)	BSM Sustainability Report 2020

Climate action	2. BSM is developing and improving digital tools for measuring, reducing and disclosing GHG emission intensity and total GHG emissions from our full managed vessels. 3. BSM is committed to providing customers with GHG emissions reports regarding their vessel's performance, and to assisting customers with reducing their GHG emissions by optimizing vessel voyages and the operation of machinery on the vessels.
Area(s)	• GHG emissions transparency
Link(s)	BSM Sustainability Report 2020

Climate action	4. BSM is committed to participate in zero emission shipping pilots and demonstration projects. 5. BSM is committed to supporting start-ups championing decarbonisation solutions for the maritime industry.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	BSM Sustainability Report 2020

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	Bibby Marine	Ship Owner, Ship Operator
		UK

Climate target	Bibby Marine are committed to operating as a net zero company by 2040, with mininmal use of emission offsetting.
Link(s)	https://vimeo.com/581082765/e0b54d68d4

Climate action	100% Renewable Energy Use Switching to 100% renewable energy reduces our impact on the environment, helps us to become a more sustainable business and influences positive change. That's why our plan is for Bibby Marine to only use energy that is from renewable sources e.g. wind, solar and biomass, ensuring we do our bit as a responsible business to help protect the planet.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://bibbylinegroup.co.uk/compass/environment/

Climate action	**Decarbonising our Assets** Reducing our CO2 and Green House Gas emissions helps reduce our impact on the environment and become a more sustainable business. It also helps us influence positive change, as we become market leaders, demonstrating our innovative green credentials. We'll be putting in action plans in place in each business to take steps to reduce its carbon intensity created by its assets, sharing plans, best practice, tools and knowledge.
Area(s)	• Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://bibbylinegroup.co.uk/compass/environment/

Climate action	**Single Use Plastic Reduction** 300 million tons of plastic are produced globally each year, half of which is for single-use items. Reducing single use plastic reduces our impact on the environment, helps us to become a more sustainable business and influences positive change. That's why each business will put plans in place and take action to reduce the amount of single use plastic we use in our workplaces, sharing ideas, plans, tools and knowledge.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://bibbylinegroup.co.uk/compass/environment/

Company	Blue Star Group	Ship Owner, Operator
		Germany

Climate target	Blue Star is aiming towards being carbon neutral as soon as possible, but no later than 2050. The strategy of the Blue Star Group incorporates the target to be among the pioneer's bracket when it comes to the application of new technology and fuel systems on ships. We are closely monitoring the developments surrounding the introduction of zero carbon fuels. Ships owned/managed by the Blue Star Group are scheduled to switch to those fuels as soon as they become widely available and technically feasible, instead of using a transitional phase through alternate "less harmful" fuels. That is the reason for our confidence in the effectiveness along the journey to de-carbonize shipping. We are happy to acknowledge this is also the view of our charterers.
Link(s)	

Climate action	The Blue Star Group is already involved in various research projects, offering spaces and crew on our ships for measurement devices to support various environmental research at sea. We actively engage and devote our investments based on the firm believe that it is more than necessary to act now and contribute a fair share to the common goal of decarbonizing shipping.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Our responsibility as an investment manager in the shipping world supported by our co-investors, is to pursue the mission to reduce the Carbon Footprint. We want to actively assist and accelerate the introduction of Hydrogen economy to maneuver towards a more sustainable future. Blue Star will achieve this goal with the help of well-placed investments into ships and other opportunities which contribute directly to the Goal of zero emissions. Therefore, we as a team actively dedicate much of our time to assess the current status of the industry from a technical and financial perspective and identify opportunities to participate both in research and development as well as operating zero emission capable ships.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	
Climate action	Blue Star is engaging in strategic partnerships with companies offering state of the art innovation products to lower fuel consumption and enhance effectiveness. The latest partner of ours, Sofar Ocean Technologies Inc, is specialized in Voyage optimization for individual vessels by finding the most fuel-efficient route with the help of high accuracy weather forecasts of data provided by their own network of spotter buoys. The application of this process supports decarbonization by reducing up to 10% or 10Mt CO2 per year.
Area(s)	• Other
Link(s)	https://www.sofarocean.com/

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	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	**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	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	**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	**COACH Solutions**	Other services or consultancy
		Denmark

Climate target	It is our target to lower emissions and fuel/oil consumption within shipping by providing owners and operators the best possible tools for optimizing both their vessels on performance and routing.
Link(s)	www.coachsolutions.com

Climate action	COACH Solutions software assists shipowners as well as commercial and technical managers to a data-driven decision making-process in all aspects of fuel consumption onboard their vessels. Both in connection with daily operations (routing) as well as vessel performance. Our validated data allows an operator and/or technical manager to take immediate actions based on both commercial- as well as safety considerations. We furthermore capture emission data for use in both reporting, as well as KPI creation.
Area(s)	• GHG emissions transparency • Other
Link(s)	

Climate action	COACH Solutions software uses advanced algorithms to, not only ensure a high level of data quality, by having vast amounts of automated validation points, but using this data to identify best in class operation of our clients' vessels, by lowering fuel consumption, without compromising neither commercial considerations nor safety.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	By creating transparency, providing validated data and developing performance KPI's we assist both the industry, as well as political decisionmakers to take action and create ambitious, but realistic goals for lowering future emissions.
Area(s)	• GHG emissions transparency
Link(s)	

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	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 23,000 TEU 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	Dorian LPG (USA)	Ship Owner, Ship Operator
		USA

Climate target	Our climate target & mission statement are the same. Comitted to provide safe, reliable, clean & trouble free transportation.
Link(s)	www.dorianlpg.com

Climate action	We welcome and support efforts to increase transparency and to promote investors' understanding of how we and our industry peers are addressing the climate change-related risks and opportunities. We have disclosed certain environmental, social and governance (ESG)-related information on our website, including our first ESG Report, aligned with the Sustainability Accounting Standards Board (SASB) Marine Transportation standard, additionally taking into account recommendations provided by the Taskforce on Climate-Related Financial Disclosures (TCFD). The report includes information on how we monitor, manage and perform on material ESG issues in the face of increasing expectations and regulations
Area(s)	• GHG Transparency
Link(s)	www.dorianlpg.com

Climate action	We are operating newer, more technologically advanced ECO vessels, with very low revolutions per minute, long-stroke, electronically controlled engines, larger propellers, advanced hull design, and low friction paint, resulting in enhanced the energy efficiency and reduced greenhouse gas emissions on a ton-mile basis, including the vessels in our existingfleet and our newbuilding dual-fuel VLGC that is expected to be delivered from Kawasaki Heavy Industries in March 2023; Implementing and utilizing internal and third-party data collection and analysis software, which allows data to be gathered from our vessels for use in performance optimization, with the aim of reducing our fuel consumption, and carbon dioxide and greenhouse gas emissions.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • Other
Link(s)	www.dorianlpg.com

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	**Drewry Shipping Consultants**	Other services or consultancy UK

Climate target	No target specified.
Link(s)	

Climate action	We are aware of the importance of decarbonising the maritime sector and the challenges we all face. We are committed to developing and sharing knowledge through our research and advisory assignments that will support this process across the maritime sector.
Area(s)	• Other
Link(s)	

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	**ENGIE**	Energy production France

Climate target	Commitment to Net Zero Emissions by 2045 on all scopes, and Mid-term objective to 2030 (2°C trajectory SBT Certified): • Reduce by 52% the rate of emissions per kWh of energy production compared with 2017 • Reduce by 34% the emissions related to the use of products sold Additional Group objectives on climate: • Electric mix: 58% of renewables in the energy mix in 2030 • Supply chain: 100% of our preferred suppliers that are certified or aligned with SBT in 2030 • Ways of working: net zero emission related to our working practices in 2030
Link(s)	https://www.engie.com/en/group/our-vision/commitments-for-the-climate https://www.engie.com/en/node/1282

Climate action	ENGIE is a global reference in low-carbon energy and services. Together with our 170,000 employees, our customers, partners and stakeholders, we are committed to accelerate the transition towards a carbon-neutral world, through reduced energy consumption and more environmentally friendly solutions. Inspired by our Purpose (“raison d’être”), we reconcile economic performance with a positive impact on people and the planet, building on our key businesses (gas, renewable energy, services) to offer competitive solutions to our customers. As such we are contributing to investigate and provide solutions to the maritime & ports ecosystems towards their carbon neutrality and zero emissions journey (in particular around their energy and future fuels: bio-LNG, H2, e-fuels, e-LNG, cold ironing…), by designing the most relevant decarbonization solutions, depending on the ship and route characteristics.
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://www.engie.com/en/group/purpose https://www.engie.com/sites/default/files/assets/documents/2021-05/RI-Engie2021-ENG-vdef.pdf

Company	**Essberger & Stolt Tankers**	Ship Owner, Ship Operator Germany

Climate target	E&S Tankers is currently focused on likely future compliance scenarios in line with IMO and regional GHG reduction ambitions. When this exercise is complete we will evaluate the likely measures we will be able to take to exceed compliance and participate in accellerated reduction of GHG emissions. As part of this strategy we are already engaged with or starting the below mentioned initiatives according to our ESG roadmap. Besides this we pursue longstanding technlogy based efficiency improvement measures.
Link(s)	

Climate action	ESG Roadmap related iniatives: • Tactical opportunity for beyond EEXI / CII • Bio fuels trial • Shore power initiativies with clients/terminals • Wing foil trial • Digital port efficiency initiative • Hydrogen fuel cell initiative • Customer based alternative fuels initiative • Vessel circular lifecycle initiative with yard • Vessel commercial life extension iniative
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Other
Link(s)	CDP, Ecovadis

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	EV Maritime	Shipbuilder, Equipment and Technology
		New Zealand

Climate target	EV Maritime is a technology company based in Auckland New Zealand specifically focused on zero-emission and low-emission inshore commercial vessels and their supporting infrastructure. Our goal is to develop vessels which provide practical, safe, reliable and financially attractive zero emission options for inshore maritime operators and transport agencies, to assist boat builders around the world to become zero emission boat builders through technology transfer, and through these activities to help make zero emission vessels the default choice for inshore maritime operators worldwide. Focusing on ferries for urban public transport and tourism, we aspire to provide 600 vessels across 30 cities enabling the abatement of 4M tonnes CO2 by 2040.
Link(s)	www.evmaritime.com

