

Norges
Rederiforbund
Norwegian
Shipowners'
Association



MARITIME OUTLOOK

2023

About the Norwegian Shipowners' Association

The Norwegian Shipowners' Association is the leading employer and interest organisation for Norwegian-linked shipping companies. We also assist members and the Norwegian fleet on maritime security issues. Our members are the core and driving force of the Norwegian maritime industry. The Norwegian Shipowners' Association's 130 members have 1,400 ships and rigs worldwide and employ about 50,000 seafarers and offshore workers from around 50 different nations. In the Norwegian maritime industry, shipping companies create value for close to NOK 100 billion annually.

MARITIME OUTLOOK

2023



Photo: Høegh Autoliners



Illustration: Ulstein Design & Solutions AS/Olympic Subsea ASA



Photo: Misje Rederi AS



Photo: Trym Vik/Simon Møkster Shipping AS



Photo: Forsvaret



Photo: uavpic.com/Hagland



Photo: Shutterstock



CONTENTS

Foreword	6
Summary	8
Troubled waters	11
Norwegian shipping companies have a strong belief in the green transition	19
The value of the maritime industry	29
The maritime industry needs more bright minds	37
Maritime Outlook 2023	43
Fleet in figures	51
Data basis and methodology	58

FOREWORD

2022 has been a momentous and grave year for Europe. No one is unaffected by Russia's attack on Ukraine. This serious violation of international law has created waves of uncertainty and instability in Europe and in the world. The extensive and united Western sanctions against Russia, and our common desire to assist in the fight for stability, democracy and peace, have led to changes in the geopolitical landscape.

There is every reason to be proud of the critical role the Norwegian maritime industry has played in securing Europe's energy, and thereby contributing to strengthening the resilience of the European community. Norwegian shipping plays a major role in ensuring Europe's access to energy now that gas supplies from Russia have been halted. We stand shoulder to shoulder with the Ukrainian people in their struggle, and wholeheartedly support measures that directly or indirectly contribute to strengthening their opportunities to stand up for freedom and democracy.

In recent years, some of the most important pillars of global welfare growth have been challenged. Increased globalisation, growth in trade and a more integrated world economy have created stability and prosperity for decades. Now we see that a greater degree of geopolitical polarisation, authoritarian regimes, protectionism and reduced trust globally have far-reaching consequences for all international business.

In the midst of major global events and challenges, we have Norwegian shipping companies operating in international waters. The shipping companies operate ships that sail across all the world's oceans and continents. Everyone who operates internationally is challenged and affected by the uncertainty that lies in the wake of the enormous geopolitical upheavals.

At the same time, recent years have shown resilience in the global logistics chains. The blood streams of world trade have definitely been challenged, but has also shown it can withstand the massive challenges that have arisen. Through two long years of lockdowns and travel restrictions, ships and seafarers have sailed around the globe and gone to great lengths to secure goods and supplies.

Short-term capacity challenges were addressed, transport costs have returned to normal, and in this year's economic outlook report, we can largely report that the



industry is back in good health. There is ample reason to be very proud of the efforts that the Norwegian maritime industry has made to maintain supply lines through the greatest challenges we have been exposed to in recent times.

We know that the years ahead will also entail major transitions. As an industry, we are on a journey towards zero emissions and climate neutrality. We have high ambitions and clear goals to make a difference. If we are to succeed in the transition, the ships being built today must be equipped for the next generation's expectations of our industry. This work has already started. Along the coast of Norway, ideas for smart and innovative climate solutions for the maritime sector are now being fermented. The Norwegian coast has long been the world's foremost incubator for cutting-edge technology and solutions at sea. We have a proud history of being first with the best solutions.

Norway is the world's fourth-largest shipping nation in terms of ship values. This position is not a given. It is the result of generations of ambitious, risk-taking and forward-looking leaders in politics and business who have created the conditions for growth through constant innovation and adaptation.

If we are to maintain our position as a world leader in maritime innovation, it requires forward-looking shipping companies, outstanding maritime expertise, and a service and supplier industry that is set up to deliver the solutions we depend on to succeed. But the most important prerequisite for a strong and innovative maritime industry is that we have ambitious politicians who facilitate growth and adaptation through stable and competitive maritime policies.

The Norwegian maritime industry has always led the way, by continually raising the standard and pushing the boundaries. Through changing times, the maritime industry finds solutions to the new challenges that arise and is able to exploit the potential of the opportunities. In collaboration with forward-looking and ambitious politicians, we will shape our maritime future. This way, we will continue to advance as a maritime nation.

A handwritten signature in blue ink that reads "Harald Selvig". The signature is written in a cursive, flowing style.

SUMMARY

In 2022, we have seen a shift in the world economy and in the geopolitical situation. Inflation and interest rate increases due to high activity and an overheated economy have threatened many Western economies. The activity level has picked up after the corona pandemic, and increased activity and demand is having an impact on shipping. In addition, Russia's war in Ukraine has exerted enormous pressure on the European energy market and has resulted in increased demand for Norwegian gas.

Troubled waters

Rarely has there been such uneasy surroundings as in 2022. As a result of war in Europe, political tensions over trade between the USA and China, and the repercussions of the pandemic, there are many uncertain factors affecting the maritime industry. Among the consequences are higher inflation and costs, high energy costs and increased protectionism.

The changed geopolitical situation is affecting shipping companies, and members of the Norwegian Shipowners' Association state that there are challenges related to delivery, an increased need for security measures and higher commercial risk. The threat picture is complex and security threats connected with espionage, influence operations and cyber-attacks must be taken seriously. In 2023, the Norwegian Shipping Security and Resilience Centre was established to meet digital threats and challenges.

Norwegian shipowners have a strong belief in the green transition

The Norwegian Shipowners' Association's members have high climate ambitions and 77 percent believe they will be climate-neutral by 2050 in line with the association's climate strategy. To achieve this, there

is an urgent need to scale up the green transition. Policy instruments need more tools in the toolbox such as contracts for difference, funds for green maritime solutions and higher taxes on greenhouse gas emissions. In addition, ambitions for offshore wind development have to be raised to meet future energy requirements, both in terms of development capacity and announcements of new licence areas for wind power.

The value of the maritime industry

With a value creation of NOK 175 billion and almost 88,000 people employed, the maritime sector is one of the largest and most important industries in Norway. The industry is to a large extent a rural industry, and more than 90 percent of the maritime workforce is located outside Oslo.

Stable and competitive maritime policies are a prerequisite for the industry to continue to lead the way both nationally and internationally. Amid tough international competition, the tonnage tax system, net wage scheme for seafarers and an attractive Norwegian shipping register are the most important framework conditions to preserve the Norwegian maritime industry.

The maritime industry needs more bright minds

The Norwegian maritime industry has a leading position in technology and development, particularly within digital solutions and climate solutions for ships. In an industry under continual development and where better solutions are constantly being developed, there is a great requirement for and necessity for expertise. To keep pace with the increased need for competence, educational institutions must have modern and updated equipment, and further education and ongoing

training must be facilitated for those that work in the industry.

Growth in 2022

2022 has been a year with a major impact on the turnover of different shipowning segments. Collectively, revenues for shipping companies organized in the Norwegian Shipowners' Association have risen by about 25 percent. Demand for ships has increased both in 2021 and 2022 by 6.1 and 5.9 percent, respectively. The explanations can be found in growth in demand for tonnage as a result of the fact that trade and activity are returning to normal after the corona pandemic and increased demand for Norwegian gas due to Russia's war in Ukraine.

Deep sea shipping companies (overseas transport), offshore service and passenger shipping have had a year of strong growth. Deep sea companies had combined turnover of about NOK 149 billion in 2022, up from NOK 116 billion in 2021. Further growth is expected in 2023. Offshore service shipping companies have experienced increased activity on the Norwegian continental shelf, which has been largely driven by Europe's need to replace Russian oil and gas. This increased activity is also reflected in shipping companies' turnover in 2022. Turnover in this segment increased by 28 percent last year, with total turnover of about NOK 75 billion.

The short sea segment has seen a more modest growth in 2022 of around three percent, which is similar to a normal year. Expectations for 2023 are a growth of about 15 percent. The activity level among passenger shipping companies is on the rise after the coronavirus pandemic and turnover figures for 2022 have more than doubled compared with 2021. Further growth is also expected in 2023 that would yield the same activity level as before the pandemic. As in 2021, rig companies

have seen a negative revenue development in 2022. A further reduction is expected in 2023, prior to an anticipated upturn in the activity level in 2024 and 2025 pointed to by a number of rig companies.

Major plans for construction of new ships

The increasing activity level across shipowning segments and expectations of further growth are having an impact on shipping companies' contracting ambitions. Since the Norwegian Shipowners' Association started surveying contracting plans among shipowners in 2018, there has never been registered such high ambitions as in 2023. Shipping companies are now considering contracting a total of 215 ships and rigs in the next five years, predominantly in deep sea and offshore service.

It is in offshore service that the growth in contracting plans has been greatest. From having plans for 25 ships in 2020, the segment now has plans to build 84 ships. A large proportion are being built for the offshore wind industry. There has also been a steadily increasing tendency in deep sea when it comes to contracting. Shipping companies in this segment now report that they plan to build 90 ships.

Even fewer ships in lay-up

After some turbulent years in shipping, lay-up figures indicate that activity continues to pick up. As of January 2023, there were a total of 57 ships and rigs in lay-up. Of these, it is primarily in the offshore segments that there are still lay-ups. The forecast for the end of 2023 is a further reduction in laid-up ships.

The rate of recycling will also be reduced significantly in 2023. There are barely any ships that will be recycled and the total figure for all segments is five ships. This correlates with increased activity and increased demand for tonnage.



The Norwegian Armed Forces' support for increased security at oil and gas installations. Two F-35As from the Air Force are pictured here flying over an oil platform. PHOTO: NORWEGIAN ARMED FORCES.



Troubled waters

Norwegian shipping companies are manoeuvring in increasingly challenging geopolitical waters. The backdrop of political security is changing rapidly as a result of the war in Ukraine, a more strained relationship between the USA and China and the aftermath of the corona pandemic. Among the consequences are higher tension, increased inflation, higher energy costs, increased protectionism and greater unpredictability in international politics. The changes present new challenges and new opportunities for shipping.

Shipping companies cite challenges with deliveries, an increased need for security measures surrounding business and higher commercial risk as some of the consequences of a changed political situation.

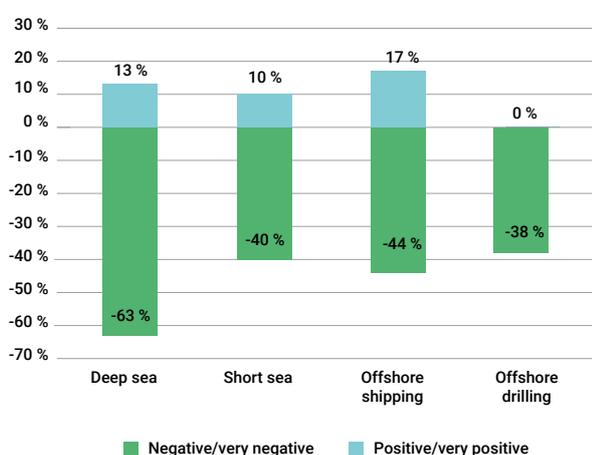
“Technology development, economics and trade have become important elements of international power rivalry and sound assessment of the political risk is becoming increasingly important for business. The ability of companies to handle several crises at the same time and ensure the flexibility to meet different scenarios will be crucial for competitiveness in a more troubled world. The Norwegian Shipowners’ Association attaches great importance to following geopolitical developments and determining the possible consequences for shipping,” says the Norwegian Shipowners’ Association’s Chief Executive Officer Harald Solberg.

Cooperation under pressure

“The last few decades have been characterised by growth in the global economy, cross-border trade interaction and an ever-closer interconnection of international supply chains. The pandemic challenged security of supply and showed us how vulnerable long supply chains are. At the same time, the industry showed that it was able to maintain supply lines even through a very extensive crisis with closed borders. This also shows that shipping is a robust contributor to basic supplies of both goods and energy,” says Solberg.

Today, we see that more and more countries are introducing protectionist measures to protect their own industry and jobs nationally. For the maritime industry, this may translate into a change in trade patterns. From a macroeconomic perspective, reduced interaction may amplify already strong inflation. Shipowners, and especially deep sea shipping companies, are very negatively affected by global protectionism.

The impact of global protectionism on shipping segments



Source: BDO AS / Norwegian Shipowners' Association

Increased protectionism has been a trend over time. Another tendency that can be seen is that like-minded countries choose to trade more with each other, which can lead to greater regionalisation of the global market, so-called 'friend-shoring'. With the war in Ukraine and the West's oil and gas sanctions against Russia, such a tendency is already evident in the energy market. In the long term, regionalisation will limit the ability of business to freely invest in and cooperate with actors from all countries. In such a situation, the political backdrop will have to be taken into account to a greater degree when considering cooperation partners.

"The new geopolitical picture challenges us and will lead to changes in many value chains. At the same

time, we believe international cooperation is more important than ever before. We need cooperation to secure supply chains and combat common challenges, and we need international cooperation to maintain and develop international regulatory regimes and regulations, including in the IMO and the broader UN system. Norway's ability to defend and promote its own interests and values in a new multilateral landscape will become increasingly important," says Helene Tofte, Director of International Cooperation and Climate at the Norwegian Shipowners' Association.

