



Norges
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Norwegian
Shipowners'
Association

Ocean
Pioneers

Maritime Outlook Report 2019



Maritime Outlook Report 2019

Ocean Pioneers





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Foreword

If we were to open this year's Maritime Outlook Report with a word cloud, the words would represent conflicting developments. On the one hand, the world around us is characterised by uncertainty, turmoil, conflicts, and challenging times in most commercial markets. On the other hand, we see the arrows pointing in the right direction in the most fundamental areas of society. Projected life expectancy in the world is increasing, fewer people live in extreme poverty, more are receiving education, child mortality is declining – and the list goes on.

The Norwegian foreign-going fleet makes about 80,000 port calls around the world every year. This gives us a presence all over the world, around the clock. Shipping is therefore confronted with all the challenges that the world has to offer, earlier and with more force than most other industries. We are now witnessing:

- A challenging and fragmented security policy picture in which decades of disarmament seem in danger of being displaced by a renewed weapons buildup. This development is exaggerated by the emergence of new arenas for conflict, characterised in particular by the struggle for control of digital domains. In addition to security challenges, there are a number of ongoing armed regional conflicts.
- An unresolved trade conflict between the US and China, which in itself creates uncertainty and hinders growth in the world economy. Effects of the trade conflict are magnified by protectionist trends and an escalating technology conflict, particularly between the West and China.
- Uncertainty related to the UK's withdrawal from the EU. Both the EU countries and the UK

constitute vital markets for Norwegian shipping. Unrest threatening the basic pillars of commerce in Europe is of major concern, and Brexit can potentially have significant negative consequences in both the short and the long term.

We live in a world in great need of more cooperation, more trust and more optimism, in order to overcome the challenges we face as a global community. In reality, we are experiencing movement in the opposite direction, and the overall picture is one of a world heading for de-globalisation.

Trade

Shipping has been crucial to establishing global value chains for retail trade. This trade has provided opportunities for countries around the world to produce goods that they have been able to exchange on the world market, lifting millions of people out of poverty.

Political awareness surrounding the opportunities found in the ocean is on the rise. The oceans are important for the Norwegian economy, and will be a central source of value creation and jobs for Norway well into the future. A rapidly growing world population needs new jobs, sufficient and proper food, medicines, and a clean environment. The precondition for meeting these needs is the continuation of robust and orderly conditions for world trade. If the basic framework conditions for trade are weakened, opportunities to sustain the growth and development of the last decades will also be greatly reduced.

We will continue our efforts to generate development and opportunities despite the demanding landscape in which we operate.



Climate

Shipping is the most energy efficient means of transporting goods, but it nevertheless constitutes a major source of greenhouse gas emissions. We believe those who are best and fastest at finding solutions for low and zero emission transport will be the winners of the future. The Norwegian maritime industry is uniquely positioned to meet this challenge.

We need ambitious global regulations. A look back at major milestones shows that once the IMO and the world community have made up their minds, the industry has mobilised to get on board with common regulations. New regulations also represent new opportunities for the maritime industry to develop innovative low-emission technology. The IMO's ambitions send a clear and emphatic signal to the market: investments in low-emission technology will pay off. A broad approach is needed, based on technological innovation, new and more energy-efficient designs, operational improvements, alternative fuels, and hybrid solutions. Norway is leading the way in this work:

- In the offshore industry, we already have extensive experience with diesel-electric power and LNG as fuel for ships.
- The first fully electric ferry, the Ampere, was developed by the Norwegian maritime cluster and put into operation in 2015. By 2022 we will have 60 battery-powered ferries along the Norwegian coast.
- Yara and Kongsberg are building the world's first emission-free autonomous ship.
- The first hydrogen-powered ferry is under construction.

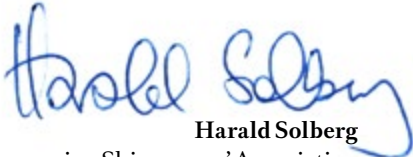
The short sea fleet is in serious need of renewal due to the relatively high average age of the fleet. This window can and should be exploited to test zero and low emission technologies that can be scaled to larger ships where climate solutions are lacking today.

By using the Norwegian coast and the short sea fleet to test and develop new and scalable technology, the Norwegian cluster can make important contributions to reducing global greenhouse gas emissions, in and outside Norway. The technology is in the process of being passed on from ferries in coastal traffic and offshore vessels, to ships in regional short sea trade, and further on to transcontinental shipping across the major oceans.

This year's report

In this edition of the Maritime Outlook Report, we have described developments that characterise our industry today, and related our members' expectations for the coming year. We have also examined closely which political measures should be taken to ensure that the Norwegian maritime industry remains competitive in the years to come. We hope the report will be useful for those seeking an updated picture of the market situation in an industry that we believe to be Norway's most exposed to international competition.

Wishing you enlightening reading,


Harald Solberg
CEO, Norwegian Shipowners' Association

Summary

In our 2019 member survey, we see the change in outlook identified last year being followed up by cautious optimism. Since the financial crisis hit the industry in 2008, the transport segments have gradually increased their turnover, which is now substantially higher than before the financial crisis. The offshore segments, facing very demanding times since the price of oil fell in 2014, and seeing their turnover halved from 2014 to 2017, have experienced a slight increase in turnover over the past two years. Turnover in these segments has now stabilised at a low and unsustainable level.

Shipowners' total turnover increased by 11 per cent, from NOK 206 billion in 2017 to NOK 229 billion in 2018. It appears that 2019 will be a year with continued marginal growth. All segments expect increased revenue in 2019. If this prediction proves accurate, shipowners' total revenues will end at about NOK 240 billion in 2019, up almost five per cent from last year.

Norwegian shipping companies' revenues from markets outside Norway accounted for about 61 per cent of total turnover, or NOK 139 billion in 2018. Deep sea shipping companies in particular have the largest share of their revenue from foreign markets, 90 per cent in 2018, corresponding to NOK 102 billion. By comparison, Norwegian shipping companies had NOK 117 billion in operating revenues from petroleum-related activities, representing 51 per cent of total turnover.

Over the past two years, shipowners have adopted a more positive outlook regarding profitability. More than half now expect operating profits to improve in

2019 compared to 2018. By comparison, half of the shipowners expected weaker profitability in 2017. One in five shipowners expect weaker profitability in 2019 compared with 2018. One year ago, one out of four shipowners had the same outlook.

The biggest change in anticipated results is found among offshore shipping companies. For these companies, the proportion anticipating increased profitability has risen from 35 per cent in 2018 to 47 per cent in 2019. The proportion expecting weaker profitability has decreased from 32 per cent to 25 per cent. However, an improvement in operating profit does not imply that these shipowners have achieved sustainable profitability. Low rates and limited activity mean that offshore shipping companies are still facing demanding times.

Last year's Maritime Outlook Report brought the news that peak layup had been reached. In February 2017, 183 vessels and rigs were in layup. The corresponding figure for February 2018 was 162. As of February 2019, there are 112 vessels and 20 rigs in layup. This is a reduction of 25 ships and five rigs.

Layup forecasts for 2019 indicate that the number of ships and rigs in layup is expected to fall to 93, a reduction of 34 ships and five rigs. Of these, offshore shipping companies control 33 vessels and deep sea shipowners one ship. This reduction in the number of ships and rigs in layup is due to a combination of increased activity, ship recycling, and sale of vessels.