Climate action	EV Maritime has already proactively invested over NZ$1M towards the development of electric fast ferries in order to establish this as a viable pathway for operators and transport agencies. EV Maritime is committed to completing the design of a 24-metre fully-electric fast passenger ferry to production-ready level. EV Maritime is committed to delivering electric fast ferry pilot programmes to demonstrate the practical and economic viability of electric ferries and supporting those programmes to deliver optimal outcomes for operators and transport agencies. EV Maritime is committed to continuing to explore new technology opportunities to expand maritime decarbonisation opportunities.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	www.evmaritime.com

Climate action	EV Maritime is committed to offering the skills and tools which it has developed for its own product development to assist operators and transport agencies worldwide in the exploration of electric ferry systems. EV Maritime is committed to collaborating across industry, including with its competitors, towards the normalisation of zero emission inshore maritime operations.
Area(s)	• Other
Link(s)	www.evmaritime.com

Climate action	EV Maritime has already proactively invested in the initial development of multi-megawatt DC fast charging infrastructure. EV Maritime is committed to partnering with industry towards the establishment of multi-megawatt level DC fast charging infrastructure to support the electrification of the inshore maritime sector.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	www.evmaritime.com

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	**Fortescue Metals Group & Fortescue Future Industries**	Ship Owner, Ship Operator
		Australia

Climate target	Fortescue Metals Group is targeting carbon neutrality on its Scope 1 and 2 emissions by 2030 and its Scope 3 emissions including all shipping by 2040.
Link(s)	

Climate action	Through FMG's wholly owned subsidiary FFI, it has created a Green Team and established a major R&D facility at Hazelmere in Perth, which manages and trials technology on hydrogen, ammonia and battery power for trains, ship engines, haul trucks and drill rigs for technology demonstration. Specific to shipping, the Green Team has achieved the following to date: • Completion of design and construction of a combustion testing device for large marine (ship) engines, with pilot test work underway and a pathway to achieve completely renewable green shipping fuel • Finalised design of a next generation ore carrier (ship) that will consume renewable green ammonia, with the Classification Society giving in principle design approval Additional research, development and innovation work is ongoing and will be shared with the industry in appropriate forums in due course in order to promote industry wide decarbonisation.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	In order to ensure that FMG will have sufficient green fuels (e.g. ammonia) to meet its climate target of carbon neutrality by 2040, it has created a wholly owned subsidiary called Fortescue Future Industries which will be a key enabler of FMG's decarbonisation strategy including removing the CO2 footprint from shipping. Fortescue Future Industries (FFI) is committed to producing zero-emissions green hydrogen from 100 per cent renewable sources and is building a global portfolio of renewable hydropower, geothermal, wind, and solar assets. It will produce green hydrogen at a scale equal to the oil and gas super-majors, but FFI's will be fully green. FFI's target is to produce 15 million tonnes per annum of renewable green hydrogen by 2030, achieved through a large-scale global supply chain across three major production hubs – Africa/Europe, Latin America, and Australasia. FFI intends to produce green fuels at a size and scale that it will materially exceeds its own green fuel needs and will supply these zero emissions fuels to the global market with the intention of being an enabler of system wide decarbonisation.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	

Climate action	Fortescue Metals Group also charters various ships for its iron ore operations. It may also charter ships in due course to transport its green ammonia to its final customers and key import hubs once production is on stream. FMG and FFI have/will inform the ship owners of chartered ships that we will value and, in due course, require that all ships used by the Fortescue Group companies in their commercial operation are powered by green fuels.
Area(s)	• Using zero emission fuels in commercial operation • Procuring zero emission shipping services
Link(s)	

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	Genco Shipping & Trading	Ship Owner, Ship Operator
		USA

Climate target	No target specified.
Link(s)	

Climate action	We have implemented a comprehensive IMO 2023 strategy in which we will install saving energy devices across various vessels in our fleet as well as apply high performance paint systems among other measures. These investments will lead to reduced fuel consumption and lower carbon emissions.
Area(s)	• Other
Link(s)	

Climate action	Over the last several years, we have been divesting older, less fuel efficient vessels and purchasing modern, eco vessels to reduce our carbon footprint.
Area(s)	• Other
Link(s)	

Climate action	We are members of a working group alongside 30+ companies across the maritime supply chain to study the feasability of ammonia as an alternative fuel in the maritime sector with the end goal of decarbonizing the shipping industry.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

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	Grimaldi Group	Ship Owner, Ship Operator
		Italy

Climate target	No target specified.
Link(s)	

Climate action	To reduce annually the emission per ton-nm, introducing 20 new ships in 2020-2024 able to reduce intensity carbon emissions at least 50% as CO”/ton-km compared with previous generation of vessels in the same category. Zero Emission in Port through the use of battery and cold-ironing.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

Climate action	Various energy Efficiency actions and R&D projects strategy, as well as GHG emission transparency through IMO, DCS, EU, MRV, Sustainability Report, GHG inventory and ESI (Environemntal Shipping Index)
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	

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	**Harren & Partner Group**	Ship Owner, Ship Operator Germany

Climate target	The Harren & Partner Group is commited to continously reduce its ecological footprint in all business areas as part of its sustainability strategy. By year 2040, we are commited to offer carbon neutral and / or zero emission shipping services to our customers in the heavy lift market. By year 2050, our owned and part-owned fleet will be fully carbon neutral and / or zero emission capable.
Link(s)	

Climate action	By year 2022, all owned and part-owned vessels will be registered in the Environmental Ship Index (ESI).
Area(s)	• GHG emissions transparency
Link(s)	https://www.environmentalshipindex.org/

Climate action	By year 2030, we aim to only ordering carbon neutral and / or zero emission capable vessels.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation
Link(s)	

Climate action	The Harren & Partner Group will be launching further R&D projects and installations related to energy efficiency in the volume of over USD 25 Mio. until 2025 including newbuilding projects. **Actions already in progress** I. Hydrogen generator Worldwide first vessel retrofitted with a hydrogen generator on the main engine to significantly lower CO2 and NOx emissions in 2021. Roll-out of the system to further vessels currently in prepartion. II. Application of fuel-saving hull coatings We apply state of the art fuel-saving hull coatings to reduce fuel consumption and related emissions. III. Consumption monitoring and improvement We are currently in the process of upgrading our vessel performance monitoring system to enable further improved focused actions and measures to enable additional energy savings. IV. Vessel modification and newbuilding design projects We are developing vessel modification projects and new vessel designs focusing on applying latest energy optimization and fuel saving technologies. Actions planned for the future I. Modifications We commit to continuously evaluating options to further increase our vessels' efficiency ranging from hull and propulsion modifications to installation of frequency converters to voyage planning in close collaboration with industry partners, universities and other leading organizations.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Company	**Heerema Marine Contractors**	Other: Offshore Contracter Netherlands

Climate target	Heerema Marine Contractors has committed to align its activities with the Paris Agreement's temperature goal. This action includes: • The decision to become Carbon Neutral in 2020 by means of compensation • Constructing a Shore Power connection in the Port of Rotterdam to prevent • emissions at the source • A commitment to have reduced gross emissions by 80% in 2025 compared to 2020.
Link(s)	https://www.heerema.com/hubfs/Sustainability/Heerema%20Marine%20Contractors_Sustainability%20Report_2020.pdf?hsLang=en https://www.heerema.com/sustainability/carbon-neutral

Climate action	Heerema Marine Contractors has been carbon neutral since October 2020 by compensating 100% of its CO2 footprint. Heerema compensates by investing in gold standard certified climate compensation projects that are in line with the company's mission to create sustainable value(s).
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.climateneutralgroup.com/case/heerema/ https://www.heerema.com/hubfs/Sustainability/Heerema%20Marine%20Contractors_Sustainability%20Report_2020.pdf?hsLang=en

Climate action	Heerema Marine Contractors uses alternative fuels to reduce CO2 emissions. Heerema is using LNG to power the world's largest semi-submersible crane vessel Sleipnir, and will use bio-fuels and green hydrogen onboard its vessels to reduce 55% of CO2 emissions by 2025.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.climateneutralgroup.com/case/heerema/ https://www.heerema.com/hubfs/Sustainability/Heerema%20Marine%20Contractors_Sustainability%20Report_2020.pdf?hsLang=en

Climate action	Heerema Marine Contractors has retrofitted its two largest crane vessels Thialf and Sleipnir in order to connect the vessels to 100% clean energy via a shore power connection when the vessels are in moored in the Port of Rotterdam. This initiative connects the vessels while they are on hotel load to wind turbines and reduces Heerema's total annual CO2 emissions by 5% or more.
Area(s)	• Procuring zero emission shipping services • Pilot and demonstration projects (RD&D)
Link(s)	https://www.heerema.com/hubfs/Sustainability/Heerema%20Marine%20Contractors_Sustainability%20Report_2020.pdf?hsLang=en

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	Iberdrola	Energy production
		Spain

Climate target	With an emission-free production of 80 % at the close of the First Half 2021, the Iberdrola group is committed to becoming carbon neutral by 2030 in Europe, where its emissions for the period are already only 43 g/kWh, it has also committed to reducing its global CO2 emissions intensity to 50g/kWh — which would be 70g/kWh by the end of 2025 — until it becomes carbon neutral globally by 2050. The company has also set a target to reduce absolute Scope 1, 2 and 3 greenhouse gas emissions, which has been approved by the Science Based Target initiative. Iberdrola has amended its By-Laws to entrust its Board of Directors with responsibility for climate action, thereby strengthening its climate governance.
Link(s)	https://www.iberdrola.com/sustainability/against-climate-change/climate-action

Climate action	Iberdrola is committed to the decarbonization and electrification of the economy. In that context, hard-to-abate sectors -such as shipping- require enhanced public and private initiatives for emission reduction goals to be met. Consequently, Iberdrola -as an energy supplier across different sectors- is leading the establishment of an alliance for the decarbonization and electrification of the maritime sector in Spain, that will pull together several companies from the maritime value chain (shipowners, port authorities, research centers, start-ups...) in order work on a national roadmap towards the decarbonization of maritime activities and infrastructures. This alliance will help accelerate the electrification of maritime infrastructures, as well as decarbonizing shipping.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	

Climate action	Iberdrola, facing the challenge of decarbonizing of the economy through greater electrification, is already in conversations with several Spanish Port Authorities to provide clean solutions (i.e. cold-ironing) and support maritime ports to be net-zero emissions in the coming future. As an example, Iberdrola is planning the Y Basque Green Hydrogen Project for the purpose of facilitating the decarbonisation of heavy road transport, buses and light industrial vehicles, as well as for port and airport use in the region and in the chemical industry.
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.iberdrola.com/press-room/news/detail/iberdrola-planning-basque-green-hydrogen-project-electrify-heavy-transport-basque-country