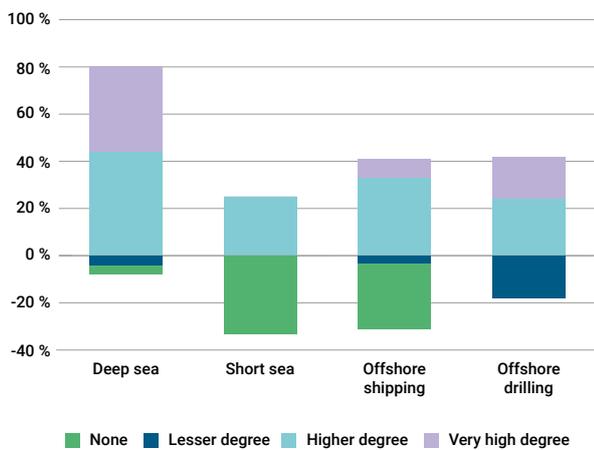
USA-China relations

Since opening up for more international trade, China has experienced strong economic growth and is now the second-largest economy, behind the USA. The global economy has depended on affordable production in China and the country has become the factory of the world. But, in recent years, the USA has tightened its stance towards China and there has been increased rivalry. There is a party-political consensus in the USA on the current policy line, which is to limit China's global position of power. The EU has put greater emphasis on interaction with China, but recent developments, both Xi's increasingly authoritarian style and his ties with Putin, have affected relations in a more negative direction. We see from this year's member survey that shipowners, especially those shipping companies that engage in deep sea transport, are affected to a great degree by increased tensions between the USA and China.



Audun Halvorsen
 Director of the Security and Contingency Planning
 department at the Norwegian Shipowners' Association

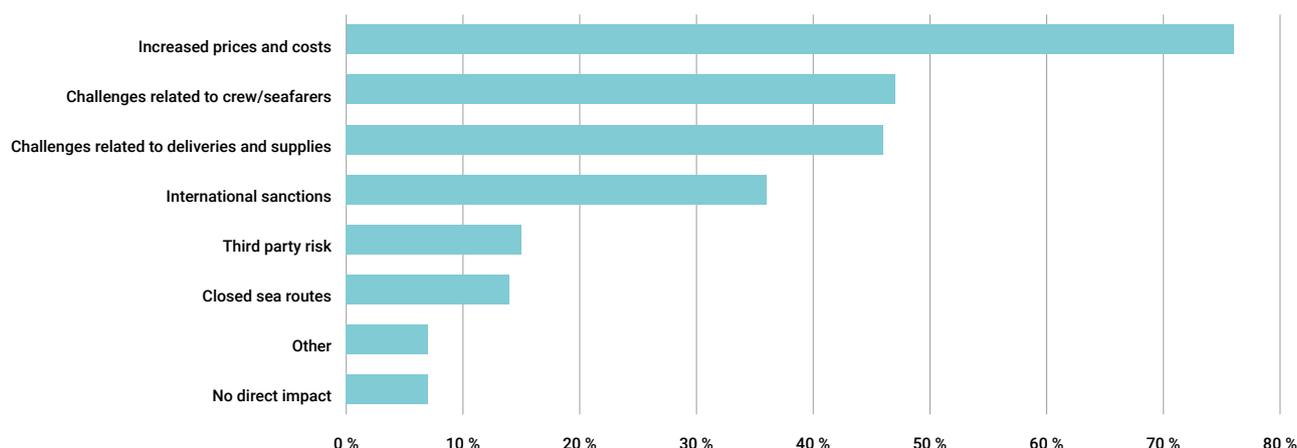
The impact on the shipping segments of increased tensions between the US and China



Source: BDO AS / Norwegian Shipowners' Association

“The question of Taiwan’s development has led to a sharpened relationship between the USA and China, and the former economic rivalry has today increasingly taken on a character of political security. Increased tensions could have major political and economic consequences and weaken international stability. For shipping, such a situation could have significant consequences and scenarios for further development in the region are among the issues the Norwegian Shipowners’ Association will put more work into in the time to come,” says Audun Halvorsen, Director of the Security and Contingency Planning department at the Norwegian Shipowners’ Association.

How the war in Ukraine has affected shipping companies



Source: BDO AS / Norwegian Shipowners' Association

War in Europe

Russia's brutal and illegal invasion of Ukraine has changed the political security picture in Europe and Norway dramatically. The framework for international trade and goods transport has changed abruptly, and three of four shipping companies report that operations have been affected by the ongoing conflict.

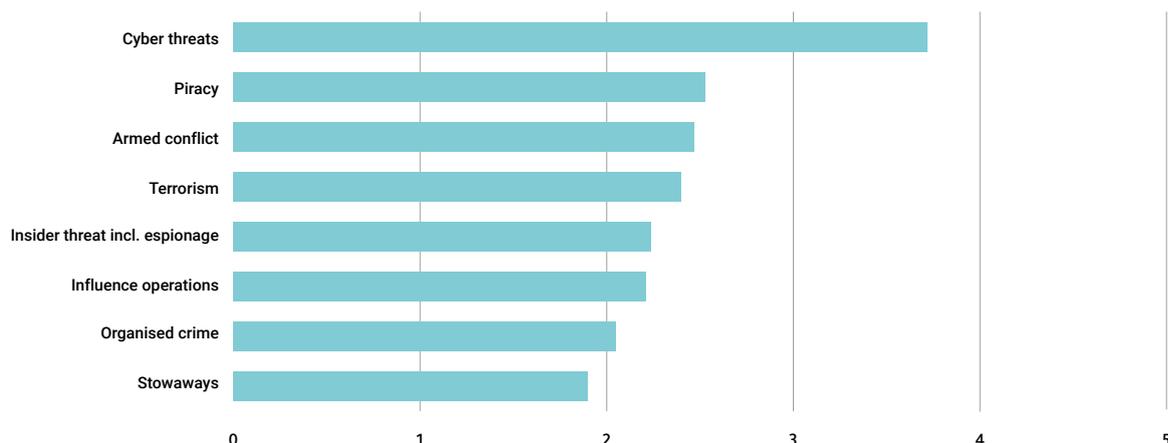
"The West's forceful response and imposition of historically stringent sanctions have been absolutely necessary and must be continued to stifle Russia's ability to wage war and challenge international stability and security. Shipping plays a key role in this and must be given the opportunity to contribute to sanctions regimes through clear and predictable frameworks, while at the same time being able to maintain other essential value and supply chains," Halvorsen says.

Economic sanctions are being increasingly used to counter new political security threats and can be a very effective mechanism. Shipping companies put great emphasis on following applicable sanctions regimes. At the same time, sanctions can have significant consequences for shipping companies and other industry players, both financially and operationally. In the Norwegian Shipowners' Association's member survey for 2023, 8 out of 10 state that the war in Ukraine has had a major or very large impact on the shipping company. This applies regardless of segment. Shipowners have been particularly affected by higher prices and costs.

"International sanctions have a major impact on international shipping and shipping companies. In addition, the war is being felt through increased costs, challenges related to deliveries and supplies, lower availability of seafarers and closed sea routes. Today, the war has the character of a war of attrition, and we must prepare ourselves for the fact that this situation will persist over time," Halvorsen says.

The impact of security threats on shipping companies' operations

Scale from 1–5 where 1 = Insignificant and 5 = Highly significant



Source: BDO AS / Norwegian Shipowners' Association

Energy security

The war in Ukraine has led to extensive European and American sanctions against Russia. Russia was one of the main suppliers of gas to Europe until February 2022. Following the loss of deliveries of Russian gas, Norway is today the largest supplier of natural gas to the European market.

“The significance of security of supply from the Norwegian continental shelf has increased over the past year, which also has consequences for the Norwegian offshore fleet. In addition to extensive deliveries of gas through pipelines to the continent, Norwegian and Norwegian-linked shipping companies are among the biggest players in deliveries of LNG. This is an energy source that is an increasingly important element in Europe’s energy mix,” says Halvorsen.

Norwegian-linked players account for a significant share of the world’s total capacity in both LNG transport and regasification (FSRU) and currently constitute a strategic capacity to secure Europe’s energy supply. Germany opened its first liquefied

natural gas import terminal in December last year. The German Federal Ministry for Economic Affairs and Climate Action has signed a 10-year time charter contract with Höegh LNG to lease the floating storage and regasification unit (FSRU) ‘Höegh Esperanza’ and the ship will be operated by Uniper on behalf of the German state. Höegh LNG is also providing vessels for another two terminals in Germany and one in France.

‘Höegh Gannet’ and ‘Neptune’ will operate in Brunsbüttel and Lubmin, respectively, for the next 10 years and ‘Cape Ann’ will start FSRU operations in Le Havre for TotalEnergies during the summer. In addition, Höegh LNG owns and operates the vessel ‘Independence’ that supplies enough gas to cover the entire demand in Lithuania, as well as some volumes to Poland and Latvia.

“This is a good example of how Norwegian shipping companies are helping to safeguard energy security in Europe and increase capacity to supply the European gas market in a demanding situation,” Halvorsen says.

Establishment of the Norwegian Shipping Security and Resilience Centre

Shipping is facing an increasingly complex threat picture. Not only physical threats such as piracy and armed conflicts affect the maritime industry and shipping. Espionage, influence operations and cyber-attacks are security threats that have an increasing impact and must be taken seriously.

The Norwegian Shipowners' Association's member survey for 2023 shows that cyber threats are increasingly affecting shipowners' operations. This now poses by far the greatest security threat to shipping companies.

New threats require new measures and forms of cooperation. To address the development in the changed environment and threat picture, the Norwegian Shipowners' Association's Security and Contingency Planning department, NORMA Cyber and parts of the Norwegian Shipowners' Mutual War Risks Insurance Association (DNK) have established the Norwegian Shipping Security and Resilience Centre.

The purpose of establishing a joint emergency response centre for maritime security and contingency planning is to strengthen cooperation between the three actors, and to create a strong and more robust professional environment to meet the various threats facing the maritime industry. This applies not least in cyber security and digital threats. Cyber threats represent the security threat that members of the Norwegian Shipowners' Association report they are most concerned about. A joint emergency response centre will be a future-oriented measure to meet these challenges.

"The Norwegian maritime sector is already an international leader in maritime security and emergency response, and there is already a close and well-functioning cooperation among the different actors. Nevertheless, we believe developments in the area of security will require an even closer cooperation in the future," says Audun Halvorsen.

Shipping emergency response

The Norwegian-controlled foreign-going fleet operates globally and is constantly present on all the world's oceans, with 1,700 ships and rigs and more than 80,000 port calls annually. This makes the Norwegian foreign-going fleet a significant contingency resource for the Norwegian authorities and allies.

The war in Ukraine has led to intensified attention on the issues of resilience and security. The Norwegian authorities have implemented a range of measures to adapt society to a new political security reality. This has also led to an increased interest in the strategic resource represented by Norwegian shipping.

According to Halvorsen, shipping accounts for more than 80 percent of goods freight to Norway and plays a crucial role in ensuring stable and predictable supply chains. Shipping is therefore a key part of Norway's overall defence and security of supply.

The Norwegian-controlled fleet represents an important strategic emergency response resource for Norwegian authorities and our allies in the event of crisis and war.

"The industry has capacities in areas such as strategic sea transport, energy supply and offshore and underwater activities. These are capacities that are highly relevant in the face of the political security challenges confronting us today," Halvorsen says.



Misje took delivery last year of the first of 10 Eco Bulk vessels, the 'Misje Vita'. The ships are being built with a hybrid propulsion system and are designed to be adapted for zero emissions. PHOTO: MISJE REDERI AS



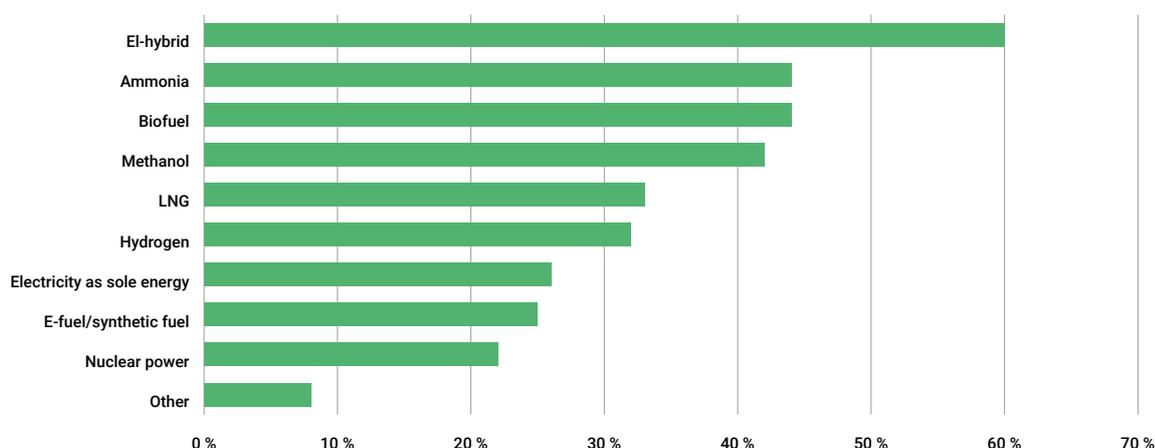
Norwegian shipping companies have a strong belief in the green transition

Despite more complex political and geopolitical surroundings in 2023, 7 out of 10 Norwegian Shipowners' Association members believe they will cut greenhouse gas emissions by 50 percent per unit by 2030, and nearly 8 out of 10 believe they will be climate-neutral by 2050.

"These are very ambitious goals, but also a unique opportunity for Norway to continue to take the lead in the development of new and greener solutions. This will require political will, use of appropriate policy tools and, not least, an industry that is willing to commit to and take the lead in meeting new climate and environmental demands," says Helene Tofte, Director of International Cooperation and Climate at the Norwegian Shipowners' Association.

In line with the Norwegian Shipowners' Association's climate strategy, 77 percent of shipowners believe they will be climate-neutral by 2050 and 70 percent believe they will cut greenhouse gas emissions by 50 percent per unit by 2030 compared with 2008.