2018 was the first year since the oil price collapse of 2014 where shipowners as a whole increased their employment. Shipowners added a total of 1,550 employees in 2018. 1,369 employees were placed on leave or terminated, while 2,919 were hired in the same period. 40 per cent of these new hires were with offshore drilling companies. The proportion of employees placed on leave in shipping companies increased from 22 per cent in 2017 to 34 per cent in 2018, which may indicate that the companies to a greater extent believe there will be a need to reactivate these employees.

All segments expect an increase in employment in 2019. Overall, companies anticipate hiring almost 2,500 new employees, with around 300 being terminated or placed on leave. Deep sea shipowners and offshore drilling companies have the highest

expectations for employment growth. The offshore shipping companies follow, with short sea shipping companies expecting a slight increase in the number of new employees.

As a result of proactive maritime policies in recent years, such as the relaxing of trade area limitations and expansion of the tax refund scheme for seafarers, 96 vessels have flagged in to the Norwegian register over the past three years. In our member survey, 24 shipowners state that they are considering flagging ships in to NOR or NIS. The total potential is 78 vessels, divided among 44 deep sea vessels, 22 offshore vessels and twelve short sea vessels. This is significant, as having a large number of vessels under the Norwegian flag is important for Norway's impact in international forums.



An ocean of opportunities

Our current prosperity and our modern society are built around the opportunities that the oceans have provided. For millennia, the sea - the main artery of globalization - has linked people together across continents. The ocean has yielded food and energy for an ever-growing population, and trade between countries and continents has laid the foundation for social development, economic growth and reduced poverty.

From all walks of life and on all continents, the focus is now on the sea. From politicians, environmentalists and citizens. From researchers and engineers, entrepreneurs and business leaders. The oceans are sending a warning of a world in imbalance. Ice is melting and the sea level is rising. Fish are full of plastic and coral reefs are dying. Tsunamis, storm winds and floods are battering some of the world's most populous coastal regions. These are no longer discrete indicators, but shrill warnings that life on earth is vulnerable and perishable.

But the oceans do more than warn of danger. The sea also offers new opportunities. We live in a world where more and more people need shelter, food on the table, a good education, and a livelihood that can provide stability and security. This requires more

energy and better access to nutritious food. The demand for natural resources will increase, as will trade across borders and between continents. We must use the oceans to address these challenges in a sustainable manner. We are dependent on maritime transport routes to efficiently shift the transport of people and goods from the road to the sea. We need the power from wind, water and waves to produce renewable energy. We must responsibly harvest the bounty and the boundless resources of the sea.

Business is at its best when competitive advantages and commercial ambitions are used to develop profitable and effective responses to society's needs and challenges. The global community is on the threshold of a period with the potential for significant and necessary maritime growth. When a new chapter in our maritime history is written, it will be about renewal, innovation and progressive solutions for global growth and value creation.

The Norwegian maritime industry must lead the way, raise the standard and move the boundaries. We must seek beyond the horizon and below the surface of the sea to help solve the greatest global challenges of our time. Working together, we can lay the foundation of a new era for Norway as a maritime nation.

Norwegian shipping companies have assumed global leadership in the development of green technology for a future-oriented and sustainable maritime industry. The movement was launched when the industry gathered in 2008 to forge an ambitious and binding commitment to removing harmful emissions from Norwegian shipping. Ideas, project sketches, technology and prototypes are flourishing all along the coast. Norway already has one of the world's largest LNG-powered fleets, and we are leading the charge to battery ferries and hybrid ships. Hydrogen is now being introduced as a fuel, and innovations and improvements are being continuously introduced to reduce the industry's climate emissions. The vision was never expressed with lofty words in advertising campaigns. Rather it triggered the desire to realize important achievements. This has resulted in a significant commitment to knowledge development and innovation across the value chain - new technology and new energy sources, better choice of materials, and new solutions for logistics and design.

The maritime industry is now ready to take the next steps towards a high-tech, emission-free future. Norway has world-leading research institutions dedicated to the development of maritime technology. We have industrial technology companies that develop and commercialize products the world has never seen. And we have the world's most complete and advanced commercial maritime environment. The future of shipping will be defined in the interplay between these environments.

Over the next few years, we will see autonomous solutions progress from pilot projects to commercial, scheduled operations along the coast. Digital control systems will help ships manoeuvre with increased safety, efficiency and flexibility. We will see internet-based logistics systems revolutionize international trade and freight transport in the same way as similar solutions have modernized leisure travel. Not least, we will witness developments that none of us can foresee today.

We are in the first stages of a formidable technological shift. Scientific breakthroughs in big data, autonomy and artificial intelligence have broken ground for the evolution of new business models. In many areas, technology will provide improved precision and broader scope, higher efficiency, lower costs, and better quality in business models and commercial products. It will also provide the power to bring about more fundamental changes, and open doors to new opportunities that were previously out of reach. The Norwegian maritime industry must seize this opportunity. We need shipping companies with the highest technological expertise to achieve our maritime goals. Seafarers should not only command the highest level of maritime expertise in the world, but also be equipped with the digital expertise needed to solve future tasks and take advantage of future opportunities.

We have already built a solid foundation. Norway has the world's most complete maritime cluster. We have the world's strongest knowledge, experience, technology and capital base. We have a community where



companies and institutions convene, where operators and innovators meet to solve problems together. Ideas meet investors, practical experience meets academic insight, suppliers meet customers and decision makers meet doers. We challenge each other, we compete, and we cooperate. This is an absolute prerequisite for the renewal and the transformation of Norwegian business.

Not least, we have high expectations for ourselves. The Norwegian maritime industry is robust and competitive. Turbulent markets, unpredictable conditions and demanding restructuring are part of our daily lives, but we greet the future with high and optimistic ambitions:

To deliver profitability for our owners, attractive workplaces for our employees, and the quality services demanded by our customers.

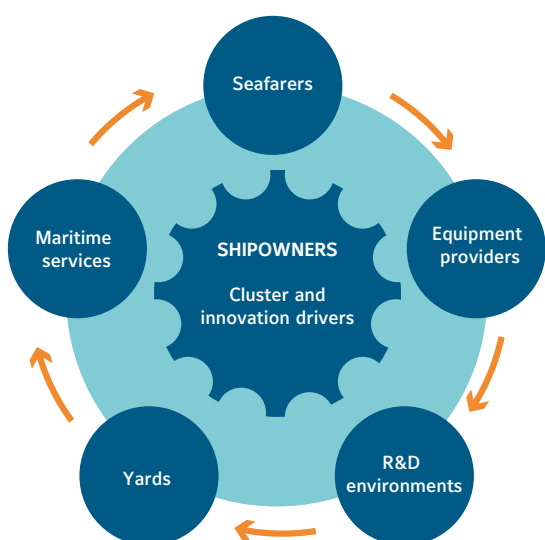
To deliver value creation and added value to the global community.

To be a leading, driving force in the international maritime industry. Let there be no doubt - we are committed to shaping a sustainable maritime future.

The maritime industry – one of Norway's most important industries

Norway is one of only a few countries with a complete maritime cluster, consisting of leading international shipping companies, seafarers, shipyards, equipment manufacturers, classification societies, ship designers, brokers, providers of insurance and financial services, and strong environments for research and development.

The total maritime industry employed around 85,000 people in 2018 and contributed a value creation of NOK 142 billion. From the peak year 2014 to 2017, value creation was reduced by almost 30 per cent. In 2018, there has again been a growth in the industry, and further growth is estimated at around six per cent in 2019.