Climate action	Iberdrola is open to develop pilot and demonstration projects, such as producing clean electrofuels for maritime applications, to help decarbonising shipping. Iberdrola, already a pioneer in the renewables movement, is developing a large-scale project to generate green hydrogen from solar PV in Puertollano and, by 2030, it expects to produce 85,000 tonnes of green H2.
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.iberdrola.com/about-us/utility-of-the-future/decarbonized-economy-principles-regulatory-actions

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	Kawasaki Kisen Kaisha	Ship Owner, Ship Operator
		Japan

Climate target	To reduce total annual GHG emissions by 50% by 2050 compared to 2008; and reduce carbon intensity by 50% by 2030, pursuing efforts towards 70% by 2050, compared to 2008.
Link(s)	https://www.kline.co.jp/en/csr/environment/management/main/00/teaserItems1/0/linkList/0/link/K-LINE_E-vision_en_2020_v2.pdf

Climate action	Launch zero-emission vessel by strengthening ties with shipbuilding sites, customers, governments, investors, and all stakeholders.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation
Link(s)	https://www.kline.co.jp/en/csr/environment/management/main/00/teaserItems1/0/linkList/0/link/K-LINE_E-vision_en_2020_v2.pdf

Climate action	Explore and develop new businesses that contribute to achieving a low-carbon society • Enter the supply chain business of new, zero emission energy • Contribute to the promotion of CCU technology (carbon capture and usage) • Reduce CO2 emissions over vessel lifecycles
Area(s)	• RD&D • Establishing zero emission bunkering infrastructure • Other
Link(s)	https://www.kline.co.jp/en/csr/environment/management/main/00/teaserItems1/0/linkList/0/link/K-LINE_E-vision_en_2020_v2.pdf

Company	Kirby Corporation	Ship Owner, Ship Operator
		USA

Climate target	No target specified.
Link(s)	

Climate action	Kirby is investigating the viability of biofuels and is currently testing on a variety of vessels Please note in the 2021 Sustainability Report a thorough report of the Kirby's Scope 1 and Scope 2 emissions inventory along with emissions reduction targets.
Area(s)	• Ordering zero emission and zero emission capable vessels • Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	Slide 19: https://kirbycorp.com/wp-content/uploads/2021/07/ESG-Report-July-2021-Website-1.pdf

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	Latsco Marine Management	Ship Owner, Ship Operator
		Greece

Climate target	To reduce the carbon intensity of our fleet by 50% by 2030 compared to 2008, as measured by the AER.
Link(s)	

Climate action	Latsco Marine Management is monitoring and projecting the carbon intensity of its vessels and is fully committed to reducing the footprint of its shipping portfolio by investing in technically advanced vessels. Latsco Marine Management is closely monitoring the developments in the propulsion and marine fuels technology in order to proceed with the optimal solution for the renewal of the fleet.
Area(s)	• GHG emissions transparency
Link(s)	

Climate action	Latsco Marine Management is using state of the art fleet performance monitoring systems and is disclosing the GHG rating of its vessels by subscribing to Rightship
Area(s)	• GHG emissions transparency
Link(s)	https://www.rightship.com/

Company	Lauritzen Bulkers	Ship Owner, Ship Operator
		Denmark

Climate target	No target specified.
Link(s)	

Climate action	Lauritzen Bulkers A/S is committed to chartering zero emission vessels when they become commercially viable and available - expected from 2030
Area(s)	• Using zero emission fuels in commercial operation • Procuring zero emission shipping services
Link(s)	https://www.j-lauritzen.com/sites/default/files/media/about_us/corp_responsibility/cr_report_2020_03032021_final.pdf

Climate action	Lauritzen Bulkers A/S is, and has for several years been, continuously optimizing and monitoring voyage execution assisted by Weathernews International (WNI) for optimum ship routing further supported by Vessel Performance Solution (VPS) for accurate monitoring of hull and propeller condition to avoid adverse impact on fuel efficiency from hull fouling etc. Urged by Lauritzen Bulkers A/S the two systems now integrates so the advanced VPS vessel models can be used by WNI for improved routing. Further, Lauritzen Bulkers is actively participating and supporting various joint industry projects to limit the environmental impact of its operation. Currently ongoing is a work package under the ShippingLab initiative where Lauritzen Bulkers A/S participates with other shipping companies, universities and vendors specifically targeted on fuel reduction through vessel operation and voyage execution.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.j-lauritzen.com/sites/default/files/media/about_us/corp_responsibility/cr_report_2020_03032021_final.pdf

Climate action	Lauritzen Bulkers A/S has since 2012 been collecting and reporting data in accordance with scope 1 of the Greenhouse Gas Protocol. The data has been published yearly as part of Lauritzen's Corporate Responsible report using the operational control approach including all operated vessels to create a direct link between the economic bottom-line and environmental responsibility. More detailed data is being requested from various stakeholders as part of updated reporting schemes from authorities and industry initiatives e.g. EU MRV, Poseidon Principles, etc., and these new requirements will be adopted to enable expanded and transparent emission reporting to the stake holders.
Area(s)	• GHG emissions transparency
Link(s)	https://www.j-lauritzen.com/sites/default/files/media/about_us/corp_responsibility/cr_report_2020_03032021_final.pdf

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	Linsen Nambi Bunker Services	Ship Owner, Ship Operator
		South Africa

Climate target	We aim to become carbon neutral by 2030.
Link(s)	

Climate action	We were utilising 500ppm automotive diesel oil (ADO) from 2008 until 2020, across our fleet of bunker tankers. We switched to the lower sulphur 50ppm ADO in 2020.
Area(s)	• Procuring zero emission shipping services • Establishing zero emission bunkering infrastructure
Link(s)	

Climate action	We commit to switching to the 10 ppm ADO, once clean fuels 2 is passed in September 2023 in South Africa and commit to switching to an industry accepted and OEM approved bio-fuel in the future. We are also committed to support the build of bunker vessels needed to supply a zero emission bunker fuel.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Company	Liquid Wind	Energy production
		Sweden

Climate target	Liquid Wind will produce a carbon neutral fuel, eMethanol, suitable for use in the maritime sector. We will work closely with our consortium partners to provide the energy sources necessary to decarbonise their operations in line with their climate change commitments and targets. Our goal is to reach 50 million ton reduction in carbon emissions, every year by 2050.
Link(s)	https://static1.squarespace.com/static/5e8dd7bd5994173d6a216b14/t/60c1e0485fdc7457c0fcbe0a/1623318607437/Liquid_Wind_2020_Annual_Report.pdf

Climate action	Liquid Wind will capture carbon dioxide and combine this with hydrogen, made from renewable electricity and water, to produce carbon neutral fuel, eMethanol. Converting electricity into liquid energy makes it easier to store and use. Advancing the electrification of mobility and industry to reduce carbon emissions.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://static1.squarespace.com/static/5e8dd7bd5994173d6a216b14/t/60c1e0485fdc7457c0fcbe0a/1623318607437/Liquid_Wind_2020_Annual_Report.pdf

Climate action	Liquid Wind develops renewable eMethanol facilities to; • increase supply of carbon neutral fuel, and • prevent CO2 emissions Per year, each standard facility; • Upcycles 70,000 tonnes of CO2 • Generates 50,000 tonnes of eMethanol • Prevents 100,0000 tonnes of CO2 emissions Establishing commercial-scale facilities • 2024 First facility in Örnsköldsvik, Sweden • 2030 10+ facilities • 2050 500 facilities, globally 2050 GOAL: 50 million ton reduction in carbon emissions, every year
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.liquidwind.se/flagships

Climate action	99.9% of marine fuels are fossil based* *Source: UNCTAD - Review of Maritime Transport 2019 eFuel - eMethanol - can scale to meet growing demand • Carbon neutral fuel • Liquid hydrogen-derivative • More than 90% reduction in CO2 emissions • Easy to store, transport and use • Compatible with existing infrastructure • Scalable to replace large volumes of fossil fuels
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	https://www.liquidwind.se/emethanol https://vimeo.com/630923571

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	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	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	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	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
Link(s)	https://www.ldc.com/sustainability-report-2020/responsible-business/freight/

Company	Mabanaft	Energy production
		Germany

Climate target	Our specific targets for reduction of GHG is still under development. We report our GHG emissions in the Annual Sustainability report for the parent Company, Marquard & Bahls.
Link(s)	https://www.marquard-bahls.com/fileadmin/content/global_content/downloads/sustainability-reports/Marquard-Bahls_Sustainability-Report-2020_EN.pdf

Climate action	Mabanaft intends to play a constructive role in the transition to low and zero carbon fuels across it's businesses. In Shipping, we intend to support the transition through investments in ammonia production and the development of port infrastructure. We will be producing grey ammonia in the US gulf caost from 2023. Our offtake from that project can be used to support the initial phase of the transition to ammonia. The project includes an evaluation of the CCUS options to be able to supply cleaner, blue ammonia from 2025 onwards
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	http://gulfcoastammonia.com

Climate action	Mabanaft has existing port infrastructure in Hamburg that can supply bunkers to the international shipping industry. We are carefully evaluating all technical and commercial options for establishing a green ammonia storage and supply base. This will be used for domestic use as well as supplying bunkers for the shipping market.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	https://www.oiltanking-deutschland.de/en/tank-terminals-tank-storage/hamburg-blumensand/

Climate action	Our aspirations include investing or participating in the offtake from other green hydrogen and ammonia projects in Europe. This will be used to support the supply of green fuels to the shipping industry as well as other inland markets. We are currently a partner in AquaVentus in Germany that will bring green hydrogen to the market through up to 10GW of offshore wind turbines (see Link). We also are investing in P2X Europe that is bringing carbon neutral fuels to the domestic market and will seeking ways to leverage this know-how to the shipping market (see link). In seeking innovative solutions, we are a shareholder in NACOMPEX which is seeking betters to store hydrogen with a potential application in Shipping.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector

Link(s)	https://www.mabanaft.com/en/news-info/press-releases/details/article/mabanaft-is-a-founding-member-of-aquaventus.html https://www.mabanaft.com/en/news-info/press-releases/details/article/hr-group-and-mabanaft-establish-new-joint-venture-to-market-ptx-products.html https://www.mabanaft.com/en/news-info/press-releases/details/article/future-technology-hydrogen-mabanaft-acquires-stake-in-energy-storage-specialist-nacompex.html

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	Montreal Port Authority	Port, Terminal Canada