Fuel types and energy carriers the shipping companies are considering to achieve emission targets by 2050



Source: BDO AS / Norwegian Shipowners' Association



Helene Tofte
Director of International Cooperation and Climate
at the Norwegian Shipowners' Association

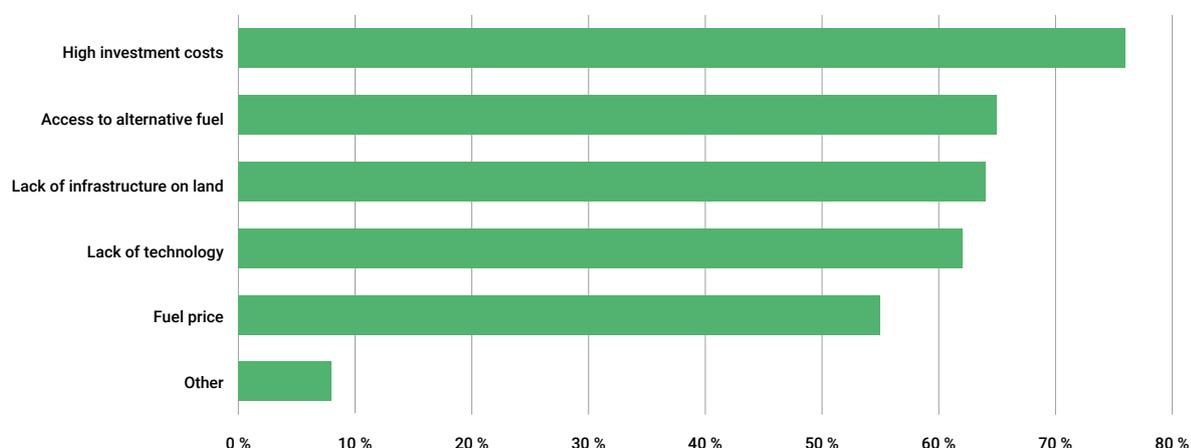
To reach the goal of being climate-neutral in 2050, shipping companies are considering the use of potential fuels such as electric-hybrid, ammonia, biofuel and methanol.

Members of the Norwegian Shipowners' Association are climate optimists and believe they will reach the goal of zero emissions by 2050. At the same time, it seems unease about global events also affects the climate field and optimism is somewhat reduced compared to last year's member survey. The past year has been marked by uncertainty linked to the war in Europe, inflation, disruption in supply lines, higher energy prices and regulatory developments.

In addition, it is still unclear what will be the leading green technology for ships in the future. This means that investments which will have a lifetime of 20-30 years currently appear uncertain. Collectively, this affects the companies' future prospects and contributes to more uncertainty associated with investments and the choice of green solutions. This is made clear by the fact that 76 percent of members point to high investment costs as an obstacle to the use of alternative fuels. This is followed by availability of alternative fuels, a lack of onshore infrastructure and shortcomings in technology.

Despite challenges and barriers related to the use of alternative fuels, many investments are being made in both new and green solutions.

The largest barriers for using alternative fuels



Source: BDO AS / Norwegian Shipowners' Association



An upgrade of the Solstad vessel 'Normand Ocean' has resulted in a 25 percent reduction in fuel consumption after installation of a battery and charging system. Solstad also has nine PSVs with battery-hybrid systems onboard. PHOTO: SOLSTAD OFFSHORE ASA

Höegh Autoliners have invested in a series of ammonia-ready car carriers. Since 2008, the company has reduced its fleet-wide carbon intensity by 37 percent and is well on track to reach the global IMO target of a 40 percent reduction by 2030. PHOTO: HÖEGH AUTOLINERS



Hagland has taken delivery of the first of its three newbuildings, the 'Hagland Pioneer'. The ship is facilitated for zero emissions in port and significant reductions in emissions at sea. PHOTO: UAVPIC.COM/HAGLAND



Solvang ASA has halved emissions on its ships over 20 years and is now preparing for CO₂ capture. Together with Wärtsilä, the Stavanger-based company is investing in full-scale carbon capture onboard its gas carriers. PHOTO: SOLVANG ASA



2023 is an important year for climate policy

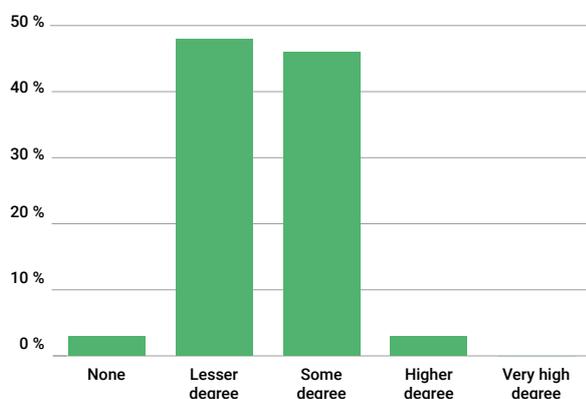
The Norwegian maritime sector is leading the green transition with a highly skilled workforce and innovative climate and environmental technology. Nevertheless, major restructuring is needed in the years to come, and considerable investments must be made in shipping both on land and at sea to succeed with the green transition.

Set up right for the green transition?

Cooperation between industry and the authorities is absolutely essential if we are to succeed with the transition. However, as many as 94 percent of member shipping companies believe the current policy instruments are not adequate to boost the green shift. This is a strong call for more comprehensive and effective policy instruments.

In January 2023, the government signed a preliminary climate partnership agreement with the industry, which will include new solutions to environmental challenges. The shipping industry has been clear about the need for a common arena that can give a boost to climate policy, and it will be important to make the climate partnership a good forum for cooperation in 2023.

To what degree are policy instruments rigged to scale up the green shift



Source: BDO AS / Norwegian Shipowners' Association

Public schemes, such as those available through Enova and the Research Council of Norway, are key tools for green transition in the maritime sector. With the financing of pilot projects, such schemes contribute to the development of new technology. Direct funding from the EU also plays an important role here. One challenge is that new technologies are considered ready for the market before they actually are, and support is being discontinued. To ensure that new green solutions prevail in the market, it is necessary that public funding is extended for a longer period than today. This way, new technology can outcompete less climate-friendly solutions.

“We see that there is uncertainty among Norwegian shipping companies related to the scaling up of technology. There are good support schemes in the start-up phase of projects, but the support period must last longer if we are to reach our goal,” says Helene Tofte, Director of International Cooperation and Climate at the Norwegian Shipowners' Association.

Contracts for difference for the green transition in the maritime sector

Ships that are ordered today will be sailing in 2050. Therefore, uncertainty about future technology is a major risk for shipping companies. Contracts for difference is a tool that will both mitigate the risk by reducing the price difference between traditional and climate-friendly fuels, and lead to increased production of new fuels.

With contracts for difference, the authorities cover the price difference between traditional and alternative emission-free fuels in a transitional phase. This reduces the risk associated with new green investments and leads to a more rapid development of production of alternative fuels along with the necessary infrastructure.



READ MORE about contracts for difference in the Environmental Foundation Zero's report 'Contracts for difference for hydrogen'

A climate-neutral EU in 2050

The EU continues to lead the way in climate policy and has set ambitious targets to become climate-neutral by 2050. The Norwegian Shipowners' Association has participated in development of the proposals currently under review in the Fit for 55 regulatory package and supports the climate goals defined in the EU's green growth strategy, the EU Green Deal.

The EU Emissions Trading System (EU ETS) – a game-changer?

For the first time, European and international shipping operating in Europe will be required to pay for its greenhouse gas emissions when sailing in EU waters. This will be done through the inclusion of shipping in the EU emissions trading system (ETS) 1 January 2024. This means that, for ships of a certain size, 100 percent of emissions from voyages within the EEA, and 50 percent from voyages to and from the bloc, must be reported and recompensed. More than 1,600 shipping companies from all over the world are now preparing for how emissions trading and administration will work in practice for over 11,000 ships.

Once the system is in place, payments from shipping will amount to a significant sum. The Norwegian Shipowners' Association has estimated that, for 400-plus ships subject to quota obligations in its own member fleet, one could be looking at EUR 250 million annually, depending on the price of emission allowances. During the negotiations, a number of actors, led by the European Parliament, have argued for funds to be earmarked for financing of the green transition in shipping - in a separate Ocean Fund. It has now been decided that some of the revenues from emissions trading will be channelled through the EU's Innovation Fund, while a larger share of allowance revenues will be returned to member states. In EU countries, all quota revenues must be used for green initiatives, and we believe that Norway also should use these revenues to accelerate the development of new, green maritime solutions.

"An earmarking of these fresh revenues gives the industry the opportunity to finance its own green transition," Tofte says.

The Norwegian Shipowners' Association believes a fund should be established based on the model of the NOx Fund that should be used to finance CO₂-reduction measures. The industry has very positive experience from reducing NOx emissions through technology development supported by the NOx Fund.

A global industry requires global solutions

Shipping as a global industry is dependent on global cooperation and regulations. In the coming year, a lot will happen on the climate files in both the EU and the UN's International Maritime Organization (IMO). In the summer of 2023, the IMO will adopt new climate targets for shipping.

"International climate requirements adopted through the IMO play an important role in transforming the industry. We need an IMO that is ambitious and sets a clear course for the industry's climate work going forward. 2023 is the year when the IMO must demonstrate the power of action and leadership," Tofte says.

Through the international shipowners' association ICS, the shipping industry has proposed a global CO₂ tax on fuel, managed through the IMO, to be reinvested in zero-emission solutions in the industry. The Norwegian Shipowners' Association believes these payments should be channelled through an earmarked fund for green initiatives in shipping. A global fund for transition will contribute to increased investment in green solutions and will help to reduce the price difference between fossil fuels and alternative climate-neutral energy carriers.

7 out of 10 shipping companies state they are willing to pay more for climate-friendly fuel.

We must invest in offshore wind

More energy will be needed in the future. To meet this need in a sustainable way, investments must be made in offshore wind. Although several members of the Norwegian Shipowners' Association are already well established in the offshore wind market, it is absolutely essential to develop a domestic market. Industry is eager and impatient to move ahead, but it is positive that the government in the past year has given long-awaited political signals that will allow allocation of licence areas to finally take place. This marks a new chapter in Norwegian offshore wind history.

Meanwhile, there is no doubt that other countries in Europe have set significantly higher ambitions than Norway. The Norwegian Shipowners' Association will continue to push for higher ambition levels in Norwegian waters as well, both regarding

development capacity and the announcement of new areas for wind power. This will provide better conditions for our members to remain competitive internationally and will facilitate development of the entire value chain within offshore wind.

There are great opportunities in floating offshore wind, but the technology remains relatively immature. It is therefore important that schemes are established that contribute to reduce risk in the early phase of offshore wind development. The Norwegian Shipowners' Association supports the government's proposal for contracts for difference, which will be a key instrument in the establishment phase of floating offshore wind.