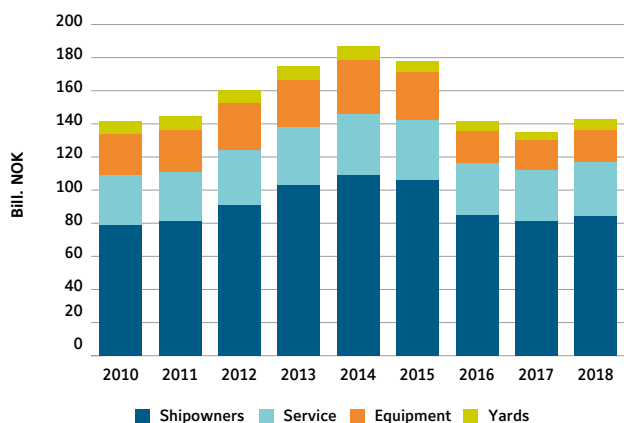
Employment in the maritime industry has had virtually zero growth in 2018. A slight increase is expected here in 2019. Around 40 per cent of the employees in the industry work within the shipping segment. 30 per cent work in the service industry, and 20 per cent work in the equipment industry.

Maritime opportunities

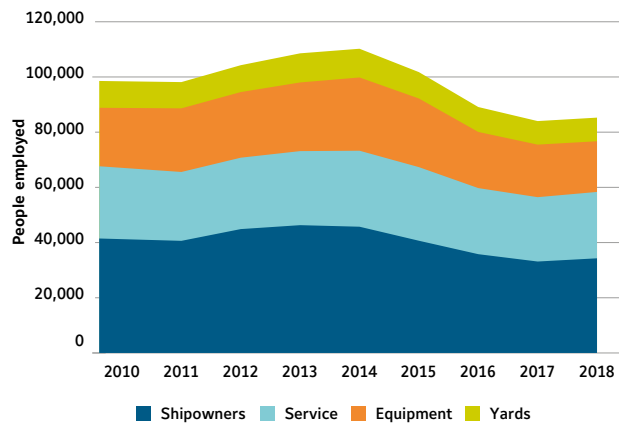
Norwegian maritime businesses have been technologically leading for many years. Among other things, they are central to the highly advanced technology development that takes place in the oil and gas industry. Specialised vessels, positioning systems and control systems are just some examples of knowledge areas where Norwegian companies command a leading position. Norwegian shipping companies use technology and expertise from the offshore industry to establish themselves in new markets, especially in offshore wind. This shows that there is a potential for a large degree of technology transfer between the segments.

Shipping is increasingly integrated into a complex international network of logistics, requiring sophisticated databases, surveillance systems and means of communication. Increasingly stringent requirements on safety and the environment are also stimulating continuous innovation and technological development in ship design, propulsion systems and ballast water treatment technologies, among other areas.

Value creation in the maritime industry 2010-2018 - by main groups



Employment in the maritime industry in Norway 2010-2018 - by main groups

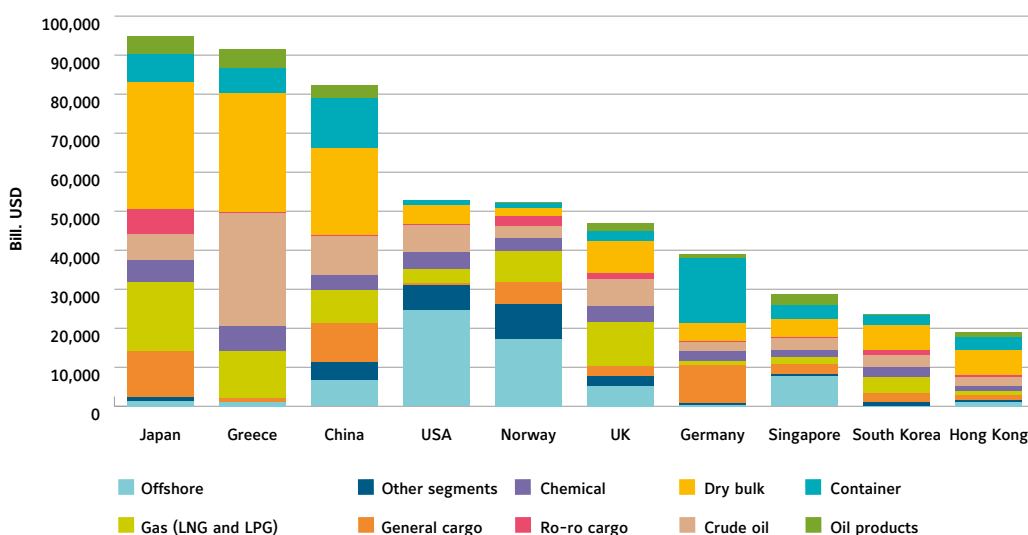


The Norwegian fleet still ranks as number five in the world of shipowning nations

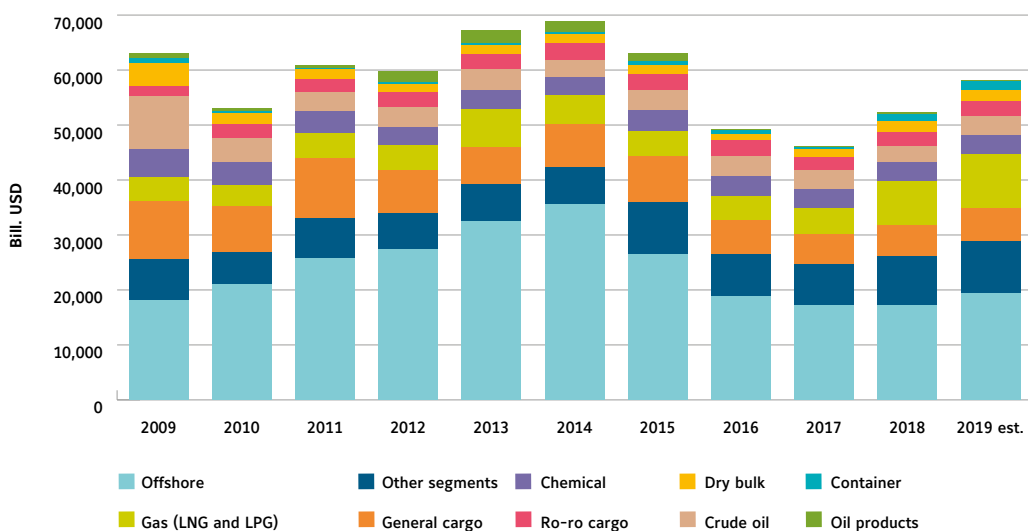
The value of the world fleet is for 2018 calculated to USD 851 billion. This is an increase of about eleven per cent from the year before. Norway ranks as number five. Japan, Greece and China are the three largest nations by far and the USA is in fourth place, just a margin ahead of Norway in the list. Estimates for 2019 show an increase in the value of the world fleet in total by ten per cent, this also applies to the Norwegian fleet. The offshore segment has the highest value in the Norwegian fleet. Only the USA has an offshore fleet with a higher value than Norway. If we isolate the Norwegian cargo carrying segments, the fleet value has increased with 21 per cent from 2017 to 2018. The estimates for 2019 show a further growth of 13 per cent. This indicates that the position of cargo carrying segments is strengthened.

When assessing the international standing of a shipping nation, carrying capacity is the most common standard of measure. But carrying capacity alone cannot provide a representative picture of the shipping industry's international position and value creation. There are several reasons for this, the most significant being that the size of a ship's cargo conveys only limited information on its makeup and value. The Norwegian fleet counts a large number of advanced and high-value vessels not necessarily designed to maximise carrying capacity, but rather to perform complex operations.