Climate target	The Montreal Port Authority (MPA) wants to be exemplary and further reduce its carbon footprint and thus provide leadership in this area for the whole port community: we prioritize greening not only for our operations, but also for supply chains. The MPA can be a major asset in decarbonizing the economy and it aims to achieve decarbonization of its activities by 2050. The objective will be refined and revised regularly based on strategic developments and the performance of initiatives under development. Work has been underway: MPA has reduced its own GHG emissions by 25% since the 2007 benchmark year and in terms of intensity per ton handled at the Port, the decrease was 37 % during that period.
Link(s)	https://www.port-montreal.com/en/component/edocman/496-2020-sustainable-development-report/view-document

Climate action	In the province of Quebec (Canada), there is a large production of hydro-electricity, so the Montreal Port Authority is well positioned to use this green energy. In 2017, the MPA implemented, in collaboration with Hydro-Québec, an electrical power system at its cruise terminal and shore power systems for wintering ships to provide cleaner energy during their stay. It lets cruise ships and wintering vessels turn off their engines while docked, while maintaining air conditioning, refrigeration, security systems and services for the duration of their stay (an average of 10 hours for cruise ships). This new technology reduces noise, vibration, smoke and GHG emissions from diesel engine combustion gases by approximately five tonnes of GHG emissions at each connection. In 2020, 26 ships used this system, avoiding 3,200 tonnes of GHGs.
Area(s)	• Procuring zero emission shipping services • Establishing zero emission bunkering infrastructure • GHG emissions transparency
Link(s)	See “Air Quality” section here: https://www.port-montreal.com/en/the-port-of-montreal/about-the-port/social-responsibility/sustainable-development Video here: https://www.youtube.com/watch?v=zgMVpYS5aKQ

Climate action	Since 2017, the APM has been offering, in partnership with the alternative energy company Energir, a liquefied natural gas (LNG) bunkering solution for ships. This service has been used 31 times in 2020 alone and 105 times in total since its inauguration. The service is estimated to have avoided nearly 30,000 tons of GHGs, in addition to providing a 99% reduction in SOx, 90% reduction in fine particulates, and 70% reduction in NOx compared to conventional marine fuels.
Area(s)	• Procuring zero emission shipping services • Establishing zero emission bunkering infrastructure • GHG emissions transparency

Link(s)	See “Air Quality” section here: https://www.port-montreal.com/en/the-port-of-montreal/about-the-port/social-responsibility/sustainable-development Also: https://www.energir.com/en/about/media/news/une-solution-d-approvisionnement-en-gaz-naturel-liquefie-accessible-pour-les-armateurs-au-quebec/

Climate action	The MPA continues to evolve towards clean energy, notably green hydrogen, ethanol and methanol. In 2021, it signed a cooperation and development agreement with Greenfield Global, which specializes in the production of biofuels. United in a shared vision to encourage the energy transition and diversify environmentally responsible energy alternatives, the MPA and Greenfield decided to pool their expertise. The signed cooperation and development agreement aims to identify, conceive and implement innovative green energy solutions, among which green hydrogen, ethanol and methanol are at the forefront. A working committee has been set up to oversee the development and implementation of these new energy solutions for current and future MPA activities as well as those of MPA partners and the marine industry. The Port of Montreal is already receiving ships for the transport of green energy, for example: ships containing ethanol.
Area(s)	• Procuring zero emission shipping services • Establishing zero emission bunkering infrastructure • GHG emissions transparency
Link(s)	https://www.port-montreal.com/en/the-port-of-montreal/news/news/press-release/partnership-greenfield

Company	MPC Container Ships	Ship Owner, Ship Operator
		Norway

Climate target	No target specified.
Link(s)	https://www.mpc-container.com/sustainability/corporate-social-responsibility-statement/

Climate action	Develop a fleet strategy aligned with the IMO goals for GHG emission reductions. Through participation in maritime environmental organisations such as the Clean Shipping Alliance 2020 and the Trident Alliance, MPCC aims to align our company with networks of likeminded industry peers and support efforts for sustainable shipping.
Area(s)	• Ordering zero emission and zero emission capable vessels • Pilot and demonstration projects (RD&D)
Link(s)	https://www.mpc-container.com/sustainability/corporate-social-responsibility-statement/ Action will be published in next ESG Report

Climate action	Adopter of efficiency enhancing technologies, propulsion technologies and/or alternative fuels.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	https://www.mpc-container.com/sustainability/corporate-social-responsibility-statement/ Action will be published in next ESG Report

Climate action	Enhance the management, reporting and monitoring of climate risk aligned with TCFD (Task Force on Climate-Related Financial Disclosures).
Area(s)	• GHG emissions transparency
Link(s)	https://www.mpc-container.com/sustainability/corporate-social-responsibility-statement/ Action will be published in next ESG Report

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	**NAPA**	Other services or consultancy Finland

Climate target	With our software, we help maritime transportation achieve its decarbonization targets both with operational improvements as well as improving future vessel designs.
Link(s)	https://www.napa.fi/

Climate action	Invest in building the best possible software products for ship operators for voyage optimization (weather routing and speed optimization) and for ensuring good hull performance of the fleet. The broad implementation of such tools has the potential to save about 10% of maritime CO2 emissions.
Area(s)	• Other
Link(s)	https://www.napa.fi/voyage-optimization/

Climate action	Enable other companies and collaborative projects to utilize our simulation technologies. For example, NAPA is participating in cross-industry projects to improve arrival scheduling of bulk transportation and thus slow down when arriving in congested ports, reducing up to 15% of overall maritime CO2 emissions.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	Help ship design and shipbuilding industry innovate new ways of designing ships to match real-life operational conditions better and take the best possible advantage of the available energy-saving possibilities.
Area(s)	• Pilot and demonstration projects (RD&D) • Other
Link(s)	

Company	Newport Shipping	Shipbuilder, Equipment and Technology
		UK

Climate target	In order to reduce the overall emissions with the shipping industry, Newport aims to facilitate a wide variety of repairs, conversions and retrofits resulting in a significant decrease in the release of harmful pollutants being released into the atmosphere and the oceanic ecosystem. Newport will aim to facilitate and finance retrofit and conversion projects that can be powered by alternative fuel sources e.g. LNG, bio/synthetic LNG, bio- or electro-methane, hydrogen, bio-diesel, LPG, ammonia, amongst others. Use of LNG in the initial phase to reduce the overall amount of CO2 emitted from vessels. Transition from LNG to net zero carbon emission fuels with an aim to meet the net zero target in 2050.
Link(s)	https://www.newportshipping.com/

Climate action	Newport Shipping's transition financing program, under which Newport will issue debt instruments for the purpose of retrofitting or installing existing vessels with green technology systems and clean fuel alternatives. This aligns with the overall sustainability strategy of Newport Shipping aiming to consistently reduce the carbon emissions in the shipping industry progressively to the net zero target in the year 2050. In line with the industry targets recognised by Climate Bonds Initiative, we will strive towards the targets set out in the specified timeline to achieve net zero carbon emission output.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	

Climate action	In order to reduce the overall emissions with the shipping industry, Newport aims to facilitate a wide variety of repairs, conversions and retrofits resulting in a significant decrease in the release of harmful pollutants being released into the atmosphere and the oceanic ecosystem. Newport will aim to facilitate and finance retrofit and conversion projects that can be powered by alternative fuel sources e.g. LNG, bio/synthetic LNG, bio- or electro-methane, hydrogen, bio-diesel, LPG, ammonia, amongst others. Once, new alternative fuel sources become readily available we will continue to design and offer retrofit projects that utilise such resources.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	

Climate action	Newport digital portal Newport Maritime Services (NMS), the first-ever digital platform for Good Ship Maintenance Practices (GSMP) where shipowners, operators and ship management companies can view availability and obtain instant pricing at any one of Newport's partner shipyards . This is in line with Newport's Sustainability Mission by reducing the unnecessary travel, paperwork and time lag between shipowners and shipyards, increasing efficiency of operations with Newport's experienced local teams taking on project management tasks and decrease the overall paperwork used as all documents are moved to the digital portal.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency • Other
Link(s)	https://newportmaritimeservices.com/

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	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	Nova Marine Carriers	Ship Owner, Ship Operator
		Switzerland

Climate target	In 2020, Nova published its first sustainability report, and we will build from there. We have not yet specified targets, but we are carrying out further assessments to enhance our ESG roadmap.
Link(s)	https://www.novamarinecarriers.com/wp-content/uploads/2020/10/270820_NOVA-MARINE_report-2019-2.pdf

Climate action	Nova is an early signatory to the Sea Cargo Charter, and has reported carbon emissions to our stakeholders since 2018.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.novamarinecarriers.com/wp-content/uploads/2020/10/270820_NOVA-MARINE_report-2019-2.pdf

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	Ocean Network Express	Ship Owner, Ship Operator
		Singapore

Climate target	25% reduction of CO2 emissions (in gram/TEU-km) by 2030 from 2018 baseline 50% reduction of CO2 emissions (in gram/TEU-km) by 2050 from 2018 baseline Both targets were set in light of IMO target, and are now under review to reflect current situation and our ambition to contribute shipping decarbonization.
Link(s)	https://www.one-line.com/en/news/ocean-network-express-releases-2021-sustainability-report

Climate action	It is important to develop zero emission capable vessels to achieve further reduction of GHG. ONE shall proceed with R&D both technical and operational aspects, and is committed to carry out various joint development projects with industry partners for zero emission (capable) vessels to transform our fleet in timely manner.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	**Overview of Project** ONE encourages to diversify GHG reduction method to team up with third parties and service provider, like local government or terminal operator, to maximize our capability throughout our supply chain. GCMD set up with MPA ONE is one of funding member of Global Centre for Maritime Decarbonisation (GCMD) in Singapore, led by The Maritime and Port Authority of Singapore (MPA). GCMD aims to collaborate with the industry to help the maritime sector reduce greenhouse gas (GHG) emissions, implement identified decarbonisation pathways and create new business opportunities. MOU with PSA PSA & ONE Team Up to Enhance Sustainability and Reduce Maritime Environmental Footprint. In support of industry-wide efforts to decarbonise and to push for sustainable maritime transport, PSA Corporation Ltd (PSA Corp), a wholly-owned subsidiary of PSA International Pte Ltd, and ONE will work in tandem to take the lead on proactive environmental stewardship by advancing sustainable green solutions with like minded partners.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.one-line.com/en/news/one-joins-collaborations-partners-advance-decarbonization-efforts-maritime-industry https://www.one-line.com/en/news/psa-one-team-enhance-sustainability-and-reduce-maritime-environmental-footprint