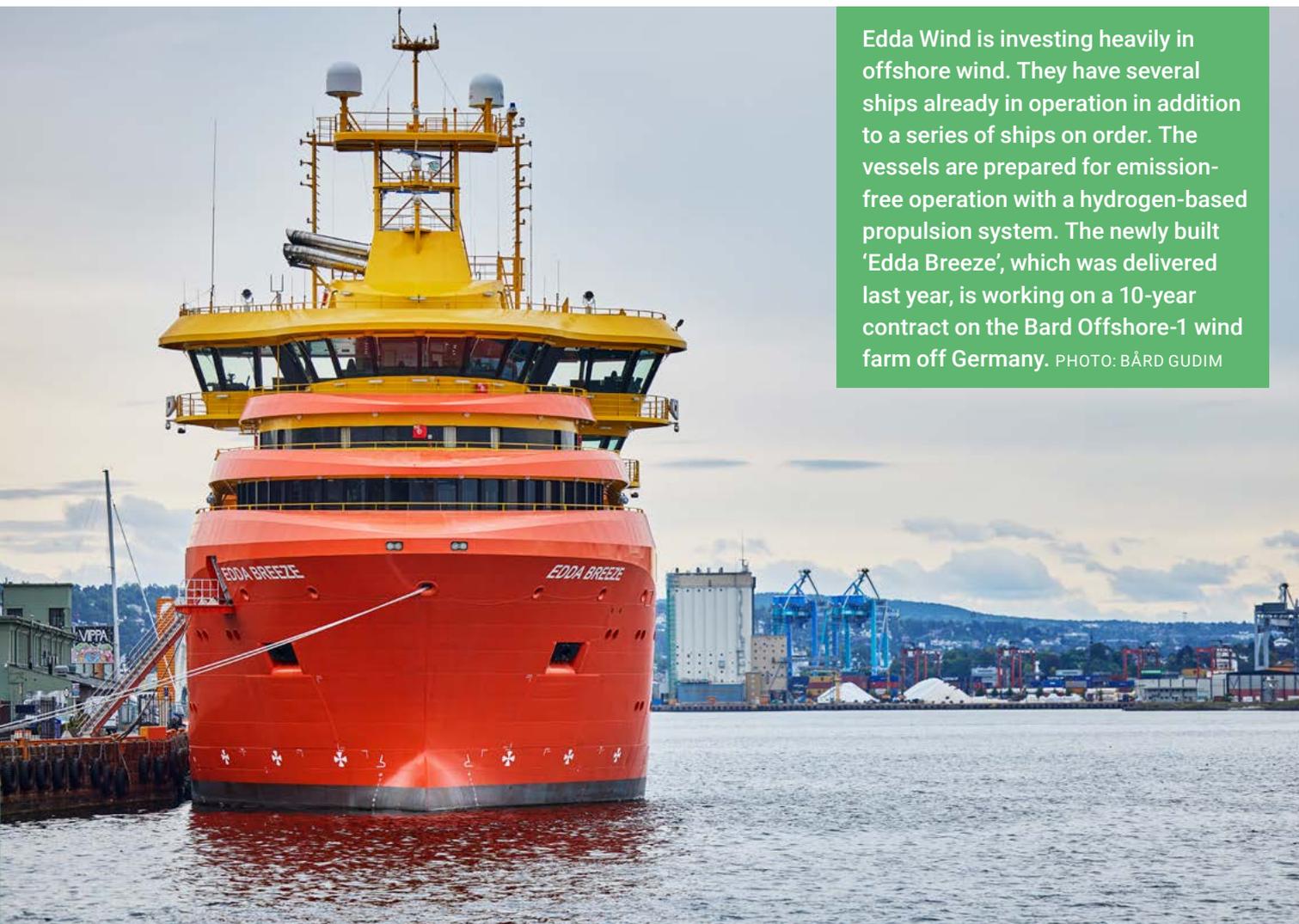


READ MORE
about the Norwegian Shipowners'
Association's climate positions

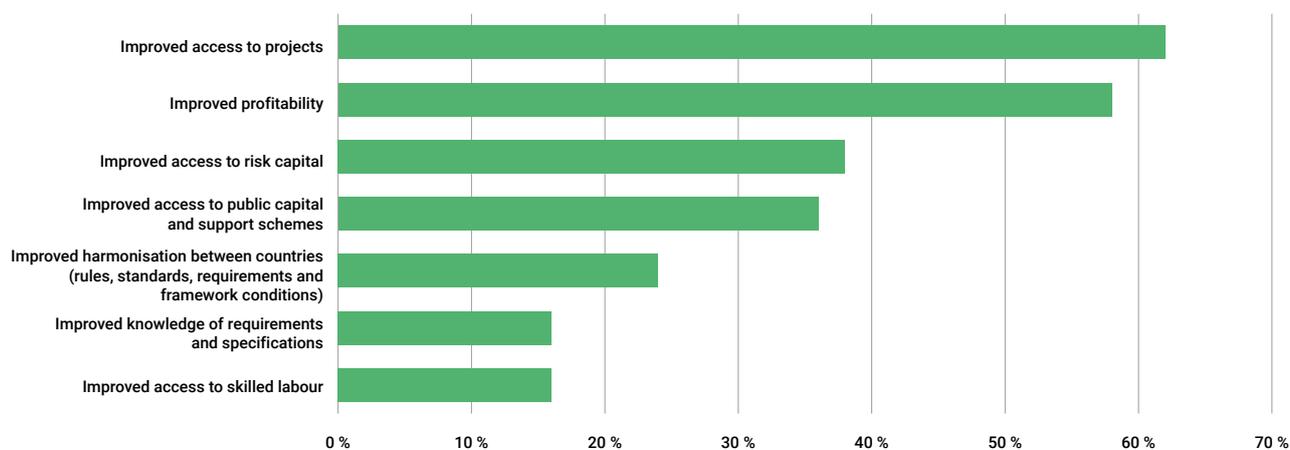
Integrated Wind Solutions is moving ahead with major investments in offshore wind. They are building special ships to transport personnel and materials to and from wind farms. These new vessels are constructed as plug-in hybrids but can also be partially operated on fully electric power on certain routes. Once offshore charging infrastructure is in place, the goal is to switch to 100 percent electric operation. PHOTO: AWILCO/INTEGRATED WIND SOLUTIONS



Edda Wind is investing heavily in offshore wind. They have several ships already in operation in addition to a series of ships on order. The vessels are prepared for emission-free operation with a hydrogen-based propulsion system. The newly built 'Edda Breeze', which was delivered last year, is working on a 10-year contract on the Bard Offshore-1 wind farm off Germany. PHOTO: BÅRD GUDIM



Shipping companies' assessment of the most important factors to achieve further growth in the offshore wind market



Source: BDO AS / Norwegian Shipowners' Association



Captain Tom Rune Einarsen (centre) leads the coastal liner 'Havila Capella' safely on the Bergen – Kirkenes – Bergen route together with safety officer Sindre Michael Jensen and navigation officer Camilla Ellefsen. Havila's new ships have the world's largest battery pack for passenger vessels, in addition to efficient hybrid operation. PHOTO: JOSEFINE SPIRO/HAVILA KYSTRUTEN AS



The value of the maritime industry

The maritime sector is one of Norway's most important industries and is the second-largest export industry after oil and gas. The maritime cluster creates jobs, opportunities and great amounts of value, especially along the coast.

In Norway, we have always lived off the sea and we are one of the few countries in the world with a complete maritime cluster. This means that we have Norwegian shipowners, seafarers, shipyards, equipment manufacturers and strong research and development environments, along with other maritime services. In 2022, the maritime industry had value creation of NOK 175 billion, with almost 88,000 people employed. The sea is also our most important trade route. Around 90 percent of the goods we export abroad are transported by sea, and around 80 percent of our imports come via the sea route.

"The story of Norway is the story of the sea. The maritime industry contributes with the value creation we need to maintain a strong and good welfare system, as well as the technology to take Norway and the world through the green transition," says Gabrielle Legrand Gjerdset, Acting Director for Policy and Analysis at the Norwegian Shipowners' Association.

Key figures for the maritime industry

	2019	2020	2021	2022
 Employees	91,000	86,500	88,000	87,900
 Value creation	157 billion NOK	153 billion NOK	164 billion NOK	175 billion NOK
 Turnover	477 billion NOK	451 billion NOK	466 billion. NOK	498 billion NOK

Source: Maritimt Forum/Menon Economics



Gabrielle Legrand Gjerdset
Acting Director for Policy and Analysis
at the Norwegian Shipowners' Association

Along the coast – the maritime industry is a provincial industry

The maritime industry is first and foremost a provincial industry. Maritime companies create and offer highly skilled work environments along our entire coastline, both at sea and on land. Outlying municipalities top the list of local communities with the highest proportion of maritime companies and employees. A report from Maritimt Forum shows that as many as 57 percent of maritime enterprises are located in less central areas, versus 28 percent of enterprises in the rest of Norwegian business and industry.

“The maritime industry creates jobs and livelihoods in many local communities scattered along the coast. Of those employed in the maritime industry, more than 90 percent work outside Oslo,” says Gjerdset.

OLYMPIC BUILDING SHIPS IN NORWAY

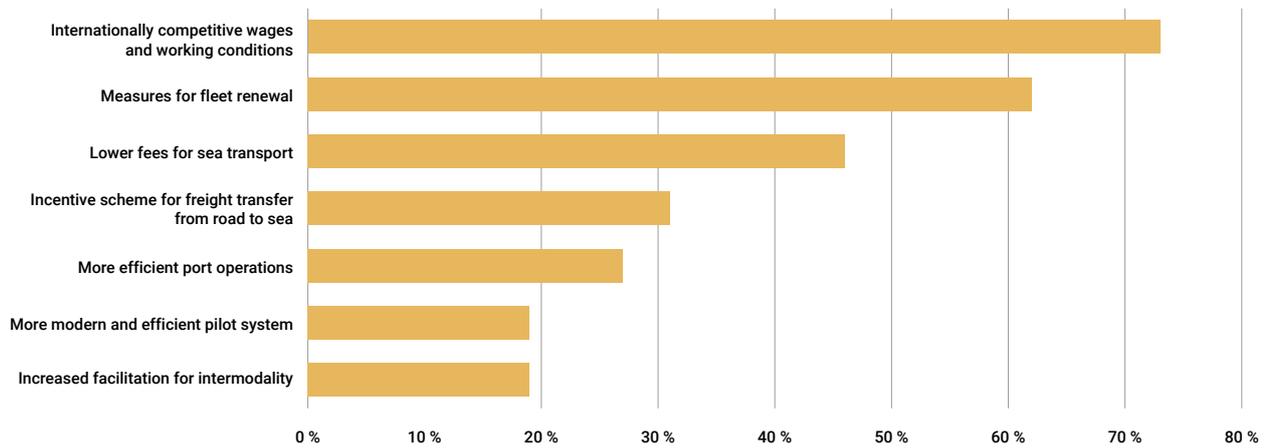
The shipowner Olympic has signed a contract with Ulstein Verft for construction of two wind vessels at the shipyard in Norway. The service vessels will operate in offshore wind and will be equipped with modern solutions with low energy consumption.

According to Olympic Group Chief Executive Officer Stig Remøy, it was no coincidence that the shipping company chose to have the ships built at a Norwegian shipyard. With a Norwegian yard, ship designer and equipment suppliers, along with Vartdal Invest as co-investor, this is a project with a strong local anchorage, says Remøy.



Illustration: Ulstein Design & Solutions AS/Olympic Subsea ASA

The most important framework conditions to strengthen short sea shipping



Source: BDO AS / Norwegian Shipowners' Association

Prerequisites for further growth

A number of businesses within the maritime value chain have experienced strong growth over the past year. The Norwegian Shipowners' Association is working to secure framework conditions that can boost value creation, innovation and technological development in the industry. This can, in turn, ensure that Norway maintains the position of a maritime leader in the years to come. In order to succeed, a concerted effort is necessary from politics and business, and this requires stable and competitive policies and framework conditions for the industry.

When asked the question, what are the most important framework conditions to strengthen short sea shipping, 73 percent of the Norwegian Shipowners' Association's members replied that internationally competitive pay and working conditions are important, 62 percent cite measures for fleet renewal and 46 percent state that lower fees and remuneration for sea transport are important.

Predictable maritime policies and framework conditions

For all industries, predictable framework conditions are important. This is absolutely crucial for the maritime sector and international shipping. Few, if any, industries in Norway have the same global exposure as the maritime sector. This makes the industry very vulnerable to unforeseen global changes, something we have seen much of in recent years. Predictability is especially important in the light of investments in and ambitions for the green transition.

"Political predictability has long been a competitive advantage for Norway, but recently businesses have experienced framework conditions that have been changed almost from one day to the next. This does little to inspire confidence and means that political risk has had to be taken into consideration when taking investment decisions in Norway. We hope and believe that the debate in recent months has contributed to raising political awareness that abrupt changes in framework conditions - especially in uncertain times - have major negative consequences for the industry," says Harald Solberg, Chief Executive Officer of the Norwegian Shipowners' Association.

Norwegian pay and working conditions

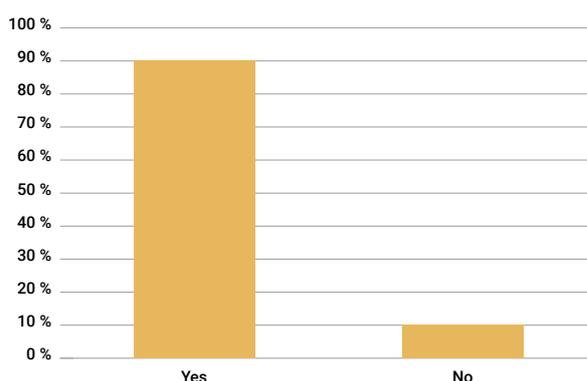
The government's work with legislation on 'Norwegian pay and working conditions' is a cause of concern for the maritime industry. The amendment would entail shipowners having to pay Norwegian salaries to employees that neither live nor pay taxes in Norway, or have expenses in Norway, as soon as the ship they work on traverses two Norwegian ports. In our view, the bill contravenes long lines in Norwegian foreign policy and flag state principles that are laid down in the UN Convention on the Law of the Sea. Norway, as a small country with significant interests in shipping, is served with a strong flag state principle and markets for shipping services that are as free as possible of national regulation. The Norwegian Shipowners' Association views the proposal as a clear violation of the cabotage regulation and freedom of service pursuant to the EEA agreement, as EEA law has also previously been understood by the Norwegian authorities.

"In our view, other measures, such as a strengthened net wage scheme, will have a significantly greater effect on the competitiveness of Norwegian expertise than a statutory enactment of pay and working conditions for foreign seafarers," Solberg says.

A strengthened net wage scheme

Norwegian seafarers work at Norwegian shipping companies and the net wage scheme is therefore the most critical tool to ensure recruitment of Norwegian seafarers and the continuation of our strong maritime expertise. The scheme ensures that Norwegian seafarers are competitive in the face of foreign manpower. The net wage scheme was weakened in 2022 by setting a maximum ceiling on the reimbursement, thereby also reducing shipping companies' ability to hire Norwegian seafarers.

Would you replace Norwegians with foreign seafarers if the reimbursement/net wage scheme was further weakened in 2023?



Source: BDO AS / Norwegian Shipowners' Association

“The maritime expertise to which Norway gains access through the net wage scheme is important for us to ensure innovation and competitiveness at sea, which in turn is important if Norway is to take a leading role in new business adventures at sea. That is why it is so important that the net wage scheme is strengthened,” says Solberg.

In the member survey, 90 percent of members who currently have Norwegian seafarers covered by the net wage scheme onboard responded that, if the scheme was weakened further, they would have to consider replacing Norwegians with foreign seafarers. At the same time, more than half state that it is likely or highly likely that they would replace foreign seafarers with Norwegians if the maximum ceiling for the net wage scheme was removed.

“These are encouraging figures that show there is a great desire among Norwegian shipowners to utilise and develop Norwegian expertise. At the same time, it shows how fundamentally important political framework conditions are for our industry, and in particular how important the competitiveness of the net wage scheme is for employment of Norwegian seafarers,” says Solberg.

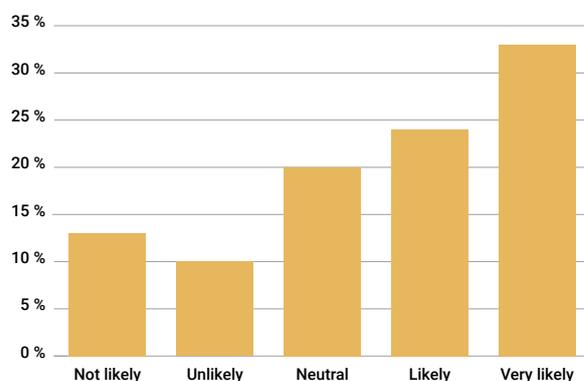
Predictable taxation for shipping companies

Another key framework condition that forms the basis for Norway to continue as a leading maritime nation with a large Norwegian-registered fleet is a competitive tonnage tax scheme.

The Norwegian Shipowners’ Association’s member survey shows that a competitive tonnage tax scheme is crucial for shipowners if they are to be based in Norway. Only 13 percent state it is unlikely that they would move their business out of Norway if the tonnage tax scheme is discontinued. As many as 64 percent of shipowners operating in deep sea state it is likely or highly likely that they would move their operations out of Norway if the tonnage tax scheme is discontinued.