Top ten merchant fleets of the world by market value as of 2018



Development in the Norwegian fleet market value by segment

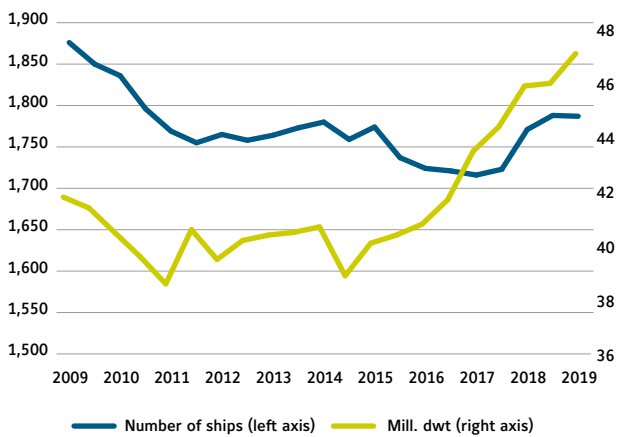


The Norwegian-controlled foreign-going fleet

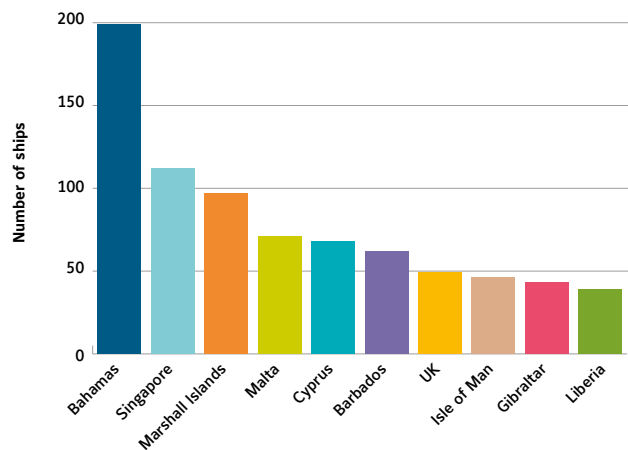
The Norwegian-controlled foreign-going fleet has seen a steady growth both in number of ships and by tonnage for the last couple of years and stands at 1,787 ships per 1 January 2019. Through 2017 and 2018, the fleet has grown by 71 vessels, and over eight per cent measured in deadweight tonnage.

The Norwegian International Ship Register (NIS) alone has seen a good growth in recent years, and stands at 614 ships per 15 March 2019. The Norwegian Ordinary Ship Register (NOR) has weakened somewhat in the foreign-going fleet during the same period. The composition of the fleet shows that offshore service ships make up the largest segment, measured in number of ships.

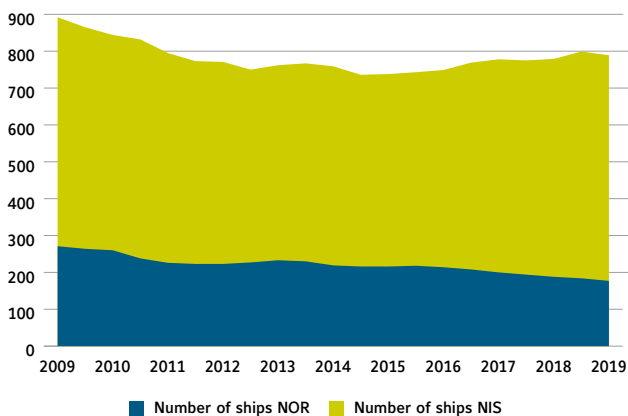
Development in the Norwegian-controlled foreign-going fleet 2009-2019



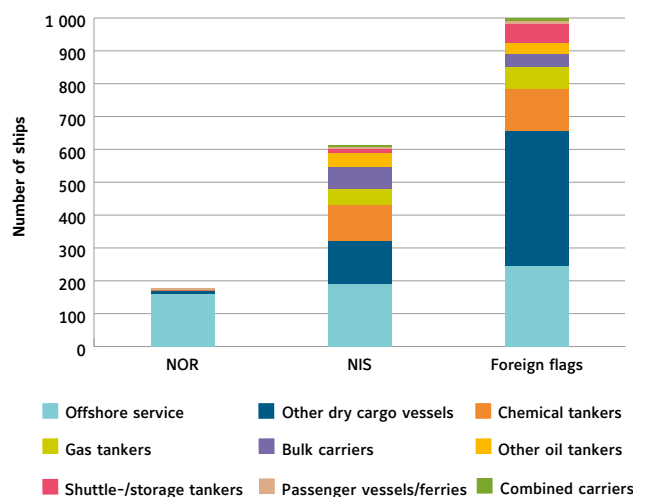
The Norwegian-controlled foreign-going fleet - largest foreign flags as of 1 January 2019



The Norwegian controlled foreign-going fleet - NIS and NOR registered vessels 2014-2019



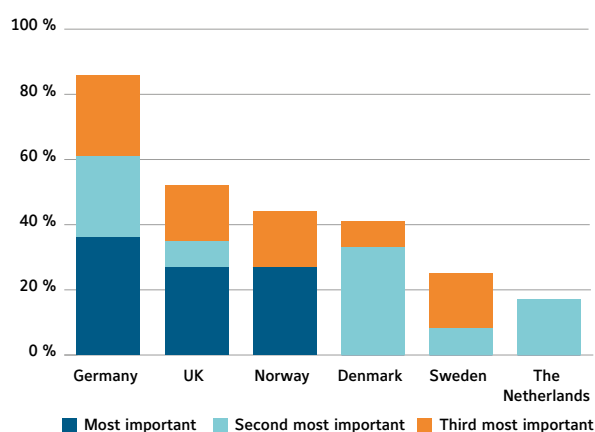
The Norwegian-controlled foreign-going fleet by flag and ship type as of 1 January 2019



Short sea

Shipowners in the short sea segment, also called short sea shipping, transport passengers and all types of goods. They operate in Norway, between Norwegian and European ports, and between ports in Europe. A total of 40 per cent of European domestic transport is by ship. This illustrates the importance of short sea shipping in meeting commercial transport needs, and for the competitiveness of Norwegian industry.

Significant markets for short sea shipowners



The Norwegian Shipowners' Association's members in short sea shipping control about 130 vessels. The industry contributes to efficient logistics and transport solutions, and with a single cargo, one short sea vessel can take volume corresponding to 200-400 trucks off the road.

Most important markets

For almost 90 per cent of the short sea shipping companies, Germany is the most important market. Germany has strengthened its position as the most important market in this segment compared to 2018. The United Kingdom has passed Norway as the second most important market for short sea shipping. More than half of the shipping companies in this segment cite the UK as one of the most important markets.

Norway has remained stable as one of the most important markets for short sea shipping. About half the companies name Norway as one of their most important markets.