Climate action	**Overview of Project** We shall keep introducing various technologies like Bulbous Bow modification, propellers replacement, low friction AF paint, Hull full-blasting and Installation of energy saving devices to reduce GHG by saving fuel. Modification of Bulbous Bow Bulbous bow creates a low pressure zone to reduce or eliminate the bow wave and reduce the resulting drag. ONE modifies its shape by evaluating actual operation profile to maximize its effect. Propeller replacement By evaluating actual operation profile, replace to effective propeller. Low friction AF paint and Hull full-blasting Application of Premium AF(Anti Fouling) paint and Hull blasting contribute to minimize resistance in water and save fuel consumption. Installation of energy saving devices Installation of energy saving devices such as pre-swirl stator/duct in front of propeller and propeller cap behind propeller contribute to increase efficiency of propeller performance, resulting in decrease of certain percentage of GHG emissions with the reduction of fuel consumption.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

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)	• RD&D • GHG emissions transparency • Infrastructure • Other
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	OrbitMI	Other: Maritime Software
		USA

Climate target	No target specified.
Link(s)	

Climate action	Orbit reduces bunker consumption and CO2 emissions by optimizing routes and giving users insight into their emissions. Orbit lets you track, calculate and report on all greenhouse gases, local pollutants and volatile organic compounds (VOC), as well as easily generate and hare a post voyage emissions scorecard with your customers, partners and colleagues. Per 100 vessel fleet, Orbit users reduce their CO2 emissions by 61,380 MT per year.
Area(s)	• Pilot and demonstration projects (RD&D) • GHG emissions transparency
Link(s)	https://orbitmicom.sharepoint.com/:x:/s/OrbitMI/EYQ9AB4b5MpAo5dyXybMUSIBOjUTIvOoQ3_hB9FeBThSog?e=TNFxpm https://www.orbitmi.com/maritime-sustainability-and-compliance

Climate action	Powered by machine learning and AI, Orbit enables connected workflows—both on ship and on shore—leading to increased productivity and reduced CO2 emissions. Benchmarked against a fleet of 100 vessels, Orbit users consume 19,800MT fewer bunkers and emit 61,380MT less CO2. We'll use this measurement to index the results of all other customers. Our goal is to help every customer achieve similar results.
Area(s)	• Other
Link(s)	https://www.orbitmi.com/blog/how-orbitmi-approaches-calculating-roi-in-saas

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	Peninsula	Other: Bunker Supplier
		Ireland

Climate target	Peninsula's ultimate goal is to become the first zero carbon bunker supplier. Through our commitment to LNG as a transitional fuel, we plan to introduce future fuels as they become viable and help develop the infrastructure to reduce our GHG emissions by 100% by 2050. We were the first bunker supplier to introduce VLSO 6 months prior to deadline to reduce the industry's SOx output, now our focus is on other GHGs. 2021- LNG supplied 2022- Introduce biofuel products to reduce carbon output 2023- ISO 14001 Accreditation 2030- Carbon neutral operations 2050- 100% reduction carbon intensity
Link(s)	https://www.iso.org/standard/60857 https://www.peninsula360.com/sustainability https://www.peninsula360.com/liquefied-natural-gas

Climate action	LNG is our TRANSITIONAL fuel of choice. We currently offer LNG across our global network having already undertaken a number of deliveries. LNG offers a significant drop in CO2, Sox and Nox vs VLSFO and we believe doing something today is better than waiting for a solution. As future fuels develop we will introduce these to our customers and phase out traditional fuels.
Area(s)	• Using zero emission fuels for commercial operation
Link(s)	www.peninsula360.com/liquefied-natural-gas

Climate action	Through our JV with leading Spanish LNG supplier Enagas, we have ordered our first 12,500 cbm LNG bunker vessel (LNGBV) which we will oeprate in the Mediterranean. This will be the first of a number of vessels designed to develop the final leg between onshore and offshore. It utilises Enagas' knowledge and expertise, and our experience and network to bring transitional fuels to the maritime industry. It will also create a framework to introduce future fuels when demand and viability increase.
Area(s)	• Ordering zero emission and zero emission capable vessel
Link(s)	www.peninsula360.com/news/scael-gas-and-peninsula

Climate action	Introducing Biofuels as an alternative to tradtional fuels as well as blending to reduce the carbon makeup. Biofuels are incredibly diverse, however, using them as stand alone fuels and using them to lower the carbon output of traditional fuels is proving to be an efficient way to reduce carbon emissions today.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	

Company	Pole Star	Other: Maritime insight SaaS
		UK

Climate target	No target specified.
Link(s)	

Climate action	Pole Star is committed to providing and developing sustainability risk management tools to enhance carbon emission transparency throughout the maritime trade supply chain. Through our partnership with carbon accounting solution provider, CarbonChain, Pole Star will continue to provide and enhance our regulatory technology, PurpleTRAC, with carbon emission reports on vessels used in a trade transaction.
Area(s)	• GHG emissions transparency
Link(s)	

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)	• Producing zero emission fuels with the intent to supply it to the shipping sector • Establishing zero emission bunkering infrastructure
Link(s)	

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)	• Pilot and demonstration projects (RD&D) • 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 • Establishing zero emission bunkering infrastructure • Other
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	Port of Seattle	Port, Terminal
		USA

Climate target	Under the Northwest Ports Clean Air Strategy, Port of Seattle commits to phase out emissions from seaport-related activities by 2050, supporting cleaner air for our local communities and fulfilling our responsibility to help limit global temperature rise to 1.5°C. In addition, Port of Seattle's guiding strategic document, the Century Agenda, sets a goal for the Port to be the greenest and most energy efficient port in North America and meet the following greenhouse gas emission reduction targets: reduce scope 1 and 2 emissions 15% by 2020, 50% by 2030 and be carbon neutral or carbon negative by 2050 from 2005 levels. For scope 3 emissions, reduce emissions 50 percent by 2030 and 80 percent by 2050 from 2007 levels. Given the urgency of the climate crisis, the Port is currently evaluating accelerating its greenhouse gas reduction targets to take stronger actions in line with the Northwest Ports Clean Air Strategy and to acknowledge recent IPCC reports and the latest climate science.
Link(s)	Northwest Ports Clean Air Strategy: https://www.portseattle.org/page/northwest-ports-clean-air-strategy Port of Seattle's Century Agenda: https://www.portseattle.org/page/century-agenda-strategic-objectives

Climate action	Developed an implementation plan for the Northwest Ports Clean Air Strategy, called Charting the Course to Zero: Port of Seattle's Maritime Climate and Air Action Plan (MCAAP). The adverse effects of climate change are more likely to be borne by historically marginalized communities, including Black, Indigenous, and people of color (BIPOC). In addition, BIPOC communities are also disproportionately exposed to air pollution and other environmental hazards associated with climate change. The MCAAP identifies strategies and actions to reduce maritime related air and GHG emissions in the next ten years.. The scope covers GHG emission sources related to administrative operations of the Port's Maritime and Economic Development Divisions, such as energy used in port buildings, fuel used in fleet vehicles and equipment, and emissions associated with employee commuting and solid waste transportation and disposal. It also covers air pollutant and GHG emissions sources from Port Maritime tenants and the maritime supply chain, such as cruise ship sailings, grain terminal operations, commercial fishing, and recreational marinas. In addition to emission reduction opportunities, the plan encompasses the future carbon sequestration potential of the Port's shoreline and habitat restoration programs.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure • GHG emissions transparency • Other

Link(s)	Port of Seattle's Maritime Climate and Air Action Plan https://www.portseattle.org/page/charting-course-zero-port-seattles-maritime-climate-and-air-action-plan Strategies to reduce Port Maritime Administration emissions: https://www.portseattle.org/sites/default/files/2021-06/MCAAP_18May2021_draft_REV06-5_Section-3.pdf Strategies to reduce Port Maritime Activity emissions: https://www.portseattle.org/sites/default/files/2021-06/MCAAP_18May2021_draft_REV06-6_Section-4.pdf

Climate action	The Port conducts greenhouse gas (GHG) emissions inventories annually for GHG emissions from its maritime-related sources. Inventories follow the GHG Protocol Corporate Accounting and Reporting Standard to estimate Scope 1, Scope 2, and Scope 3 emissions, which represent sources directly and indirectly controlled or under some degree of Port influence. The Port is committed to data accuracy and transparency and the inventories represent a best estimate of emissions sources. As new information or inventory best practices become available, the Port may update historical data or inventory methods to better reflect its sources and their contributions. Port of Seattle is also part of a region-wide inventory to measure and track maritime-related air pollutant and GHG emissions. The Puget Sound Maritime Air Emissions Inventory is conducted every five years by the Puget Sound Maritime Air Forum, a voluntary association of private and public maritime organizations, ports, air agencies, environmental and public health advocacy groups and other parties with operational or regulatory responsibilities related to the maritime industry.
Area(s)	• GHG emissions transparency
Link(s)	Measuring Greenhouse Gas Emissions at Port of Seattle: https://www.portseattle.org/page/measuring-greenhouse-gas-emissions-port-seattle Puget Sound Maritime Air Emissions Inventory: https://www.portseattle.org/programs/puget-sound-maritime-air-emissions-inventory

Climate action	The Port of Seattle is proud to be the largest and fastest growing cruise market on the West Coast. For over 20 years, the Port has prioritized protecting the environment while growing into a $900 million a year industry for our region. Toward becoming the greenest cruise port in North America, the Port prioritizes water quality protections through rigorous at-berth requirements, voluntary partnerships with cruise lines and regulators, and at-berth best practices. The Port is also reducing air emissions from cruise ships through use of shore power and cleaner maritime fuels. Port of Seattle was the first global port to provide shore power at two cruise berths and is on track to complete a third shore power connection that will make all cruise berths shore power-equipped by 2023. In 2019, 89% of shore power-capable ships connected at the Port's two shore power berths and reduced an estimated 2,900 tons of CO2.
Area(s)	• Pilot and demonstration projects (RD&D) • Establishing zero emission bunkering infrastructure
Link(s)	Cruise Sustainability Accomplishments: https://www.portseattle.org/page/cruise-environmental

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	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	**Royal Caribbean Group**	Ship Owner, Ship Operator USA

Climate target	Royal Caribbean Group continues to support IMO's global regulations to improve global shipping efficiency by at least 40% compared to 2008 by 2030. Our specific decarbonization targets are a work in progress.
Link(s)	https://sustainability.rclcorporate.com/