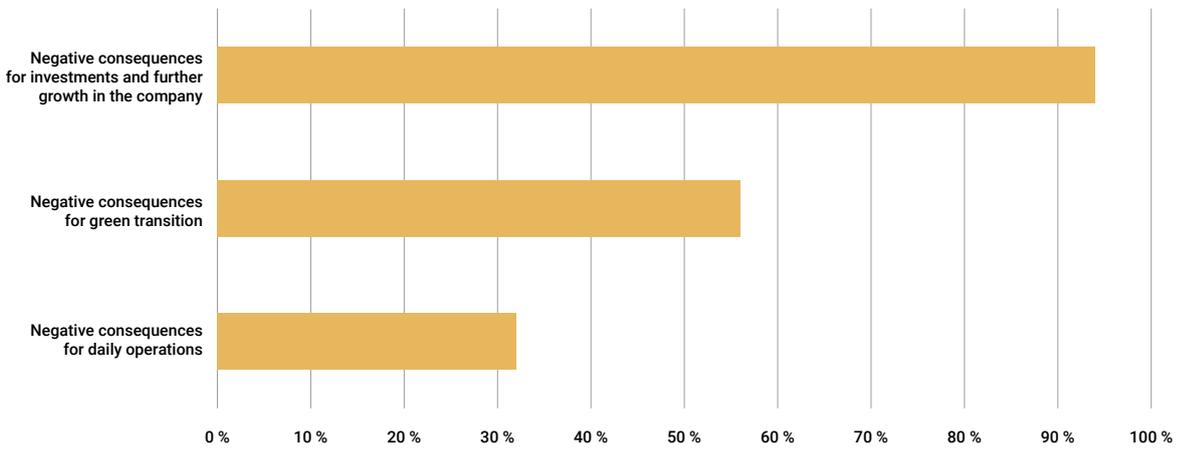
“Discontinuing the scheme will lead to many ships being flagged out to countries that offer better arrangements, which in turn would result in the Norwegian maritime industry being scaled back with major negative consequences for the Norwegian maritime cluster, employment and value creation,” Solberg says.

Likelihood of operations being moved out of Norway if the tonnage tax scheme is discontinued



Source: BDO AS / Norwegian Shipowners’ Association

What are the consequences of a higher wealth tax for your business?



Source: BDO AS / Norwegian Shipowners' Association

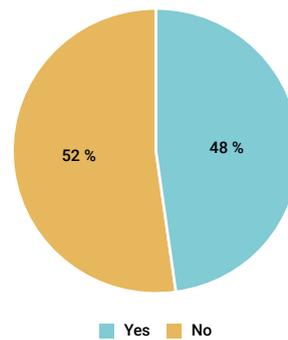
A policy for increased Norwegian ownership

If Norway is to maintain its position as a maritime superpower, Norwegian ownership in all parts of the maritime cluster is important. One of the biggest obstacles to growth, company expansion and creation of more business for members of the Norwegian Shipowners' Association is the wealth tax on working capital. All members state that it is important to abolish the wealth tax on working capital to strengthen Norwegian ownership. Almost half of the members have taken out more in dividends than they otherwise would have done to service the wealth tax over the past two years.

"The wealth tax acts as an impediment to ambitions of greater Norwegian ownership and delays work on the green transition. Companies with foreign owners do not pay wealth tax and therefore have more money available to spend on new investments than their Norwegian-owned competitors," says Paul-Christian Rieber, Chief Executive Officer of GC Rieber AS and Chairman of GC Rieber Shipping ASA.

The wealth tax is paid on the paper value of the company's shares and material assets. Even if the company runs at a loss, tax must be paid on theoretical values. More than half of the Norwegian Shipowners' Association's members report that the wealth tax has negative consequences for the green transition, and around 90 percent feel that the tax has an inhibiting effect on investments and further company growth.

Has your company taken out more in dividends (over the past two years) than it would otherwise have done due to the current wealth tax?



Source: BDO AS / Norwegian Shipowners' Association



Employees onboard 'Color Magic', which operates in regular traffic between Oslo and Kiel. PHOTO: ARILD DANIELSEN/COLOR LINE AS



THE MARITIME INDUSTRY NEEDS MORE BRIGHT MINDS

The maritime industry needs more bright minds

The Norwegian maritime industry has a strong international position and is a leader within technology and development. At the same time, the industry needs more bright minds, both on land and at sea, in the years to come.

New green solutions and increased digitalisation on ships place new and high demands on maritime expertise. Both seafarers who man the ships and those working on shore must, to a greater degree than before, update and further develop their expertise during their careers.

“The cooperation between academia, the authorities and the industry will be even more important to keep up with the rapid changes,” says Karin Gjerløw Høidahl, Section Leader for Competence, Recruitment and Education at the Norwegian Shipowners’ Association.

Maritime academies must have updated equipment and expertise to give employees of the future the skills they need when starting jobs in high-tech workplaces both at sea and on shore.

MARITIM KARRIERE

More young people must be recruited to the maritime industry to meet the future need for expertise. The campaign ‘Maritim Karriere’ is a collaboration between the Norwegian Shipowner’s Association and Maritimt Forum and aims to increase knowledge about the industry among young people. The foundation ‘Stiftelsen Norsk Maritim Kompetanse’ is funding the campaign.

“Through this campaign, we want to showcase our industry as both relevant and attractive to young people entering working life. We give the maritime industry a public face through young people working in the industry sharing their experience from everyday life on social media”, says Høidahl.



READ MORE
about the campaign



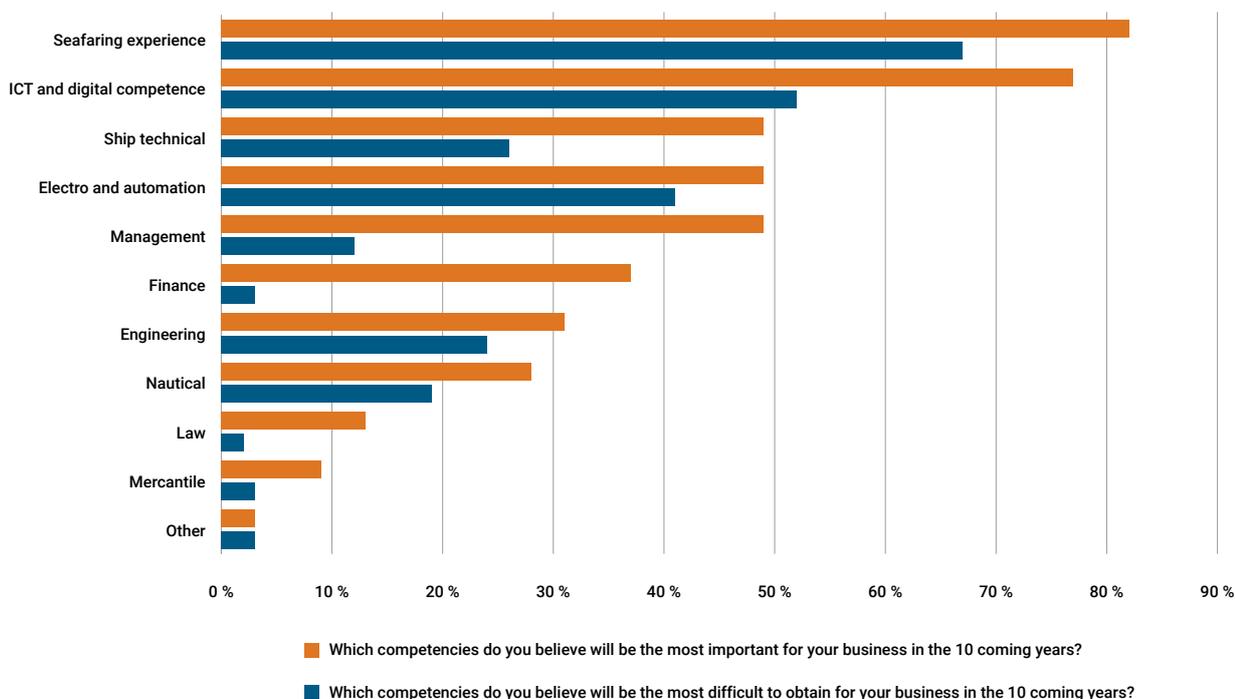
Karin Gjerløw Høidahl
Section Leader for Competence, Recruitment and Education at the Norwegian Shipowners' Association

Digital competence is becoming more important

Due to the technological developments in the maritime sector, the need for digital competence in combination with operational experience from sea and land will increase in the years ahead. What is learned through education is no longer sufficient to maintain relevant competence throughout an entire working life.

Around 80 percent of ship owners state in the member survey that ICT and digital competence, together with operational experience from sea, will be the most important types of expertise to attract in the coming decade. These are also the same types of expertise that ship owners believe it will be difficult to obtain in the next 10 years.

Shipping companies' requirements for skills over the next 10 years



Source: BDO AS / Norwegian Shipowners' Association

Wallenius Wilhelmsen has invested heavily in digitalisation in recent years. Digitalisation and smart usage of ship data are among the useful tools to optimise operations and cut emissions. Here is the 'Tannhauser' that is one of the most modern and energy efficient RoRo ships in the fleet.

PHOTO: WALLENIUS WILHELMSEN



"Digitalisation is now changing how shipping is operated and developed, and this affects seafarers. The industry believes it is entirely possible to provide today's seafarers with the necessary digital skills. As long as we get the educational opportunities, we are highly motivated to continually update and develop our skills," says Hans Sande, Managing Director of the Norwegian Maritime Officers' Association.

Synnøve Seglem, Deputy Chief Executive Officer at Knutsen and President of the Norwegian Shipowners' Association, confirms that digital competence is becoming more important. "New, high-tech ships demand new knowledge from the people that will operate them. Today, there is so much data intelligence and aids onboard that must be understood, and that the user must not least know the limitations of. If something goes wrong, the consequences can be huge," she says.

"Data analysis onshore is becoming increasingly important" Seglem continues. She says it is currently difficult to get hold of people, particularly in the fields of data analysis and cybersecurity.

"We see that more and more is being invested by shipping companies in digitalisation and optimisation of operations," says Høidahl. These are important measures to further develop the industry, but also place new demands on the competence of employees.

Shortage of skills and manpower

A lack of competence is an increasing challenge for the industry, and a report from Menon shows that the challenge has been intensified by the corona crisis, demographic changes and high demand for labour in Norway.

"We see that there is a great demand for competence and manpower in the maritime industry. This is one of the biggest barriers to further growth for companies," says Høidahl.

The maritime industry has a 'reverse apprenticeship problem'. Where the Norwegian industry usually has not had enough apprenticeship positions, the maritime industry is crying out for more candidates. About 40 percent of shipping companies report that the need for apprentices will increase over the next five years, and 38 percent report they believe the need for cadets will increase over the next five years. Compared with last year's survey, this is a significant increase of 13 percent and 20 percent, respectively.



READ MORE
about the future competence needs



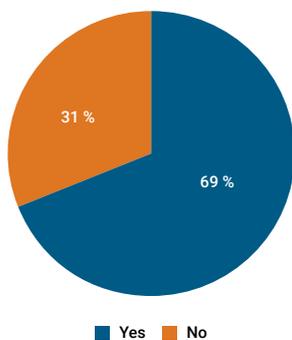
Hans Sande
 Managing Director of the Norwegian Maritime Officers' Association

More people need further education and ongoing training

Competence enhancement through further education and ongoing training will be one of the most important factors to secure the right expertise for the maritime industry in the years ahead. The industry and the authorities must cooperate on adapting the further education system to the working life of tomorrow. It must be easy for those in work to take courses and further education during their working life.

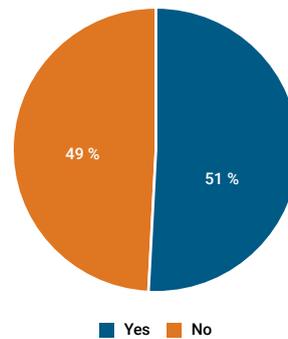
“Educational institutions must provide maritime education of the highest quality in line with the competence need of the future. Not only basic education for tomorrow’s seafarers, but also for the many Norwegian seafarers who find new and exciting opportunities on land every year. Their knowledge and experience is crucial for the industry’s ability to innovate,” says Sande.

Shipowners’ assessment of the perceived increased need for further education and ongoing training



Source: BDO AS / Norwegian Shipowners' Association

Shipowners’ assessment of whether further education and ongoing training opportunities are good enough under the current education system



Source: BDO AS / Norwegian Shipowners' Association

69 percent of shipping companies state that they experience an increasing need for further education and ongoing training.

To meet future competence needs, competence enhancement and further education is necessary throughout the company, including at senior management level. In order to make good decisions and lead companies through major change processes, leaders must update their competence in the face of a new and more digital everyday life, says Høidahl.



READ MORE
 about the Norwegian Shipowners' Association's work with competence and recruitment



The Ro-Ro ship 'Parsifal' docked in Baltimore, USA.
PHOTO: WALLENIUS WILHELMSEN



Maritime Outlook 2023

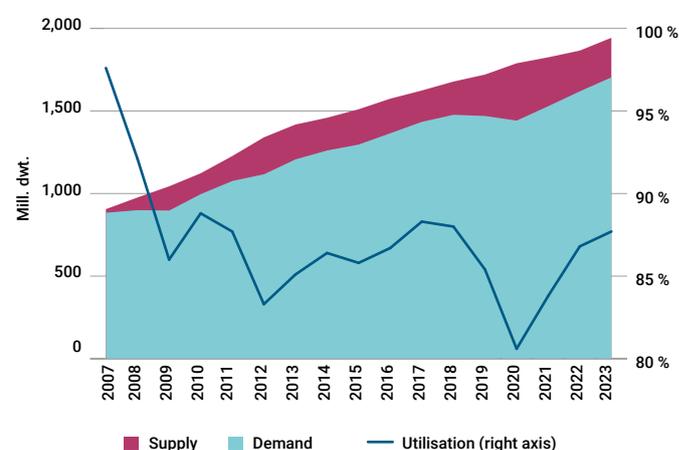
The world economy

International shipping activity is closely linked to developments in the world economy. The International Monetary Fund (IMF) estimates that the world economy grew by 3.4 percent in 2022 and expects this growth to slow to 2.9 percent in 2023¹. This is significantly lower than the average growth figure from 2000 to 2019, which was 3.8 percent. Interest rate increases by central banks to counter inflation, together with Russia's war in Ukraine, have contributed to a reduction in global economic activity. The USA and Europe must be prepared for lower growth and China may enter a period of lower GDP. While Western economies are threatened by inflation and interest rate rises, which in turn means reduced purchasing power, China is struggling with the repercussions of its previous zero-tolerance policy for Covid-19 that has resulted in limited mobility in the workforce and general population. The rapid spread of Covid-19 in China dampened growth in 2022, but the recent reopening has paved the way for a faster-than-expected recovery. Global inflation is expected to fall from 8.8 percent in 2022 to 6.6 percent in 2023 and 4.3 percent in 2024 but remains above pre-pandemic (2017-19) levels of around 3.5 percent.