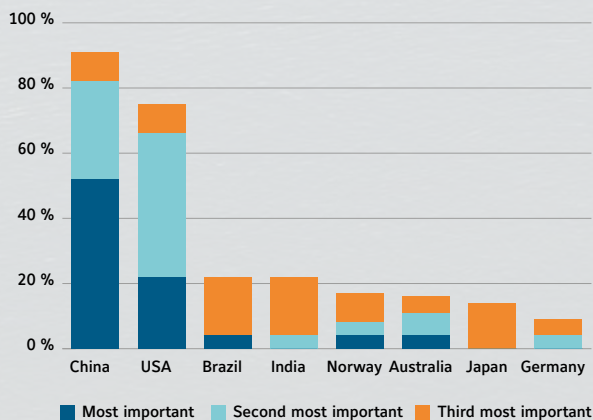
Deep sea

The deep sea fleet consists of several segments where Norwegian shipping companies are world leaders and hold large market shares. These segments include car freight, dry bulk, LNG, chemical and general cargo. Sailings cover large distances, often between continents. Norwegian Shipowners' Association members in the deep sea segment control over 600 ships calling at ports around the world about 30,000 times a year. The companies maintain many offices abroad, giving the Norwegian shipping industry a strong presence on all continents.

Most important markets

Deep sea shipowners name China and the US as their two most important markets, followed by Brazil, India, Norway and Australia. More than 90 per cent of shipping companies rank China as one of their most important markets. This represents a significant increase from last year, when 75 per cent of shipowners stated the same. The US has also strengthened its position as the second most important market for the deep sea shipowners. 75 per cent name the United States as one of their most important markets, up from around 60 per cent the previous year.

Significant markets for deep sea shipowners



There is a significant gap down to Brazil and India, followed by Norway, Australia and Japan. The wide range of markets shipowners name as their most important indicates the global nature of transport in this segment. All continents are included among the most important markets, with the exception of Africa.

Offshore

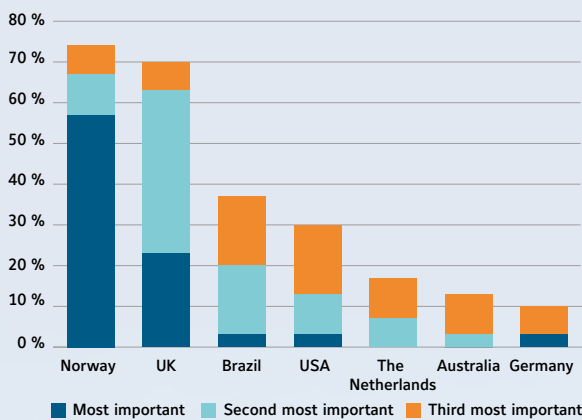
Norway is one of the world's largest offshore maritime nations. Shipowners participate in all phases of petroleum activity, from the first seismic surveys to exploration and production, and decommissioning of depleted fields. The Norwegian offshore fleet has a high number of vessels for the transport of supplies and equipment to and from offshore installations. The North Sea and the Norwegian Continental Shelf are the most important markets for the Norwegian offshore industry, remaining a critical arena for ensuring the international competitiveness of offshore shipowners. In addition, presence is high in other countries. The members of the Norwegian Shipowners' Association control over 50 mobile offshore units, and a large offshore fleet consisting of around 550 vessels.

Most important markets

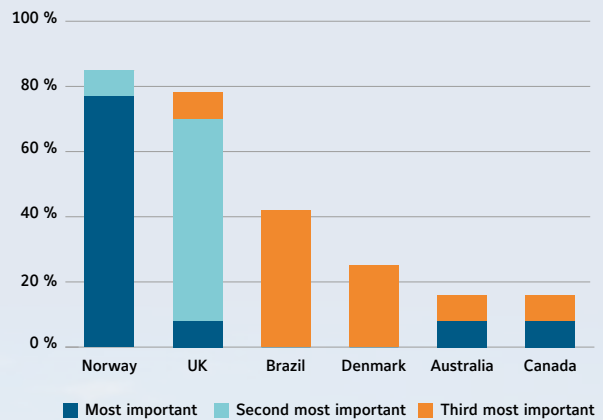
For the offshore shipping and offshore drilling companies, Norway and the UK maintain their position as the most important markets. More than 70 per cent of the offshore shipping companies report these two countries as the most important, and 85 per cent of the offshore drilling companies state the same. About 40 per cent of shipowners in both segments name Brazil as one of their most important markets. This is about double that of last year's survey.

For offshore shipping companies, the US has significantly strengthened its position, with as many as 30 per cent of shipowners reporting the US as one of their most important markets. Only seven per cent of offshore shipping companies report Denmark as an important market, a significant reduction from 28 per cent last year. Denmark has strengthened its position among offshore drilling companies. 25 per cent of these report Denmark as an important market.

Significant markets for offshore shipping companies



Significant markets for offshore drilling companies





Norwegian Shipowners' Association's Member survey 2019

A positive outlook

The world economy is growing. According to the IMF, growth was at 3.7 per cent in 2018, while the prognosis for growth in 2019 is 3.5 per cent, and 3.6 per cent for 2020.

Shipowners have faced major readjustments over the past years, mainly due to the financial crisis and the drop in oil prices.

The transport segments, comprising the deep sea and short sea shipping companies, have gradually increased their turnover since the financial crisis hit the industry in 2008. These segments now account for 60 per cent of total turnover among shipping companies. Since the fall in oil prices in 2014, the transport segments have strengthened their relative position compared to the offshore segments.

The offshore segments have faced extremely challenging times since 2014. The offshore segments comprise the offshore shipping and offshore drilling companies. Revenue and profitability are still far lower than before the oil price fall, and thus so far not at sustainable levels.

Norwegian Shipowners' Association members have undergone a change of outlook over the last two years. All segments experienced revenue growth in 2018.

All segments anticipate growth in turnover and improved profitability in 2019. At the same time, we see that the offshore segments will still face a

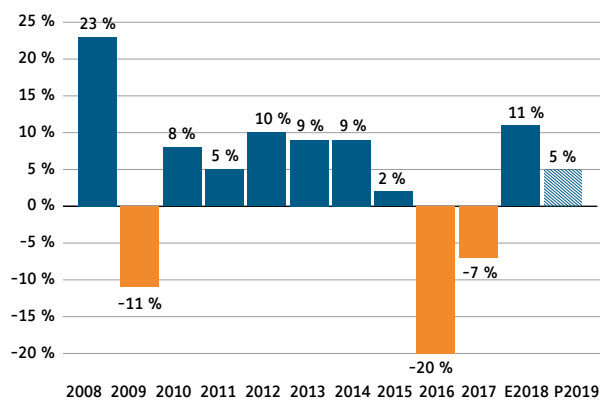
demanding situation with many ships in layup, low rates, and short-term contracts. This situation is not sustainable, and the offshore segments will be characterised by further restructuring and refinancing again in 2019. There is an imbalance in the offshore markets, with the oil companies showing strong profits, while suppliers are under pressure to cut costs, and facing rates that hardly cover operating costs. Sustainable profitability throughout the value chain is an absolute prerequisite. However, there are signs of greater optimism compared to previous years. This is also reflected in expectations for staffing and construction of ships in going forward.

Shipowners expect increased revenue

Shipowners' total revenue increased by 11 per cent, from NOK 206 billion in 2017 to NOK 229 billion in 2018. This means that shipowner revenue increased significantly more than expected in last year's Maritime Outlook Report. All segments experienced growth, but deep sea shipowners in particular grew strongly in 2018, this is among others driven by an increase in freight rates in the second half of 2018. Offshore drilling companies were the segment with the lowest growth in 2018.

For 2019, shipowners expect a further increase in revenue. 60 per cent of shipowners expect increased turnover in 2019, while 20 per cent expect reduced turnover, and 20 per cent unchanged. If the forecast is accurate, shipowners' total revenue will end at about NOK 240 billion in 2019, up almost five per cent from last year.