Climate action	**Technology, Alternative Fuels and Energy:** Royal Caribbean Group actively seeks to reduce emissions by investing in advanced technologies and optimizing the way we manage and operate our vessels. Robust data analytics offer data points about vessel performance and fuel consumption in real time. This allows us to make data driven and scientific decisions to operate our fleet more efficiently and reduce GHG emission through optimized itinerary planning (speeds and route), increased hull performance and methodical hotel energy load management. Royal Caribbean Group is committed to exploring and securing large-scale and energy dense supply of sustainable fuels and developing future-fueled vessels. We are analyzing other options such LNG, bio-fuel blends, and hydrogen, ammonia and methanol as they become commercially viable. A crucial element of the company's decarbonization strategy is the reduction of emissions from our existing fleet. The availability of renewable fuels will be critical to reducing emissions and the construction of zero emission vessels. During the transition from traditional to renewable fuels, the Group will continue to actively reduce its emissions through energy efficiency programs and technology like shore power and fuel cell systems. Our new class of ships, known as "Project Evolution" will launch the first cruise ship in the industry to use fuel cells to provide 100% of power while at port. The ship will operate using a trio of power sources including a fuel cell system, battery technology and dual fuel engines using liquefied natural gas (LNG) as the main fuel. This hybrid solution, using fuel cell technology, allows the ship to be free of local emissions while at port — another industry first.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • GHG Emission transparency
Link(s)	

Climate action	The Royal Caribbean Group is committed to work with industry partners, academia, and regulatory bodies to explore sustainable future fuel pathways and related life cycle emissions impact. We believe that instead of having just one or two solutions, we shall see a multitude of options catering to the different operational profiles of our fleet. That includes both low carbon and zero carbon fuels, more efficient combustion engines and or turbines, fuel cells, batteries and in some cases supplemented by carbon capture and/or emissions treatment technologies. **Offsets: Kansas Wind Farm:** To offset emissions, Royal Caribbean Group partnered with Southern Power on a 200-megawatt wind facility in Kansas. Part of a virtual power purchase agreement, the project named Reading Wind Facility, includes 62 wind turbines that will offset up to 12% of the company's direct carbon emission. The facility officially kicked off operations in 2020 and is projected to generate about 760,000-megawatt hours per year, bringing clean electricity to more than 60,000 homes.
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D) • Other
Link(s)	

Climate action	**Reporting**: Royal Caribbean Group completes an annual third-party verification of its GHG emissions (Scope 1 and 2) and includes the most recent results in its annual Sustainability Report. The company's GHG emissions also are reported annually to the Carbon Disclosure Project (CDP) and Dow Jones Sustainability Index (DJSI) and in 2021,we will also include the Task Force on Climate Related Financial Disclosures (TCFD) Framework. **Strategic Partnerships and Enablers:** Royal Caribbean Group supports the UN's Sustainability Development Goal 17 and partners with organizations such as the World Wildlife Fund and other experts on key strategic programs and initiatives. Additionally, The Group supports Climate Action Forums such as Global Maritime Forum and IMO's Global Industry Alliance, GreenVoyage2050; and Academia such as the World Maritime University and the University of Strathclyde.
Area(s)	• GHG emissions transparency • Other
Link(s)	

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	SDTR Marine	Ship Owner, Ship Operator
		Singapore

Climate target	By year 2050, SDTR will achieve zero emission of the fleet.
Link(s)	https://www.sdtr-marine.com

Climate action	SDTR has set the ambitious climate targets that we will manage zero emission vessels when they become commercially viable and available at within year 2035.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.sdtr-marine.com

Climate action	SDTR has already involved in various research projects, offering spaces and crew on our ships for measurement devices to support various environmental research at sea. On 20th/Dec/2021, together with SDARI & ABS, SDTR venture into a pilot and demonstration project (RD&D) for developing the use of Methanol fuel for our 85K new buildings project and has achieved the AIP (approval in-principle) recognition from Class ABS. This remarking the core value that SDTR is always striving in finding replacing low or zero emission fuels to keep in pace with the worldwide net-zero GHG target. SDTR participating in this project by taking up the responsibility to provide the big data calculation of the fleet operation, ship's voyage planning and practicability analysis of these methanol fuel vessels. Through scientific and technology innovation, optimize fleet management in field of energy efficiency to enhance our sustainable development which is also our business strategy.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.sdtr-marine.com

Company	**Seaber.io**	Other services or consultancy
		Finland

Climate target	Improve the utilization rate of bulk ships by 5-10%
Link(s)	

Climate action	Our software system enables more cargo to be transported with less or the same amount of vessels: i.e. improving the utilization rate of vessels. This results in the reduction of CO2 emissions.
Area(s)	• Other
Link(s)	

Company	Seabulk	Ship Owner, Ship Operator
		USA

Climate target	• Reduce carbon emission by 50% by 2040. • Ensure carbon neutral operation by 2050. • Exceed EEXI and CII requirements by 10%. • Ensure all recapitalized assets are 25% more environmentally friendly than retired assets.
Link(s)	

Climate action	Beginning in 2020 Seabulk has been providing carbon neutral towing services for all our customers across 7 US ports by purchasing over 50,000MT of carbon offsets in order to neutralize the emissions of all US harbor tugs in our operations. We have additional offsets secured for 2022 and 2023.
Area(s)	• Other
Link(s)	https://seabulk.s3.amazonaws.com/Seabulk_Carbon-Offset-Ad-2021.pdf

Climate action	As part of our new build recapitalization program, Seabulk ordered (to be delivered within the next 9 months) 2 tugs with battery ready diesel mechanical and electric motor propulsion systems. These tugs have been built with designated space for the introduction of batteries with the long term goal, when technology permitting, of operating these tugs on 100% battery power.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://seabulkgroup.com/news/seabulk-initiates-state-of-the-art-newbuild-tug-program

Climate action	CGR, a sister company of Seabulk has recently received delivery of two new rail ferries which will be capable of delivering rail cars with 5 MT less (20%) of CO2 per rail car than the previous assets. This will annually translate to a reduction of upwards of 25,000 MT of carbon emissions. The design and build of these was led by Seabulk's in-house engineering team.
Area(s)	• Other
Link(s)	https://www.businesswire.com/news/home/20210311005139/en/CG-Railway-Launches-New-Rail-Ferry

Company	Seanergy	Ship Owner, Ship Operator
		Greece

Climate target	Seanergy is currently carrying out materiality assessments to further enhance its Environmental (and overall ESG) efforts with the aim to meet IMO's decarbonization trajectory for 2030 and in some cases to be ahead of the curve. In this context, we are promoting stakeholder engagement on all levels and are in constant dialogue with (i) our clients (charterers) (ii) our classification societies (iii) our financiers and (iv) our shareholders aiming to cooperate with and align everybody towards the common goal.
Link(s)	https://www.seanergymaritime.com/media/614c3d8857c23.pdf Meantime, Seanergy is at the stage of preparing a thorough ESG report containing effected results and future implementations on the environmental front

Climate action	Seanergy is investing in R&D of emission reduction technologies aiming at minimizing its fleet's fuel & energy consumption. Specifically, Seanergy has partnered and cooperates with: 1. Prominent Charterers: Scrubbers research and implementation, installation of Energy Saving Devices, VFD, Hull & Propeller optimization, weather routing & voyage planning. More recently Seanergy has commenced bio-fuel trials in cooperation with certain of its charterers. 2. DeepSea: Artificial Intelligence for fleet's performance monitoring (Pythia, Cassandra) 3. Various technical companies (ABB, IKNOWHOW) for maximum speed&fuel consumption effectiveness 4. Financiers
Area(s)	• Using zero emission fuels in commercial operation • Pilot and demonstration projects (RD&D)
Link(s)	https://www.seanergymaritime.com/media/614c3d8857c23.pdf https://charge-magazine.abb.com/how-technology-powers-seanergys-industry-leadership/ https://www.deepsea.ai/pythia-performance-routing-platform/ https://www.seanergymaritime.com/media/c11228b67326f69860fae68e2f54980d.pdf

Climate action	Seanergy reports on an annual basis the emissions and carbon intensity of its entire fleet, both to Classification Societies and to our Poseidon Principles signatory lenders. Seanergy has, since the beginning of 2021, completed the evaluation of the Energy Efficiency Existing Ship Index ("EEXI") of its Capesize vessels to use as a basis for its ambitious upgrade program. We are committed to intensifying this practice and will begin communicating relevant data publicly, as well as various such comparisons (between vessels, y-o-y, etc) in our upcoming ESG report.
Area(s)	• GHG emissions transparency • Other
Link(s)	https://www.seanergymaritime.com/media/622d288304eadf9c7767da607c9e5fa6.pdf https://www.seanergymaritime.com/media/e980ada314d77c2495e906cb922e7b22.pdf https://www.poseidonprinciples.org/

Climate action	Seanergy has Poseidon principal signatories amongst its lending group and has moreover agreed with a leading bank a sustainability linked loan, which is currently in process of being documented. Moreover, we aim to enhance our cooperation with financial institutions that are signatories to the Poseidon Principles.
Area(s)	• GHG emissions transparency • Other
Link(s)	The press release on sustainability linked loan will be promptly issued by the Company. https://www.poseidonprinciples.org/

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	Shift Clean Energy	Energy production
		Canada

Climate target	Shift is determined to reduce the user impact of all commercially viable inland waterways to zero emission user impact by 2040 (starting 2022) in the following market applications: Europe, North America, Australia, and India. We are committed to being a B Corporation by 2024 and a net zero company by 2027.
Link(s)	Will be released following our AGM in April 22

Climate action	Shift is introducing PwrSwäp in 2021. It is a subscription based zero emission solution that will provide electrical propulsion (net zero emissions) systems for inland waterways, windfarms, ports and ferry terminals. This solution will support both the conversion of existing and new construction vessels to zero emission platforms and will also provide the chargin infrasturcutre and logistics management of the vessels and the fleet energy utilization. It is based on our energy storage solutions, designed to deliver 100% safe uptime operations. We are offering this as a fully funded opex based business model to our clients, an approach that will reduce the risk of the shipowners and establish an immediate path to zero emission shipping within 2022 and onwards. This significantly advances all areas of application to zero emission, exceeding our goals of 40% reduction in emissions by 2030.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	www.shift-cleaneenergy.com

Climate action	Shift's Fixed ESS solutions reduce emissions from 20-100% in our installations, replacing fossil fuels with electricity. In our applications where we incorporate our renewable energy partners, ie fuel ceels, we can increase the 20% in many cases also to 100% today.
Area(s)	• Producing zero emission fuels with the intent to supply it to the shipping sector
Link(s)	

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	Société Générale	Financial Institution
		France