Russia's war in Ukraine has put considerable pressure on energy and commodity markets. At its peak, the price of natural gas rose to EUR 352.10 per megawatt hour (MWh) on the Dutch trading exchange TTF. The

Brent crude price reached USD 139.10 per barrel at its highest. Records were also set for oil products, coal and other commodities such as wheat. Throughout the year, the price of natural gas in Europe has dropped to EUR 60 per MWh and the Brent price is now below USD 85 per barrel. This is largely thanks to increased production and transport of oil and gas, both from Norway and the USA, in which Norwegian maritime players and others have played a significant role.

Utilisation in shipping markets

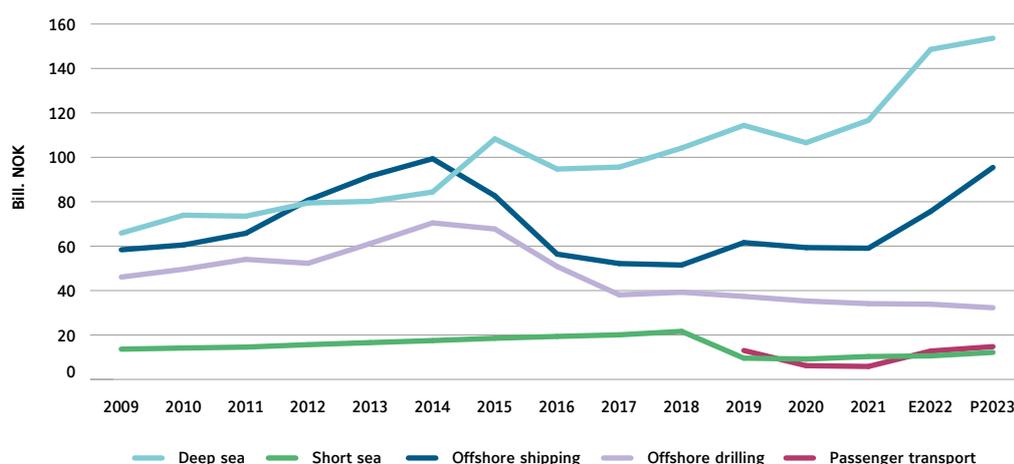


Source: Lorentzen & Co AS

Demand for ships increased by 6.1 percent in 2021. In 2022, demand rose by a further 5.9 percent on an annual basis. This year, Lorentzen & Co expects ship demand to be 5.2 percent. By comparison, growth in demand for ships was at 4.6 percent in the years 2009 to 2019. Increased demand combined with a reluctance from yards to offer new berths, together with uncertainty among shipowners over contracting

¹ IMF (januar, 2023): "World Economic Outlook; Inflation Peaking amid Low Growth." <https://www.imf.org/en/Publications/WEO/Issues/2023/01/31/world-economic-outlook-update-january-2023>

Norwegian shipowners' turnover 2009-2023 (including 2022 estimates and 2023 prognosis)



Source: BDO AS / Norwegian Shipowners' Association

conventional tankers and bulk carriers, results in a high utilisation rate for the shipping fleet. The utilisation rate for the total fleet is still rising and is expected to be as high as 87.7 percent this year.

At the same time, delays in logistics chains that also have contributed to higher transport costs and thereby higher inflation in Western economies have normalised. Shipping's contribution to inflation has thus been eliminated in practice and rates in several segments - including container shipping - are back at pre-pandemic levels.

Turnover figures

Overall revenues for shipping companies organised in the Norwegian Shipowners' Association increased by around 25 percent in 2022. The large growth in revenues is mainly due to a significant boost in turnover of 27 percent among shipping companies engaged in overseas transport (deep sea), and similar corresponding growth of 28 percent among offshore service companies. In addition, passenger shipping companies have more than doubled their revenues from the previous year.

Deep sea companies had a total turnover of around NOK 149 billion in 2022, up from 116 billion in 2021. Much of this growth can be attributed to general growth in demand for tonnage in the global market as a result of trade picking up after the significant

drawdown at the start of the corona pandemic.

The war in Ukraine has also increased demand for tonnage for transport of gas and oil. Research firm Kpler reports that Europe's LNG imports increased from 23 percent to 39 percent of the continent's total gas imports last year. Shipborne LNG imports have become a crucial part of the solution to cover the loss of pipeline imports. However, it appears the strong turnover growth in the deep sea segment will normalise in 2023.

Offshore service shipping companies have seen a significant upswing in activity on the Norwegian continental shelf, which is mainly driven by Europe's need to replace Russian oil and gas. The increased activity is also reflected in these companies' turnover in 2022. Turnover in this segment increased by 28 percent in 2022, with total turnover of around NOK 75 billion. Turnover has still not reached the level prevailing before the oil crisis in 2014. At the same time, the segment expects an increase in turnover of about 26 percent in 2023, which would lead to the segment having higher turnover for the first time since before the oil crisis in 2014.

Passenger shipping companies have also experienced a large growth in turnover in 2022. Turnover in this segment has more than doubled, rising by 119 percent. This is due, of course, to the fact that a total shutdown was effectively imposed on this segment

as a consequence of Covid-19. But, at the beginning of 2022, there were also limitations and entry restrictions that affected turnover. As a result, this segment also expects further growth in 2023 to return to a normal level.

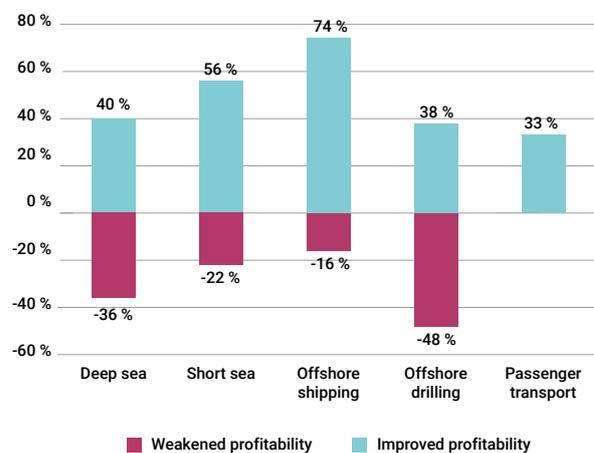
In the short sea segment that transports goods to, from and within Europe, 2022 was more like a normal year, with turnover growth of around three percent. This is significantly reduced growth compared with the peak year in 2021. At the same time, this segment expects a significant increase in turnover in 2023, with growth of around 15 percent.

For rig companies, the negative turnover trend that occurred in the wake of the oil crisis in 2014 continues. In 2022, rig companies' turnover fell by another one percent and a further reduction of five percent is expected in 2023. Several rig companies point out that 2023 will remain a weak year and that the upturn will start to kick in from 2024 and 2025.

Profitability

There are large variations between segments in terms of expectations for operating profit in 2023. The greatest optimism is to be found in the offshore service segment. Here, three out of four state that they expect a better operating profit in 2023 than in 2022. There is a natural correlation between expectations of higher operating profit and the fact that activity in the oil and gas sector is expected to be high throughout the year, with associated high demand for tonnage. Such a development could offer a rate level that would yield improved operating margins.

Shipowners' expectations for development in 2023 operating results compared with 2022



Source: BDO AS / Norwegian Shipowners' Association

At the opposite end of the scale are rig companies, of which nearly half expect weaker operating profits this year. There are though divergent views within this segment. About 4 out of 10 expect improved operating profit in 2023. At the same time, around half of the companies state that they expect a reduced operating profit in 2023. This description of the situation can also be found in the market comments from respondents in this segment. Here, some shipping companies state that they expect activity to pick up already in the coming year, while other companies do not expect activity to pick up until 2024 and 2025.

Within the deep sea segment, some shipping companies have had a year with very large turnover growth and good operating results. This growth is particularly related to growth in world trade in the

wake of the pandemic, as well as increased demand for non-Russian energy in Europe. Growth looks set to stabilise somewhat in 2023, though there is also a spread of opinion in the deep sea segment. Certain segments, such as tankers, shuttle tankers and ro-ro vessels, still expect an improvement in operating results, while bulk shipping companies are more cautious in their expectations and several of these companies expect a reduced operating result.

The short sea segment, like offshore service, is optimistic about 2023. In line with expectations of a significant increase in turnover, the majority of shipping companies also expect an improved operating result.

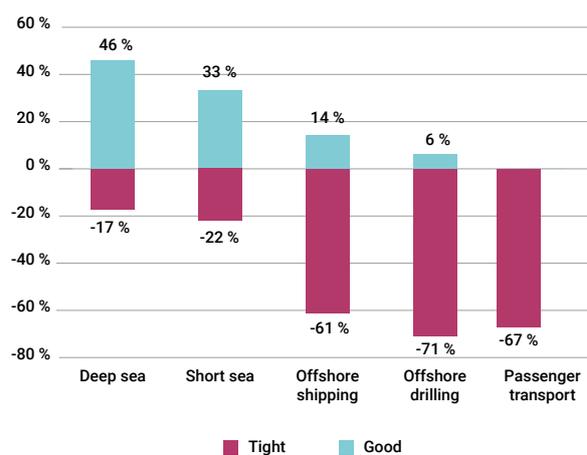
In the passenger shipping segment, most of the companies report that the operating result will remain unchanged, and one out of three cite expectations of improved operating results. It is natural to see expectations of an improved operating result in the context of 2023 being the first year after the pandemic where passenger ships can freely sail without restrictions on either the number of passengers or country entry.

Access to capital

It is particularly the offshore and passengership segments that report a demanding situation with regard to access to capital. Both offshore service and rig companies have struggled with persistently weak operating results since the oil crisis in 2014. The demands in relation to supply of capital may indicate that financial markets have not yet normalised in these segments, despite increased activity, especially

in offshore service. At the same time, it is reasonable to assume that some of the tight capital supply is also because financial institutions are increasingly reducing their climate risk and turning their investments towards the renewable sector.

Perceived access to capital January 2023

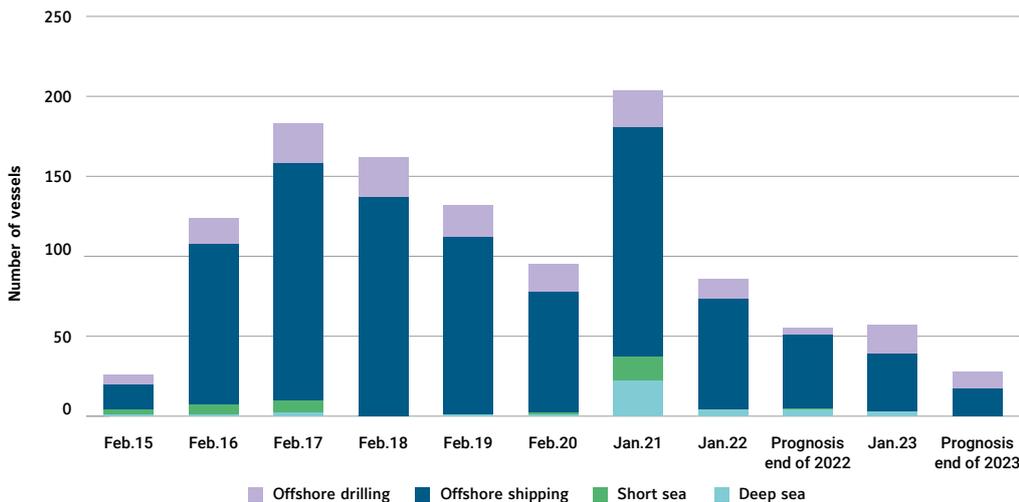


Source: BDO AS / Norwegian Shipowners' Association

For the deep sea and short sea transport segments, it appears capital availability has tightened somewhat compared with previous years. Our surveys show that there are high expectations of contracting new ships over the coming years and that by far the biggest barrier for investments in climate technology is investment costs. This shows that better access to capital for shipping companies will be crucial to ensure the transition to more climate-friendly solutions.

Access to capital remains very demanding for passengership companies. Despite the fact that activity has picked up in the wake of the pandemic,

Lay-up figures from 2015 to 2023



Source: BDO AS / Norwegian Shipowners' Association

none of the passenger shipping companies report that they have good access to capital. This is also reflected in expectations for contracting where only one company cites an expectation for one ship to be contracted over the next five years.

Lay-up figures

As of January 2023, there were a total of 57 ships and rigs in lay-up. Of these, it is mainly in the offshore segments there are still lay-ups, with 36 offshore service vessels and 18 rigs. The expectations in last year's survey of around 55 ships and rigs remaining in lay-up at the end of 2022 are therefore very accurate. However, we see that optimism among rig companies did not materialise, though in return activity within offshore service has exceeded expectations.

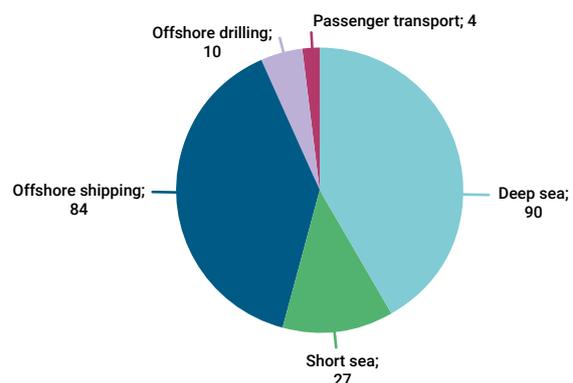
The forecast for the end of 2023 is a further reduction in the number of ships in lay-up. The shipping companies expect that 28 ships and rigs will remain in lay-up by year-end. All of these will be linked to the offshore segments, divided respectively into 17 offshore service vessels and 11 rigs. As our survey indicates there is little expectation of ship recycling in 2023, we associate the further reduction in lay-up figures mainly with increased activity.