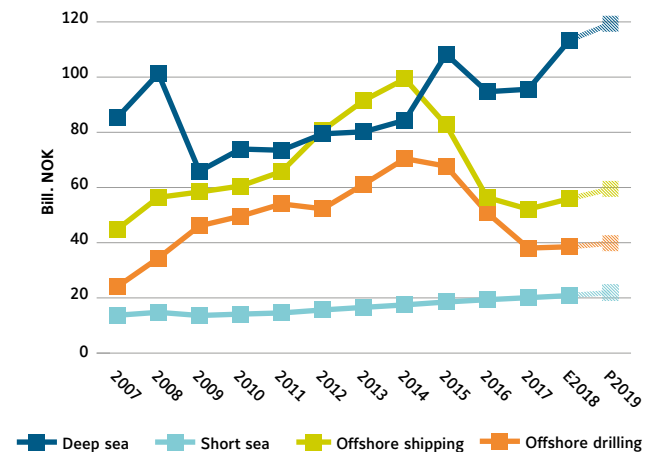
Change in Norwegian shipowners' turnover from the previous year (including 2018 estimates and 2019 prognosis)



Growth in turnover for 2018 was significantly higher than forecast in the Maritime Outlook Report from last year. A total growth in turnover of three per cent was predicted, while the reported figures for 2018 show revenue increasing by 11 per cent. This gap is partly due to the fact that deep sea shipowners, who expected growth of four per cent, had a growth of 19 per cent. In addition, offshore shipping companies, who originally expected a fall in turnover of two per cent, experienced growth of seven per cent in 2018.

The major drop in revenue among offshore shipping and offshore drilling companies following the drop in oil prices in 2014 still characterises the industry to a large extent.

Norwegian shipowners' turnover 2007-2019 (including 2018 estimates and 2019 prognosis)



Offshore drilling companies' revenue was almost halved from 2016 to 2017, and they experienced weak growth in 2018. Offshore drilling companies expect revenue to rise by two per cent and end at NOK 39 billion in 2019.

The offshore shipping companies had a turnover of about NOK 100 billion in 2014, but saw that halved from 2014-2017. In 2017, revenue fell to NOK 52 billion. The period 2017-2019 has shown a growth in turnover. For 2019, the forecast is for growth of six per cent and turnover of NOK 60 billion.

This cautious optimism among offshore shipping and offshore drilling companies is assumed based on the market being weak, but improving. There are expectations of gradually increasing activity levels and better capacity utilisation.

Deep sea shipowners experienced a sharp growth of 19 per cent in 2018, and they expect growth of five per cent in 2019. If forecasts are accurate, this will give them a total turnover of NOK 120 billion in 2019. This makes deep sea shipowners by far the largest segment measured in turnover.

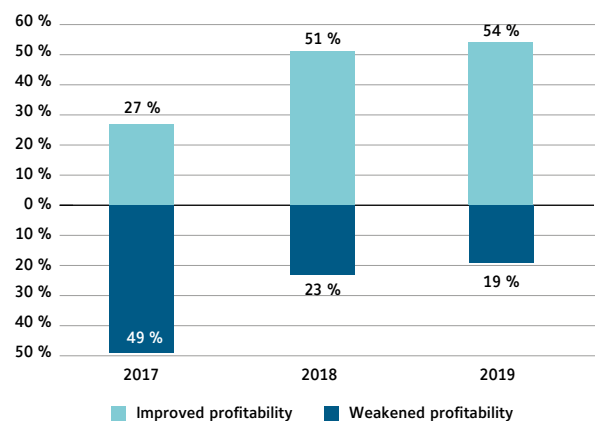
Short sea shipping companies show steady and stable growth. The annual growth rate in recent years has been around five per cent. This seems likely to continue, overall turnover is expected to be NOK 22 billion in 2019.

Improved profitability

Over the past two years, shipping companies have become more positive regarding trends in profitability. More than half now expect operating results to improve in 2019 over 2018. By comparison, half the shipping companies expected weaker profitability in 2017. This change in attitude has evolved over the last two years.

One in five shipowners expect weaker profitability in 2019 compared with 2018. One year ago, one in four shipping companies thought the same.

Shipowners' expectations for operating result compared to the previous year



Short sea and deep sea shipowners are most optimistic in terms of profit expectations, with about 60 per cent anticipating improved operating results in 2019 compared with 2018. At the same time, we see that these shipowners are somewhat more subdued in their optimism compared to a year ago. At that time, 67 per cent of short sea shipowners and 77 per cent of deep sea shipowners expected better results. Both short sea and deep sea shipowners highlight the challenge of rising costs and extensive environmental investments. The proportion expecting weaker profitability is low for both segments.

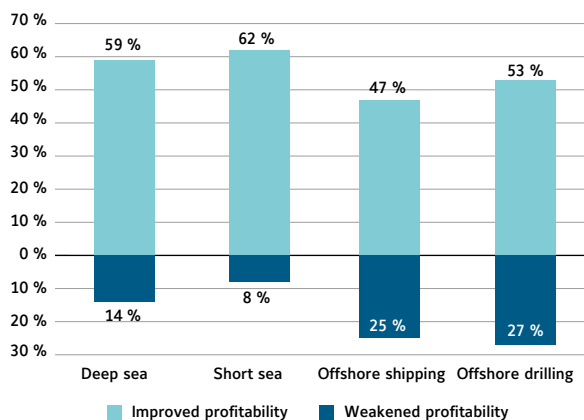
Approximately half of offshore shipping and offshore drilling companies expect improved profitability. The biggest change in profit expectations is found among the offshore drilling companies, where 25 per cent expected improved profit in 2018, with that figure

rising to 53 per cent for 2019. 27 per cent of offshore drilling companies expect weaker results in 2019. One year ago, 38 per cent of offshore drilling companies expected the same.

For offshore shipping companies, the proportion expecting increased profitability has risen from 35 per cent in 2018 to 47 per cent in 2019. The proportion expecting weaker profitability has decreased from 32 per cent to 25 per cent.

For offshore shipping and offshore drilling companies, these expectations do not mean that an improvement in operating result is synonymous with sustainable profitability. There have been significant reductions in both revenue and profitability. Markets are still challenging, with overcapacity of tonnage and low rates. In addition, shipping companies have undertaken comprehensive measures to increase profitability.

Shipowners' expectations for operating result in 2019 compared to 2018

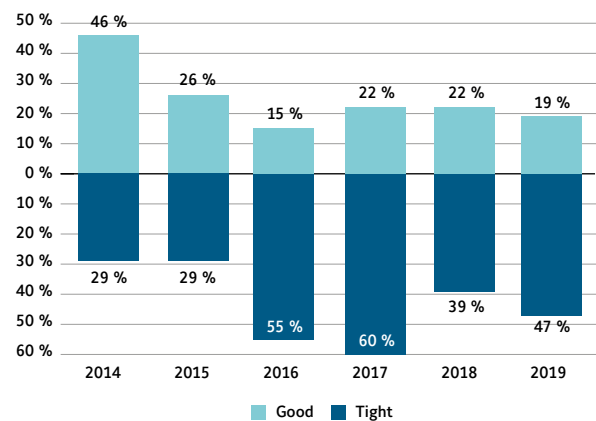


Tight access to capital

The maritime industry is highly impacted by current affairs. Since the financial crisis in 2009, the Norwegian and international economies and trade have been characterised by lower and unstable growth. The sharp fall in oil prices in 2014 has had major consequences in the maritime industry. We see this primarily through reduced oil and gas activity. Shipowners' access to capital is also greatly affected by this.