Climate target	Managing the Bank's indirect impact (portfolio): At the UN Climate Summit on April 2021, Societe Generale joined the UNEP-FI Net-Zero Banking Alliance (NZBA) as a founding member, and committed to align its portfolios with trajectories aiming at carbon neutrality by 2050 with the ambitious goal of limiting global warming to 1.5°C. This engagement complements previously set commitments to alignment the Bank's portfolios with the goals of the Paris Agreement. Implementation of the NZBA commitment is already under way as Societe Generale has set climate alignment targets on a number of portfolios.: • Phase out of coal mining and power by 2030 for companies with mining or power thermal coal assets located in EU or OECD countries and in 2040 elsewhere. • Reducing upstream oil&gas financing by 10% by 2025 relative to 2019 level • Reducing the GHG intensity of its electricity production financing by 76% by 2040 relative to 2019. • Reach 50 % Battery Electric Vehicle (BEV) by 2030 for its Automotive Leasing fleet ALD.
Link(s)	

Climate action	Societe Generale aims to play a leading role in the energy transition. At the end of 2020, Societe General had already achieved 67% of its new target to help raise €120 billion between 2019 and 2023 using a range of sustainable financing solutions (loans, bonds, advisory). At the end of 2020, the Group was ranked #1 worldwide for advisory and #2 in the financing of renewable energies (IJGlobal). Societe Generale has joined the Net-Zero Steel Initiative as co-leader, joining five other leading lenders of the steel industry who will work at defining standards advancing the decarbonisation of the sector. Societe Generale is a founding signatory of the UNEP-FI Net-Zero Banking Alliance (NZBA) 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)	• Procuring zero emission shipping services
Link(s)	

Climate action	Societe Generale also announced that it had joined the Getting to Zero Coalition, which aims to develop and deploy commercially viable deep-sea zero-emission vessels by 2030.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Societe Generale is founding signatory of the Poseidon Principles, committing to measure the carbon intensity and assess climate alignment (relative to established decarbonisation trajectories) of our shipping portfolio on an annual basis. The Poseidon Principles aim to reduce shipping's GHG emissions by at least 50% by 2050. At the 2018 United Nations Convention on Climate Change COP24, the banks, also known as the Katowice Banks, made the Katowice commitment, pledging to develop an open source methodology to ensure their activities were in line with the goals of the Paris Agreement. In Sept/2020, Katowice banks have published a report on the application of the PACTA methodology, designed to steer their credit portfolios towards the objective of the Paris Climate Agreement. This report aims at helping banking peers to quickly understand and apply this methodology and thus publish comparable results.
Area(s)	• GHG emission transparency
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	Sovcomflot	Ship Owner, Operator
		Russian Federation

Climate target	No target specified.
Link(s)	

Climate action	Sovcomflot is committed to high standards | in terms of energy efficiency and the re duction of environmental footprint in line with the United Nations sustainability goals and the International Maritime Or ganisation's emissions reduction targets for 2050. The long-term strategy commits the SCF Group to continuously reduce the carbon foot-print of its fleet operations. In 2018, SCF introduced a 'Green Funnel' series of the world's first LNG-fuelled Afra- max tankers in operation, with five more LNG-fuelled tankers under construction. By 2025, SCF will operate over 40 vessels using LNG as a primary fuel, which will significantly reduce the impact on the environment. From 2018 to 2021, LNG fuel has helped reduce the total C02 emissions of SCF's six 'Green Funnel' tankers by over 56,000 tonnes or by over 14 per cent annually on average.
Area(s)	• Ordering zero emission and zero emission capable vessels • GHG emissions transparency
Link(s)	

Company	Sparebanken Vest	Financial Institution
		Norway

Climate target	By 2040, Sparebanken Vest will achieve net zero emissions (direct and indirect). Shipping portfolio: • 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	Sparebanken Vest is a member of Poseidon Principles. 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-sparebank-en-vest/csr

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

Company	Star Bulk Carriers	Ship Owner, Ship Operator
		Greece

Climate target	No target specified.
Link(s)	

Climate action	**International collaboration on GHG transparency** Climate Action #1 Share the carbon intensity data of our vessels and fleet with our stakeholders through initiatives such as the Poseidon Principles and the Sea Cargo Charter. Climate Action #2 Participate in the Carbon Disclosure Project to further analyze, assess and continuously improve the company's strategy, goals, and practices on decarbonization.
Area(s)	• GHG emissions transparency
Link(s)	https://www.starbulk.com/gr/en/sustainability/

Climate action	**Other GHG emissions transparency actions** Climate Action #3 Publish an annual ESG Report where the carbon footprint and carbon intensity of the company's fleet is disclosed and compared to previous years. Climate Action #4 Engage in sustainability linked loan facilities with our banks with the commitment to comply with specific carbon intensity targets for the vessels being financed. Climate Action #5 Employ telemetry across our fleet to monitor accurately and real-time the energy efficiency and CO2 emissions of our vessels.
Area(s)	GHG emissions transparency
Link(s)	https://www.starbulk.com/gr/en/sustainability/

Climate action	**RD&D Actions** Climate Action #6 Employ a dedicated in-house R&D team to scout for and examine new technologies on energy efficiency and green fuels. Climate Action #7 Participate in R&D consortiums with other stakeholders which pilot new technical solutions on energy efficiency and which assess the technical feasibility of zero-emission fuels. Climate Action #8 Pilot and invest in the use of new software technologies on speed optimization and weather routing to further improve the carbon intensity of the fleet. Climate Action #9 Participate in industry Alliances and contribute to the development of the necessary roadmap and strategies to help drive the take-off of alternative fuels for the shipping industry.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.starbulk.com/gr/en/sustainability/

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, to be ready by 2022. 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	Storebrand Asset Management	Financial Institution
		Norway

Climate target	Storebrand has committed to our investment portfolios having net-zero GHG emissions by 2050, at the latest. In 2019, Storebrand was one of the founding members of the United Nations-convened Net-Zero Asset Owner Alliance. The members of the Alliance commit to transitioning their investment portfolios consistent with a maximum temperature rise of 1.5°C above pre-industrial temperatures, taking into account the best available scientific knowledge and regularly reporting on progress. Storebrand will engage with investee companies, including shipping companies, to achieve emissions reduction in the real economy. We will also establish intermediate targets every five years in line with Paris Agreement Article 4.9.
Link(s)	https://www.storebrand.no/en/asset-management/sustainable-investments/our-climate-strategy

Climate action	Storebrand has set a short-term target for 2025 to reduce emissions of our holdings in equity, corporate bonds and property by 32% compared to 2018. This target covers asset classes where credible methodologies and sufficient data coverage exist today. As data coverage improves for all asset classes, we will increase scope of short-term targets to include all asset classes in our portfolio. Emissions arising from the shipping sector are covered by current target scope.
Area(s)	• GHG emissions transparency • Other
Link(s)	

Climate action	Storebrand has set a target for 2025 to invest 15% of total AUM in solution companies. Storebrand operates with a solutions company whitelist which consists of companies that significantly contribute to sustainable development without causing substantial harm to environment or society. Examples are companies whose key business is centered around investment themes like renewable energy, technologies for sustainable city development, circular economy and recycling, electric public transport, water management, energy efficiency, sustainable materials and technology, responsible consumption and production, empowerment through access to health services and financial services in emerging markets. Storebrand will consider companies providing soultions for decarbonization of shipping for this portfolio.
Area(s)	• GHG emissions transparency • Other
Link(s)	

Climate action	Storebrand will engage proactively with the 20 companies that generate the highest owned emissions in our portfolio. Several shipping companies is on this list. We will expect these companies to 1) implement a strong governance framework which clearly articulates the board's accountability and oversight of climate change risk; 2) take action to reduce greenhouse gas emissions across the value chain, consistent with the Paris Agreement's goal of limiting global average temperature increase to well below two degrees Celsius above pre-industrial levels, aiming for 1.5 degrees; and 3) provide enhanced corporate disclosure in line with the final recommendations of the Task Force on Climate related Financial Disclosures (TCFD)
Area(s)	• Other
Link(s)	

Company	Sumitomo Mitsui Trust Bank	Financial Institution
		Japan

Climate target	No target specified.
Link(s)	

Climate action	SuMi TRUST is a 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. SuMi TRUST signed on the Poseidon Principles in March 2020 as the first financial institution in Asian region.
Area(s)	• GHG emissions transparency
Link(s)	Please see P.49 in our Sustainability Report with a Link below. https://www.smth.jp/english/-/media/th/english/sustainability/report/2020/full/all.pdf

Climate action	SuMi TRUST Holdings is a 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)	• Other
Link(s)	Press release - SuMi TRUST Group Carbon Neutral Commitment and Participation in Net Zero Banking Alliance: https://www.smth.jp/english/-/media/th/english/news/2021/E211020.pdf

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://info.swireshipping.com/info-pages/sustainability/project-cerulean/

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://info.swireshipping.com/info-pages/sustainability/investing-in-new-technologies/

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)	• GHG emissions transparency
Link(s)	https://www.swire.com/en/sustainability/sd_reports/cnco_2019.pdf

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	TB Marine Shipmanagement	Ship Manager
		Germany

Climate target	The environment and its protection are of utmost importance and the Company is committed to maintaining 'Zero Pollution to the Environment'. The Company confirms that all their managed ships make anti-pollution measures their top priority.
Link(s)	

Climate action	Participating in POSEIDON principles requirements
Area(s)	• GHG emissions transparency
Link(s)	https://www.poseidonprinciples.org/finance/

Climate action	Participating in Environmental Ship Index
Area(s)	• GHG emissions transparency
Link(s)	https://www.environmentalshipindex.org

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	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	**THRUST (a program by Enviu)**	Other: Maritime Innovation Studio Netherlands

Climate target	Our work centers on three central climate-relevant focus areas: Increased adoption of zero-emission fuels; of circular lifecycles; and of enabling infrastructure. All the various projects under these focus areas have their own, separate climate target. An example is our circular ship-dismantling yard (CMT), which is set to become operational in 2024. Just one fully functioning CMT yard will reduce Dutch national CO2 emissions, by at least 1% each year, compared to 2016. The Netherlands generated 163419 kT of CO2 in 2016, meaning it will generate around 4085482 kT over the upcoming 25 years. A fully functioning CMT yard will save 1,450 kT of CO2 per year (36250 kT over the upcoming 25 years). That means around 1% (rounded up from 0.9) of Dutch CO2 emissions will be avoided each year - this is massive for just one project and just one yard. Especially considering that there are prospects for multiple yards in various countries.
Link(s)	https://thrust.enviu.org/projects/ https://thrust.enviu.org/2021/08/09/why-a-circular-transition/