Contracting and recycling

Emerging optimism associated with activity growth in most segments is also influencing the contracting ambitions of shipping companies. Ever since the

Norwegian Shipowners' Association started mapping shipowners' contracting ambitions back in 2018, no such high figures have been registered as this year. Shipping companies are now considering contracting a total of 215 ships, with a special emphasis on deep sea and offshore service. These plans will generate increased activity across the maritime cluster and increased shipbuilding in the offshore service segments could also mean a welcome growth in activity at Norwegian shipyards.

Number of new ships and rigs that shipowners anticipate building in the coming five years



Source: BDO AS / Norwegian Shipowners' Association

It is particularly in offshore service that the growth in contracting plans has been greatest. From having plans for 25 ships in 2020, the segment now has plans to build 84 ships over the next five years. A large

proportion will be vessels being built for the offshore wind industry. There has also been an ever-increasing tendency among deep sea shipowners. Shipping companies in this segment are now considering plans to build 90 ships. Nine out of ten shipping companies within offshore service and deep sea report that they will equip the ships with technology that is ready for climate-neutral solutions.

There is also a growing tendency in contracting plans within the short sea segment. Shipping companies in this segment are now reporting they intend to build 27 ships in the next five years. This is an increase of about 25 percent from last year. All shipping companies in this segment state that they will equip these ships with technology that is ready for climate-neutral solutions.

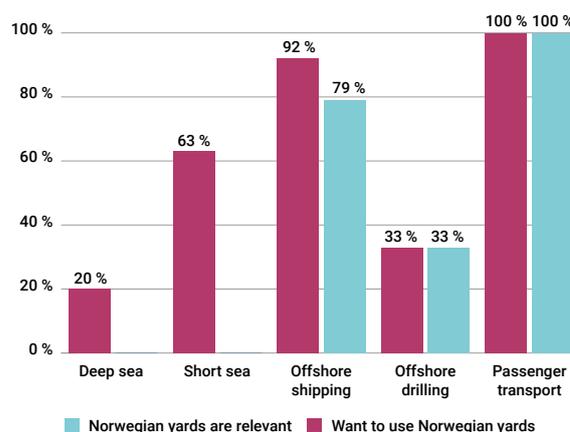
We also see that the rate of recycling will decrease significantly in 2023. Hardly any ships will be recycled and the total figure for all segments is five ships. This may indicate that shipping companies, and especially offshore service companies, have created a better market balance by withdrawing a lot of tonnage in recent years. In addition, the increased growth in activity and associated increased demand for tonnage make it more relevant to keep older tonnage in operation.

Use of Norwegian shipyards

Norwegian shipping companies largely want to make use of Norwegian shipyards. This is particularly evident in the passenger shipping segment, offshore service and short sea. At the same time, there is a gap between the desire to use Norwegian yards and

whether Norwegian yards can actually be considered relevant. This is especially applicable within the short sea segment.

Share of shipowners that want to use Norwegian yards, respectively, and consider Norwegian yards to be relevant when ordering new vessels



Source: BDO AS / Norwegian Shipowners' Association

Almost 9 out of 10 shipping companies state that costs are a barrier to using Norwegian shipyards. In many cases, Norwegian yards are considerably more expensive than comparable yards both in Europe and Asia. For deep sea shipping companies, capacity challenges are also emerging as one of the biggest barriers. As many as 7 out of 10 cite capacity challenges as a barrier. To a large extent, it is about the fact that yards are not building the type of ships that are in demand, or do not have a sufficiently large dry dock to handle the sizes of ship that sail in deep sea.



At work onboard the 'Island Clipper'. PHOTO: CAPTAIN STIG SILDEN/ISLAND OFFSHORE MANAGEMENT AS

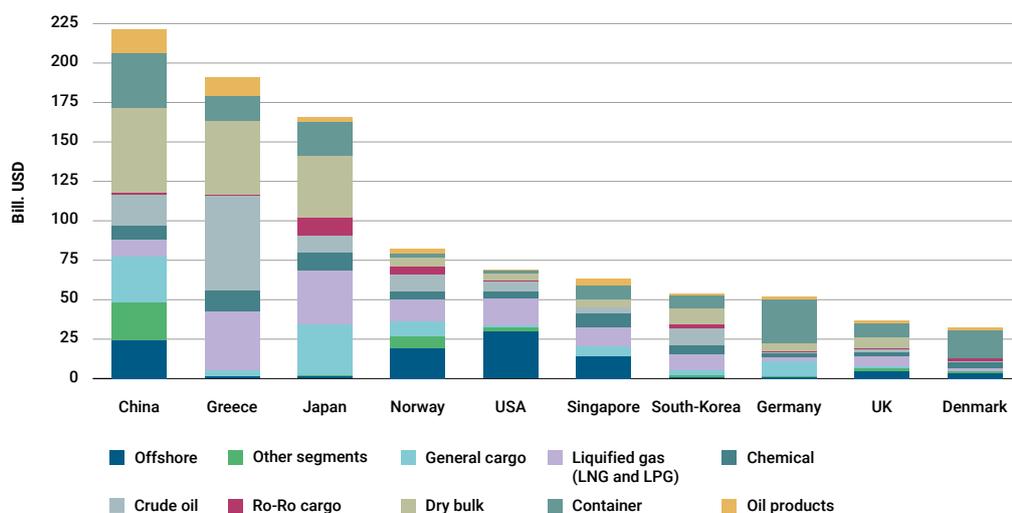


Norway the fourth largest among the world's shipping nations

The value of the total world fleet in 2023 is estimated at USD 1,400 billion, of which the ten largest shipping nations hold 70 percent. Norway occupies fourth place among these nations, which is one place up from the previous year.

China, Greece, and Japan are by far the three largest nations, followed by Norway, the USA and Singapore. In the Norwegian fleet, the offshore and gas carrier segments have the highest market value.

World's ten largest shipping nations ranked by fleet value 2023



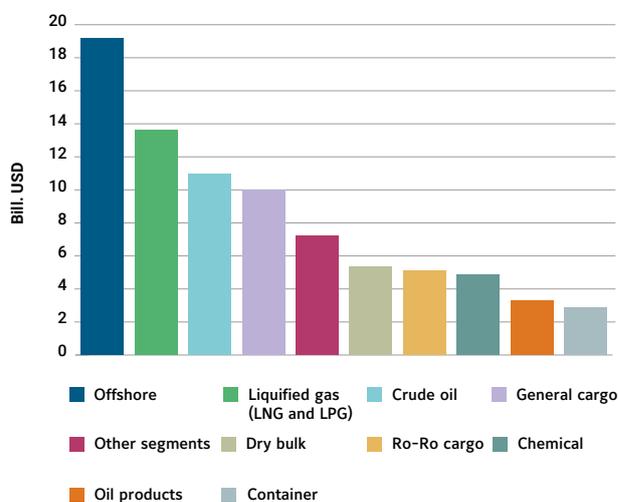
Source: Menon Economics

Over the past three years, the corona pandemic has caused major economic challenges for the international supply chain in freight transport. Changes in world trade have led to a significant increase in freight rates, especially for container and dry bulk carriers in 2021 and 2022. After two-and-a-half years of sky-high prices, we began to see a normalisation in these segments in the second half of 2022. At the same time, we see that LNG rates continued to increase in 2022, especially in the winter months as a result of higher demand for LNG. Like LNG, freight rates for crude oil transport have increased during 2022, starting 2023 at a high level. The war in Ukraine continues to contribute to higher prices in these markets.

Up until last year, data from IHS Markit has been used to calculate the size and composition of individual countries' fleets, while price data has mainly been taken from Clarksons Platou. From 2022, the data basis for calculating the composition and size of the fleets is

taken from Clarksons World Fleet Register. The biggest difference in the data basis is that Clarksons has broader coverage of vessels across nations.

The market value of the Norwegian shipping fleet by segment 2023



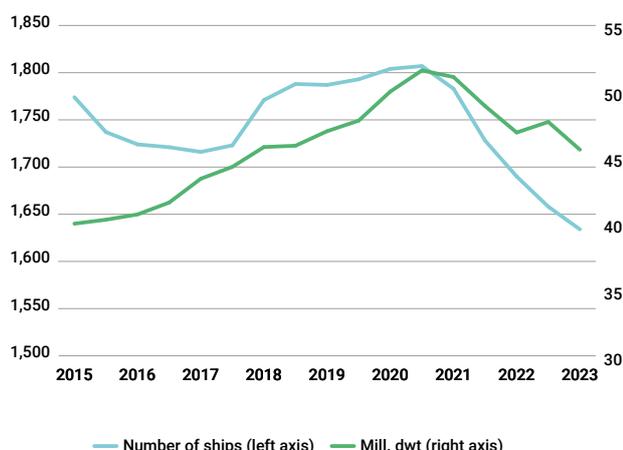
Source: Menon Economics

The Norwegian-controlled foreign-going fleet

The Norwegian-controlled foreign-going fleet has during 2022 been reduced both in tonnage and number of ships. Shipowners have sold 150 ships, while vessel availability shows that 90 ships have been purchased or delivered as newbuilds. As of January 2023, the fleet numbers a total of 1,634 ships with a

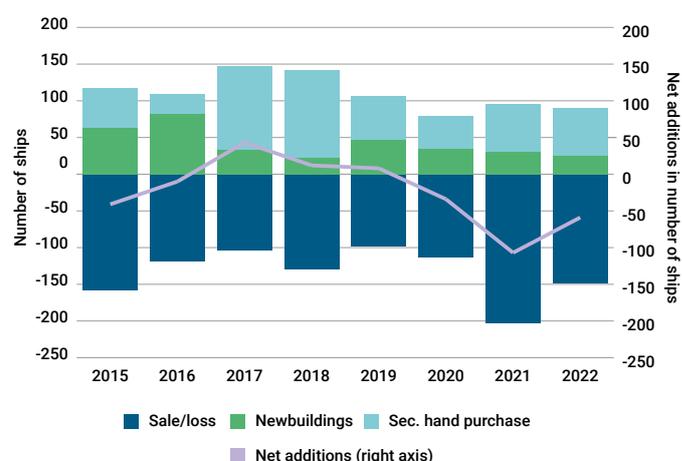
total tonnage of 45.6 million deadweight tonnes. At the same time last year, the fleet comprised 1,690 ships of a total 46.9 deadweight tonnes. The largest decline is to be found in the offshore service segment, with 40 fewer ships in 2023 than a year ago. In two years, there has been a reduction of over 100 ships in this segment.

Development in the Norwegian-controlled foreign-going fleet 2015-2023



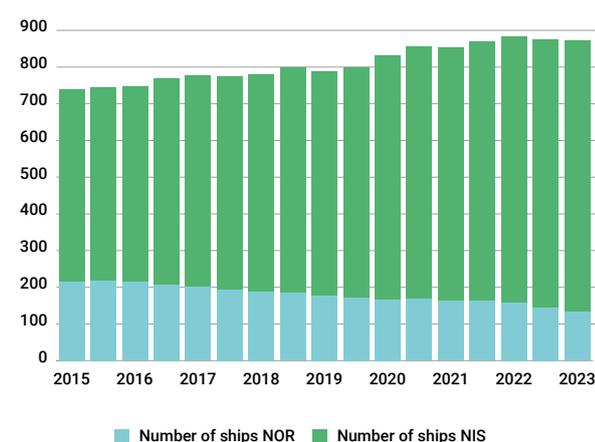
Source: Norwegian Shipowners' Association

Additions/removals by number of ships in the Norwegian-controlled foreign-going fleet - development 2015-2022



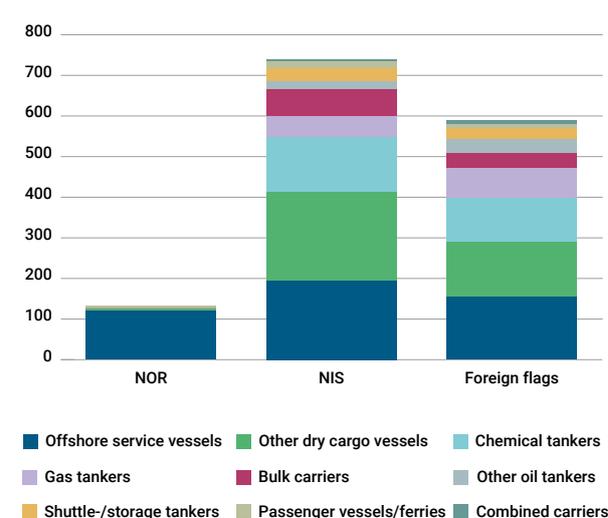
Source: Norwegian Shipowners' Association

Development in the Norwegian-controlled foreign-going fleet - NIS and NOR-registered vessels 2015-2023



Source: Norwegian Shipowners' Association

Number of ships in the Norwegian-controlled foreign-going fleet by flag and ship type as of 1 January 2023



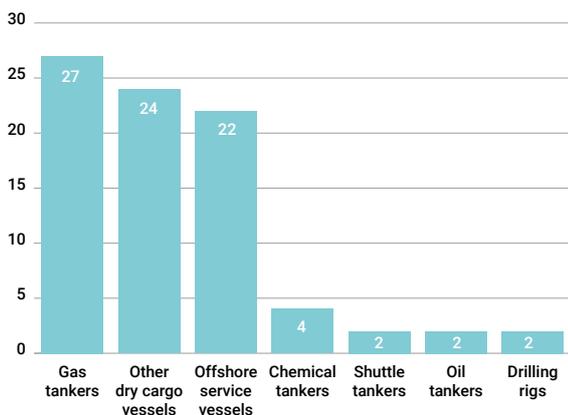
Source: Norwegian Shipowners' Association

The Norwegian flag is attractive, and ships are flagged home

The Norwegian International Ship Register (NIS) has, in isolation, experienced growth over the past year with an increase of 15 ships and counts 739 ships as of 1 January 2023. The Norwegian Ordinary Register (NOR) has weakened among foreign shipping companies in the same period, but overall, the Norwegian flag has been strengthened, with steady growth over the past year. More shipowners choose the Norwegian flag for their vessels and flag home, while more newbuilds are being delivered to the Norwegian ship register. When asked in this year's member survey whether it is applicable flagging ships home this year, members of the Norwegian Shipowners' Association answer that the potential is around 35 ships. To the same question last year, members replied that the potential was 50 ships.