Shipowners' access to capital was gradually weakened in the period from 2014 to 2017, while in 2018 there was an improvement in the capital market. In 2019, we once again see a worsening situation, with shipowners now considering access to capital as tighter compared to last year's Maritime Outlook Report. The share deeming access to capital as good has decreased from 22 per cent in 2018 to 19 per cent in 2019. Of those considering access to capital as tight, the share has increased from 39 per cent in 2018 to 47 per cent in 2019.

Change in perceived access to capital from 2014–2019





There are large variations between segments regarding the perception of access to capital. Offshore shipping and offshore drilling companies appear to be facing the most demanding situation, with 64 per cent and 71 per cent, respectively, considering access to capital as tight. This is a significant deterioration for these groups since 2018, when about half thought the same. None of the offshore drilling companies believe that access to capital is good.

Among deep sea and short sea shipowners, about 30 per cent consider access to capital to be good, while there is wide variation among short sea shipping companies.

Tighter capital markets ahead

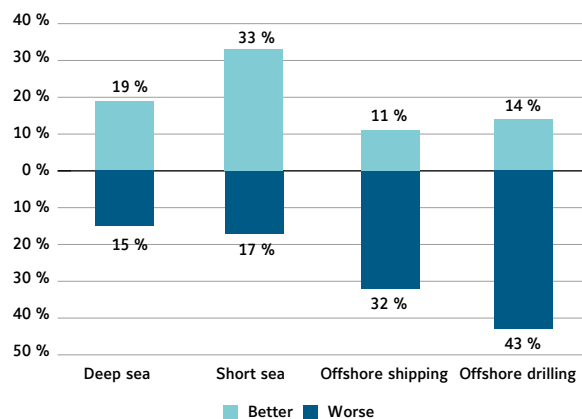
Shipowners' expectations for capital markets are clearly weaker compared with last year's Maritime Outlook Report. 18 per cent of shipowners expect better access to capital in 2019, while one year ago 32 per cent expected the same.

Offshore shipping and offshore drilling companies are clearly the most pessimistic towards the development of capital access in 2019. One reason for this may be that the offshore industry will continue to be characterised by further restructuring and refinancing.

Short sea shipping companies are most optimistic about the development of capital access for 2019, with one-third of these expecting better access to capital. However, this must be seen in light of the fact that

many of these shipowners experienced an unexpected worsening in the capital market during 2018. Among the deep sea shipping companies, two out of three expect unchanged access to capital in 2019.

Expectations for access to capital in 2019

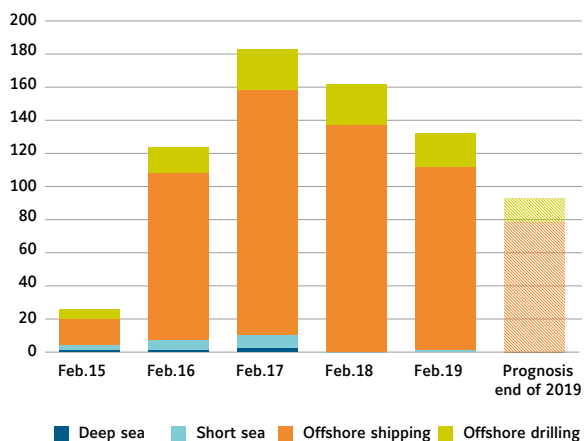


In general, access to capital is perceived as tighter for small and medium-sized enterprises, those with turnover up to one billion NOK. The larger companies with more than one billion NOK in turnover are more positive regarding access to capital.

Fewer ships and rigs in layup

Vessels in layup lose value while still costing owners money. In February 2019, shipping companies had 112 vessels and 20 rigs in layup, while in February 2018 there were 137 vessels and 25 rigs in layup. This shows a reduction in the number of ships and rigs in layup, with peak layup being reached in February 2017.

Vessels in layup, from 2015-2019



Primarily offshore shipping and offshore drilling companies report having vessels and rigs in layup as of February 2019. Offshore shipping companies have 26 fewer vessels in layup, while the number of rigs has fallen by five. Among the deep sea shipping companies, one ship is reported to be in layup. No short sea shipping companies report ships in layup.

Layup forecasts for 2019 indicate that the number of ships and rigs in layup is expected to fall to 93, a reduction of 34 ships and five rigs. Of these, offshore shipping companies control 33 vessels and deep sea shipowners one ship.

This reduction in the number of ships and rigs in layup is due to a combination of increased activity, ship recycling, and sale of vessels.

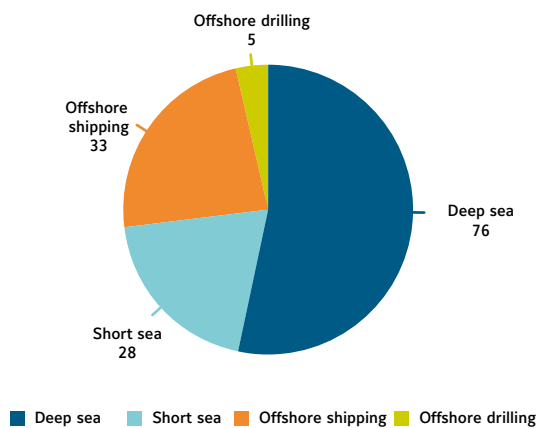
Half of shipowners will order ships

In this year's survey, half of shipowners state that they will order new ships or rigs over the next five years. The shipowners consider to build a total of 137 ships and five rigs, mostly in the transport segments.

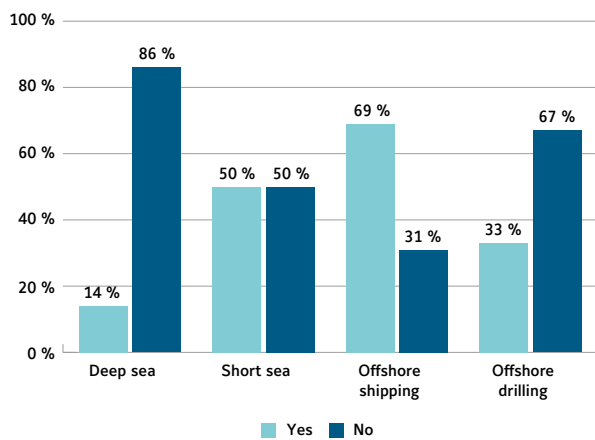
The short sea shipping segment expresses a need and a strong desire for fleet renewal. The potential for testing new climate and environmental technology is great in short sea shipping, as distances are shorter and calls more frequent than for ships in deep sea and offshore shipping. The average age of vessels among members of the Norwegian Shipowners' Association in short sea shipping is 22 years. Eight out of ten short sea shipowners are considering to order new ships over the next five years. This means that the potential for renewal in the short sea fleet is great, and that the average age of short sea vessels will be reduced. The corresponding figure is four out of ten for offshore shipping companies, and half of all deep sea shipowners. Almost four out of ten offshore drilling companies are considering building rigs, up from around one in ten in 2018.

Deep sea shipowners consider to order 76 ships, followed by offshore shipping companies with 33 vessels, and short sea shipping companies with 28 vessels.

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



Percentage of shipowners who will use Norwegian yards for building new ships and rigs



More than 40 per cent of shipping companies consider Norwegian shipyards as relevant for the construction of their vessels. Among short sea shipowners, half consider Norwegian shipyards to be relevant. Among offshore shipping companies, seven out of ten consider the same. Norwegian shipowners are very important for Norwegian shipyards and supplier industry, and this can lead to increased activity in the Norwegian maritime cluster.