Climate action	As mentioned, our work centers on three central climate-action focus areas. The first of these 'Increased adoption of zero-emission fuels' is briefly outlined here. We believe that green hydrogen is key (and central to many of our projects), but it is not the holy grail. Innovative storage and transport solutions are needed for zero-emission ships to go the distance. This is in addition to phasing out harmful emissions altogether, by using 100% renewable energy in the production of hydrogen fuel. This focus area is central to our projects like the Rotterdam Water Taxi, Future Proof Shipping and Portago.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.innovationquarter.nl/en/hydrogen-powered-water-taxi/ https://www.futureproofshipping.com/projects/ https://portagomarine.com/

Climate action	The second of our climate-action focus areas, 'Circular lifecycles' is briefly outlined here. Circularity is becoming a key consideration in all industries, so too in the maritime industry. The transition to circular life cycles entails reimagining the entire value chain, from a ship's design, the re-use of its parts, and its end-of-life management. This focus area is central to our projects, like the our circular ship-dismantling yard and preceding dry-docks demonstration project.
Area(s)	• Pilot and demonstration projects (RD&D)

Link(s)	https://circularmaritimetechnologies.com/ https://thrust.enviu.org/2021/08/09/why-a-circular-transition/

Climate action	The third of our climate-action focus areas, 'Enabling infrastructure' is briefly outlined here. Enabling infrastructure is key to ensuring accessibility of alternative fuels and circular practices. This will include innovation in green-hydrogen production; electrification of port operations; global accessibility to hydrogen-based fuels and digitalization of relevant operations. The projects for this focus area are still in the very preliminary stages, but include a possible bunkering station in the Port fo Rotterdam.
Area(s)	• Establishing zero emission bunkering infrastructure
Link(s)	

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	Transport Transformation	Other services or consultancy
		Switzerland

Climate target	All investments arranged by Transport Transformation for new vessels must achieve already TODAY reduction of Carbon intensity by at least 40% - as defined as target by IMO for 2030 only.
Link(s)	https://tt.financial//#cutemissions

Climate action	As Clean Shipping Finance specialist is committed to significant GHG emission reduction: TT develops projects and arranges funding for new vessels with massively reduced CO2 footprint. Projects for new vessels must effectively reduce reduce GHG emissions in operation by at least 40% which is far beyond common technical approaches like LPG or hybrid propulsion. Carbon impact is to be verified and reported over the life-cycle of the investments, including fuel life cycle analysis if applicable. Carbon offsetting is not accepted.
Area(s)	• Ordering zero emission and zero emission capable vessels • Using zero emission fuels in commercial operation • GHG emissions transparency
Link(s)	https://tt.financial//#cutemissions

Climate action	As Clean Shipping Finance specialist is committed to significant GHG emission reduction: TT develops projects and arranges funding for exisiting vessels' efficiency upgrades. Such projects for equipment financing and efficiency upgrades must comply with a limit for Euros invested per ton of GHG emission reduction. (per 2500 EUR investment, the reduction in GHG Emissions shall be 1 tCO2e/a or more). Carbon impact is to be verified and reported over the life-cycle of the investments. Carbon offsetting is not accepted.
Area(s)	• GHG emissions transparency • Other
Link(s)	

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/environmental

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/environmental

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
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

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	**Unilever**	Freight forwarder, Customer, Cargo Owner
		UK

Climate target	By 2039, Unilever will achieve net-zero across Scope 1, 2 and Scope 3 emissions. Over the next decade, Unilever will achieve a 40-50% reduction in GHG emissions associated with logistics and distribution.
Link(s)	https://www.unilever.com/Images/unilever-climate-transition-action-plan-19032021_tcm244-560179_en.pdf

Climate action	Unilever is a partner in the CoZEV iniative that focuses on the role of cargo owners in zero emission shipping and to decarbonize their maritime freight by 2040.
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	https://www.cozev.org/aboutcozev

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	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	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	Wallenius Wilhelmsen	Ship Owner, Ship Operator
		Norway

Climate target	Wallenius Wilhelmsen announced a Science Based Target (SBT) in its 2020 Sustainability Report. The target is a 27.5% reduction in CO2e intensity by 2030 relative to a 2019 baseline. The intensity reduction target follows a 33% reduction in carbon intensity that was achieved between 2008 and 2019. Over 99% of Wallenius Wilhelmsen's combined scope 1 and 2 CO2e emissions are accounted for by its shipping operations.
Link(s)	https://annualreport.walleniuswilhelmsen.com/2020/sustainability/environment/

Climate action	In March 2021 Wallenius Wilhelmsen unveiled the Orcelle Wind, a full sized, wind-powered transoceanic Roll-on, Roll-off (RoRo) vessel concept. It is perhaps the most prominent of the many decarbonisation initiatives being undertaken by the company. The ambition with the Orcelle Wind is to reduce CO2 emissions by 90% relative to the top performing deepsea RoRo vessels of today. The company is working in close partnership with Wallenius Marine on the detail design of the Orcelle Wind. Simultaneously, it is conducting an exhaustive feasibility assessment covering technical, operational, financial, commercial and regulatory aspects. The intention, proivded the feasibility assessement is positive, is to have a first Orcelle Wind vessel entering service in around 2025. With such a bold and novel project there are many unknowns and challenges to be overcome. While the company is humble before the challenges it is also sparing no effort in trying to overcome them.
Area(s)	• Pilot and demonstration projects (RD&D) • Ordering zero emission and zero emission capable vessels
Link(s)	https://www.walleniuswilhelmsen.com/news/orcelle-wind-wallenius-wilhelmsens-first-full-scale-wind-powered-roro-ship

Company	**Wilhelmsen Ahrenkiel Ship Management**	Ship Manager
		Germany

Climate target	We are currently developing such climate targets together with our customers.
Link(s)	https://www.wilhelmsen-ahrenkiel.com/

Climate action	We are currently supporting and advising our clients in aligning with the IMO goals for GHG emissions.
Area(s)	• Other
Link(s)	

Climate action	Close cooperation with Wilhelmsen Ship Management on establishing new technologies to drive the change
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	

Climate action	Advising our clients in newbuilding activities with respect to future propulsion technologies and any other matter to reduce emissions
Area(s)	• Ordering zero emission and zero emission capable vessels
Link(s)	

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	**WinGD**	Shipbuilder, Equipment and Technology
		Switzerland

Climate target	WinGD is committed to a low-carbon future through sustainable energy ecosystems utilizing the most advanced technology in emissions reduction, fuel efficiency, digitalisation, service and support. By 2030 multi-fuel engines capable of running on sustainable and renewable fuels will represent over 50% of WinGD order intake. Furthermore WinGD digital and hybrid solutions will contribute to the further reduction of energy consumption onboard.
Link(s)	Future Fuel Page: https://www.wingd.com/en/future-fuel/

Climate action	WinGD is commited to have both methanol and ammonia capable engine technology ready from 2025 onward to offer a portfolio of solutions to achieve 2050 targets.
Area(s)	• Pilot and demonstration projects (RD&D)
Link(s)	https://www.wingd.com/en/news-media/press-releases/wingd-ensures-future-ready-engine-design-through-clean-fuel-toolbox/

Climate action	WinGD's commitment to reduce the environmental impact of shipping is already active today: In 2020, WinGD introduced iCER technology for WinGD's low-pressure X-DF engines. With this technology, it is possible today to further reduce GHG emissions by up to 50% when using LNG.
Area(s)	• GHG emissions transparency
Link(s)	iCER Brochure: https://indd.adobe.com/view/4630f46b-e27f-457d-add5-6e42af7802f8

Climate action	In November 2018, Terntank's "Tern Sea" tanker, powered by WinGD X-DF engines, bunkered with LNG and liquefied biogas (LBG) as drop-in fuel to further reduce GHG emissions. In November 2020, the CMA CGM "Jacques Saadé, the world's largest containership powered by Liquefied Natural Gas (LNG), performed the first bunkering of LNG containing 13% of biomethane to further reduce GHG emissions. Bio-LNG and synthetic methane are considered viable fuels to contribute to de-carbonize shipping industry. These fuels can be used on existing WinGD X-DF engines.
Area(s)	• Using zero emission fuels in commercial operation
Link(s)	https://www.greenport.com/news101/lng/first-operator-at-new-bunkering-facility https://totalenergies.com/media/news/communiques-presse/total-and-cma-cgm-complete-world-s-largest-lng-bunkering-operation

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	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	**Cruise Lines International Association (CLIA)**	Other: Association United States

Climate target	Pursue net zero carbon cruising globally by 2050. Reduce carbon intensity across the CLIA fleet 40% by 2030 compared to 2008 levels. All ships calling at shoreside electricity (SSE)-capable ports will be equipped to either use SSE by 2035 or will use available alternative low carbon technologies in port. Several CLIA Member Companies are already signatories to the Call to Action: Together, Carnival Corporation and plc, Royal Caribbean Group and MSC Cruises represent nearly 80% of passenger capacity globally.
Link(s)	https://cruising.org/en/news-and-research/press-room/2022/april/cruise-industry-is-sailing-toward-a-better-future

Climate action	Recognizing the technological challenge facing the decarbonization of international shipping, CLIA Members actively promoted adoption by the International Maritime Organization (IMO) of an International Maritime Research and Development Board and Fund (IMRB/F) to generate roughly $5 billion USD over 10 years, funded by industry, to accelerate development and deployment of zero-carbon alternative fuels and propulsion technologies.
Area(s)	• Pilot and Demonstration Projects (RD&D)

Climate action	CLIA Members have urged IMO consideration of appropriate global market-based measures (MBMs) to help drive and accelerate the development and adoption of new technologies, when they are available, and to level the playing field of traditional technologies and fuel.
Area(s)	• GHG emission transparency • Other
Climate action	CLIA has joined the Port of Seattle and the City and Borough of Juneau in a collaborative initiative with ports, governments, and de-carbonization subject matter experts - including the Global Maritime Forum - to explore the feasibility of a maritime green corridor comprising Alaska, British Columbia, and Washington. Sustainability reports from several CLIA Member line companies further demonstrate robust industry environmental commitments, including for decarbonization: Royal Caribbean Group: https://www.royalcaribbeangroup.com/sustainability/ Carnival Cruise Lines: https://carnivalsustainability.com/operation-oceans-alive/ Norwegian Cruise Line: https://www.nclhltd.com/sustainability
Area(s)	• Pilot and Demonstration Projects (RD&D) • GHG emission transparency • Other

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