The composition of the Norwegian-controlled foreign-going fleet shows that the dry cargo segment is the largest segment of the fleet measured in number of ships. Ro-ro car carriers make up a large proportion of this segment. The offshore service segment is the second largest, followed by the chemical segment.

Ships on order for the Norwegian controlled foreign-going fleet by ship type as of 1 January 2023



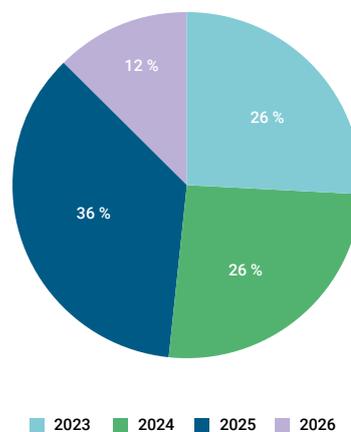
Source: BDO AS / Norwegian Shipowners' Association

The Norwegian-controlled order book

The foreign-going shipowners' order book now consists of 81 ships and two drilling rigs, almost twice that of a year ago. The value of the order book is more than NOK 93 billion, or USD 9.5 billion, which is also nearly double compared with the same time last year. The countries where most newbuilding work is carried out are China and South Korea, and they are also where the largest investments lie. Only five ships are being built in Norway. Over 30 percent of vessels in the order book are gas carriers, mainly LNG. Around 25 percent of the order book consists of ships to be deployed in the offshore wind market. In the dry cargo segment, it is mostly ro-ro car carriers that are on order.

Estimated delivery for ships in the order book is distributed across the timeframe from 2023 to 2026.

Ships on order for the Norwegian controlled foreign-going fleet by delivery year as of 1 January 2023



Source: BDO AS / Norwegian Shipowners' Association



Photo: Misje Rederi AS

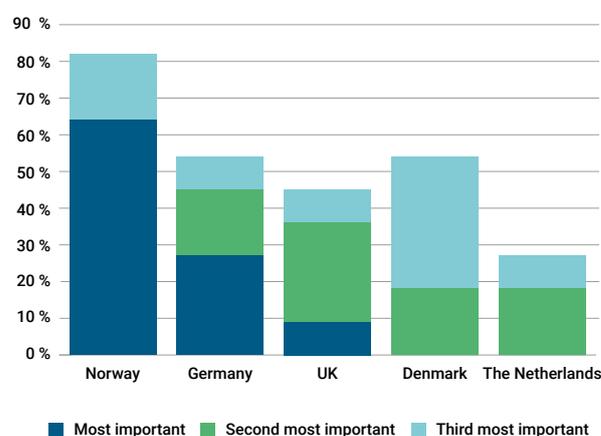
Short sea

Shipowners in the short sea segment, also called coastal shipping, transport all types of goods and passengers. These operate between Norwegian and European ports, and between ports in Europe. A large part of internal transport in Europe is carried by ship, and this means that short sea shipping plays a crucial role for the transport needs of business and the competitiveness of Norwegian industry. The Norwegian Shipowners' Association's members in short sea shipping control around 120 ships. The industry contributes to efficient logistic and transport solutions. Several shipowners in this segment are positioning themselves for the green transition, with ships on order. Common to them all is that these new vessels will be delivered with environmentally friendly solutions that will reduce greenhouse gas emissions.

For shipowners operating in short sea shipping, Norway, Germany and the UK are highlighted as countries of particular interest. More than 60 percent of shipowners rank Norway as by far the most

important country, which is the same position as last year. Almost 30 percent answered that Germany is most important and 10 percent answered the UK. These countries have remained stable as the most important nations for short sea shipping, in addition to Norway, over several years.

Countries of particular interest for short sea shipowners



Source: BDO AS / Norwegian Shipowners' Association



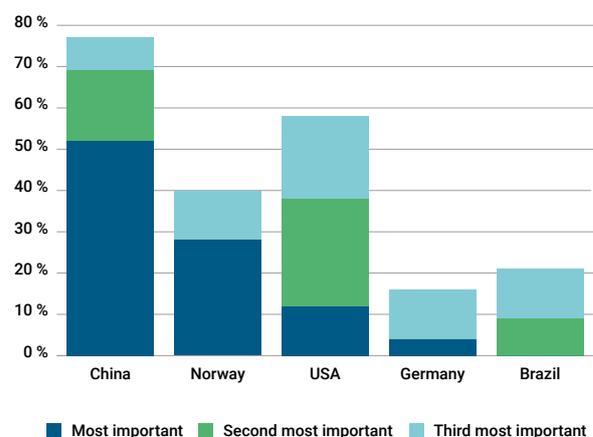
Photo: Odfjell SE

Deep sea

The deep sea fleet consists of several segments where Norwegian shipowners are world leaders and hold solid market shares. Among these are segments such as LNG, auto freight, shuttle tankers and chemical carriers. These ships sail over large distances and between continents. The Norwegian Shipowners' Association's members in the deep sea segment control more than 600 ships calling at ports around the world on a daily basis. The companies have a number of offices abroad, giving Norwegian shipowners a strong presence on all continents.

Deep sea shipping companies highlight China as the largest country of particular interest. More than 50 percent of shipowners in this segment rank China as most important. This is a slight increase from last year. Following this are Norway and the USA. Nearly 60 percent cite the USA as one of the three most important countries.

Countries of particular interest for deep sea shipowners



Source: BDO AS / Norwegian Shipowners' Association

Offshore service and rig companies

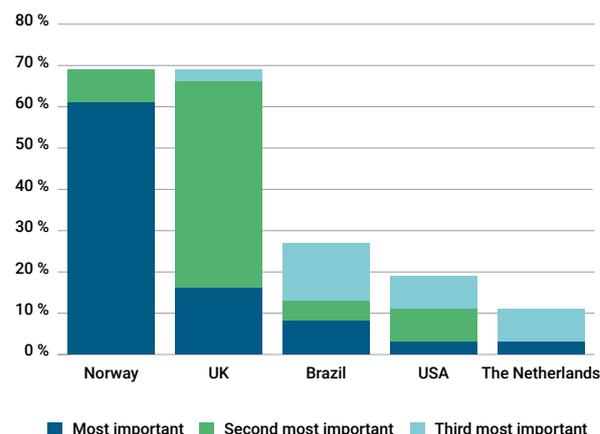
The Norwegian offshore fleet has a high proportion of vessels for transporting supplies and equipment to and from offshore installations. Offshore shipping companies are also well represented in the offshore wind market, where Norwegian shipowners have a clear advantage with their existing expertise. Several shipping companies are already providing services for offshore wind, and investments in tonnage for this market are constantly increasing. The North Sea, and especially the Norwegian continental shelf, is the most important market for the Norwegian offshore industry, and is a very important arena for securing the basis for international competitiveness for offshore companies. In addition, there is a high presence on the continental shelves of other countries. The Norwegian Shipowners' Association's members control around 50 mobile offshore units and a large offshore fleet consisting of more than 400 vessels.

Countries of particular interest for offshore service and offshore drilling companies

For offshore service and offshore drilling companies, Norway, the UK and Brazil maintain their positions as countries of particular interest. More than 60 percent of shipowners in offshore service cite Norway as the most important country. The same is stated by

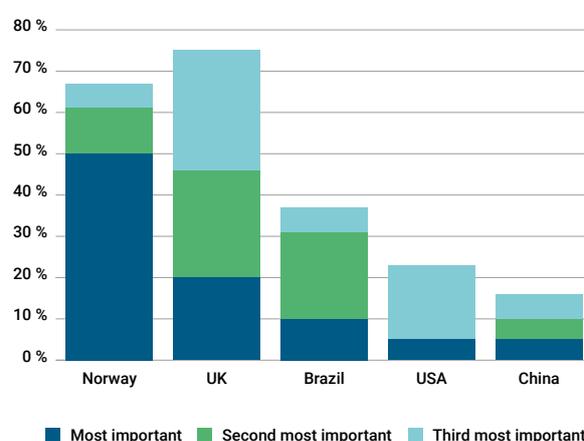
50 percent of offshore drilling companies. This clearly shows the importance of the North Sea for these companies. The UK and Brazil rank next, in that order, for both offshore service and rig companies.

Countries of particular interest for offshore shipping companies



Source: BDO AS / Norwegian Shipowners' Association

Countries of particular interest for offshore drilling companies



Source: BDO AS / Norwegian Shipowners' Association

Countries of particular interest for all shipowners together

If we look at all shipowner segments as one and isolate all 'the most important countries of particular interest', 50 percent answer that Norway is most important. This is followed by China and the UK with 15 and 12 percent respectively. Five percent answer that, respectively, the USA and Brazil are the most important countries.



Photo: Trym Vik/Simon Møkster Shipping AS

DATA BASIS AND METHODOLOGY

Data sources used in this report are specified in the text, tables and figures. Sources and methodology are described below. The Norwegian Shipowners' Association has worked in collaboration with BDO AS on the analysis. Shipbroking and consulting firm Lorentzen & Co AS has contributed an external market analysis to this year's report. It is indicated in the text where this material is used.

Member survey on the shipping companies' future outlook and framework conditions

The Norwegian Shipowners' Association conducted a survey of its members in the period from 3 January to 20 January 2023. Members were sent an electronic questionnaire in which their expectations concerning developments in key economic figures, emerging markets, access to capital and expertise, and political framework conditions were surveyed. 95 out of 128 relevant member companies responded to the survey, giving a response rate of 74 percent. The participants in the survey are representative of the membership of the Norwegian Shipowners' Association, both in terms of fleet size and ship segment. The material therefore provides a sound basis to be able to generalise from sample to population. Almost without exception, responses were provided by owners and business leaders.

Calculation of shipping companies' turnover growth in 2022 and 2023

BDO AS has access to accounting data for Norwegian shipping companies' turnover in 2021. In the survey, shipping companies were asked to report turnover in 2021, an estimate for turnover in 2022 and expected percentage growth in turnover for 2023. Since BDO AS does not have complete turnover figures for all shipping companies in 2022, these are calculated as follows:

- a) The companies' self-reported turnover in 2021 is compared with information from official sources (including, inter alia, audited turnover and the companies' own annual reports, including consolidated accounts) for the same year. This is to assess whether the self-reported turnover in the survey can be used as a basis for calculating the turnover of the total population of shipping companies in Norway.
- b) Self-reported turnover in 2022 is adjusted for the share of total turnover in each of the four shipping groups included in the data basis.
- c) The forecasts for 2023 are calculated by multiplying the 2022 turnover of each member company by their self-reported growth in 2023. The estimated turnover is then summed up for the four shipping groups. Furthermore, estimated turnover is adjusted for the share of total turnover in each of the four shipping groups included in the data basis.

Valuation of the global shipping fleet

Menon Economics has estimated the value of the world's merchant fleet from 2001 to the present, divided into 14 ship segments and all the world's countries. The results are presented at an aggregated level, where the segments are merged into 10 segments. The calculations within each segment are based on newbuilding prices, freight rates, age, number of ships, estimated lifetime, gross tonnage and deadweight tonnage.

Until 2022, data from IHS Markit has been used to calculate the size and composition of individual countries' shipping fleets, while price data has mainly been taken from Clarksons Platou. As of 2022, data for calculating the composition and size of the fleets has been derived from Clarksons World Fleet Register. These two data sources are not exactly alike, which means that the results in last year's valuation deviated somewhat from previous years. The biggest difference in the data basis is that Clarksons has a broader coverage of vessels across nations. IHS Markit had around 11,000 vessels with unknown ownership nationality, while Clarksons has just over 1,000 vessels with unknown nationality. This means that tonnage data at the ship level varies across the data sources, but at the same time the valuation for 2022 and 2023 provides a more complete picture. To ensure continuity in our calculations with a new data source, we have reorganised Clarksons' segments to match IHS Markit's division. As in previous analyses, cruise ships have been removed from the fleet figures. In addition, we have updated the data for the fishing fleet as Menon has gained access to this in 2022.

Changes in the data source, and therefore coverage, in combination with more precise ownership information and updating of the basis for valuation

leads to strong increases in fleet value for some nations in some segments. The sharp increase in value, in particular, in the gas and dry bulk segment in the Norwegian fleet are examples of this. Nevertheless, the analyses are based on stronger data than previously with fewer uncertainties.

Over the past three years, the corona pandemic has caused major economic challenges for the international supply chain in freight transport. Changes in world trade have led to a significant increase in freight rates, especially for containerships and dry bulk carriers in 2021 and 2022. After two-and-a-half years of sky-high prices, we began to see a normalisation in these segments in the second half of 2022. At the same time, we see that LNG rates continued to increase in 2022, especially in the winter months as a result of higher demand for LNG. Like LNG, freight rates for crude oil transport have increased during 2022, starting 2023 at a high level. The war in Ukraine continues to contribute to higher prices in these markets.

Norwegian-controlled foreign-going fleet – definitions and delimitations

The Norwegian Shipowners' Association maintains its own statistics on the Norwegian-controlled foreign-going fleet. The delimitations for inclusion of ships in the Norwegian-controlled foreign-going fleet are based on the following principles:

- All ships registered in the Norwegian International Ship Register (NIS).
- Ships registered in the Norwegian Ordinary Ship Register (NOR), sailing in foreign trade.
- Ships under foreign flags, owned by Norwegian-controlled shipping companies (based on the premise of minimum Norwegian ownership of 50 percent) and sailing in foreign trade.



Norwegian Shipowners' Association

P.O. Box 1452 Vika, NO-0116 Oslo

Phone: +47 22 40 15 00

 post@rederi.no

 [@Rederiforbundet](https://twitter.com/Rederiforbundet)

 facebook.com/NorgesRederiforbund

www.rederi.no/en