Considerable increase in employment in 2019

For 2018, shipping companies report a net increase in the number of employees. A total of 1,369 persons were terminated or placed on leave by shipping companies in 2018. This is an improvement of the situation compared to 2015–2017, with shipping companies reporting about 20,000 employees either terminated or placed on leave. At the same time, 2,919 people were hired in 2018, 40 per cent of these in offshore drilling companies. Overall, shipping companies hired a total of 1,550 employees in 2018.

90 per cent of those terminated or placed on leave in 2018 worked in offshore shipping and offshore drilling companies. These are the segments with the largest proportion of Norwegian employees, which means that a large proportion of those terminated or placed on leave are Norwegians. In total, 890 Norwegian employees were terminated or placed on leave in 2018, representing a 65 per cent share.

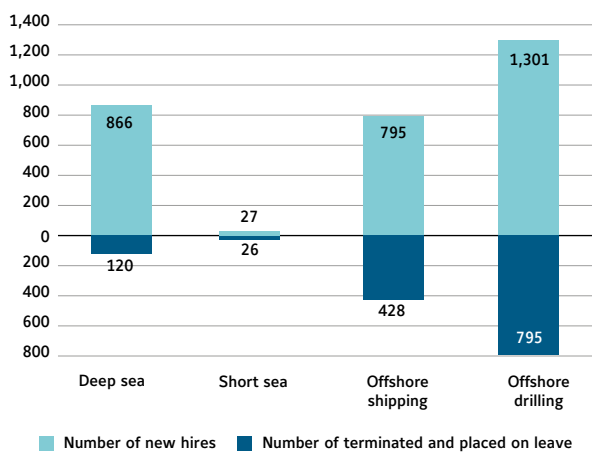
About half of those placed on leave or terminated were offshore drilling employees. Seafarers and onshore workers accounted for about one quarter each.

Employees placed on leave made up 34 per cent of total workforce reductions in the shipping companies in 2018. This is up from 22 per cent in 2017, and may indicate that shipping companies are more inclined to believe that they will need to increase staff in 2019.

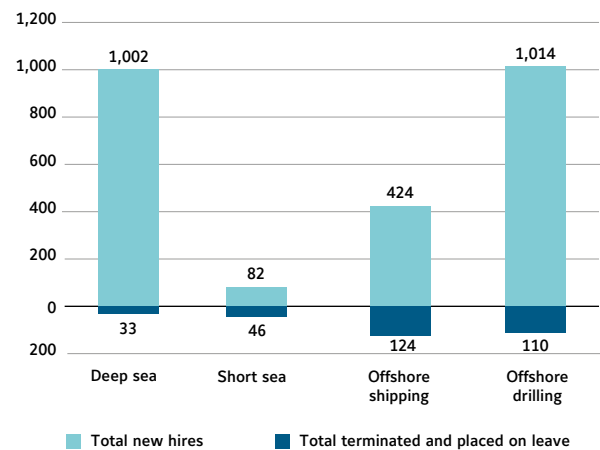
Among new employees in 2018, half were hired by offshore drilling companies, and about one quarter each by offshore shipping and deep sea companies.

All segments expect a significant increase in employment in 2019. Overall, companies expect to hire almost 2,500 new employees, with around 300 being terminated or placed on leave. This means that companies will employ about 2,200 more workers in 2019 than in 2018. Deep sea and offshore drilling companies have the highest expectation of employment growth, followed by offshore shipping companies. Short sea shipowners are expecting a slight increase in the number of new employees.

Change in employment in shipowning companies, 2018



Anticipated change in employment for shipowning companies, 2019





The Norwegian Shipowners' Association: In our view

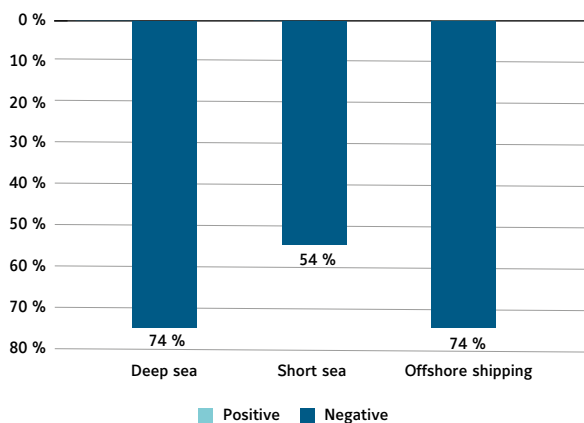
1

Shipowners need stability to operate from Norway

The maritime industry competes globally

The Norwegian maritime industry is a knowledge-intensive, thoroughly globalised industry. Internationally competitive framework conditions are crucial if Norway is to maintain its position as a maritime power. The industry employs 85,000 people in Norway and creates value of NOK 142 billion annually. Norway has a complete maritime cluster, with world leaders in most segments, including shipowning, classification, financial institutions, shipyards and equipment suppliers. At the core of this cluster are the shipowners. They make up the largest segment of the maritime industry, measured in both value creation and employment. The shipowners also ensure that the industry has access to experience-based expertise from the sea.

Impact on shipowners as a consequence of a possible weakening of the Norwegian tonnage tax regime



Repealing the wealth tax will strengthen private ownership

About 40 per cent of the country's value creation in the business sector takes place in companies with Norwegian private ownership. In the Norwegian maritime industry in general, there is a high degree of private ownership. Many Norwegian shipping companies are characterised by fully private ownership, with Norwegian, long-term owners as the primary stakeholders. Competitive framework conditions for Norwegian private ownership are central to the further development of maritime value creation in Norway. The most important measure for strengthening access to competent and patient capital, and creating opportunities in Norway, is to remove the wealth tax on working capital. This is supported by the responses from shipowners in the member survey. 97 per cent of shipowners state that repealing the wealth tax on working capital is important to ensure competitive framework conditions for Norwegian private ownership.

Tonnage tax determinates for Norwegian presence

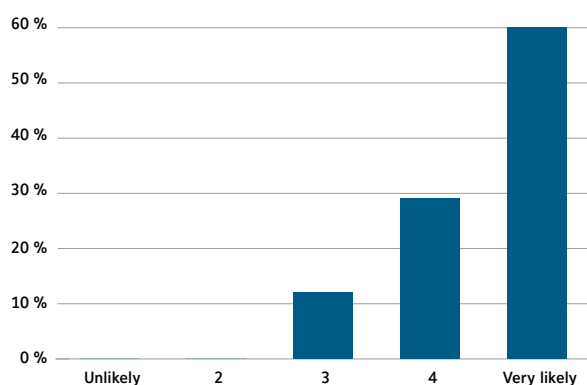
A competitive Norwegian tonnage tax regime is essential for maintaining Norway's attractiveness as a host country for shipping companies and other maritime activities. About eight out of ten shipping companies, state that a weakening of the Norwegian tonnage tax regime will affect their business very negatively or negatively. Last year, six out of ten shipping companies responded that it was probable or very likely that they would move their business out of Norway if the Norwegian tonnage tax regime was significantly

weakened. It was therefore well received when the Government and Parliament in 2018 extended the tonnage tax scheme for another ten years.

Competitive tax refund scheme ensures Norwegian seafarers

In order to secure Norwegian operational maritime competence and contribute to the recruitment of Norwegian seafarers on Norwegian-registered vessels, a competitive net wage scheme is crucial. Nearly nine out of ten shipping companies say it is likely that they will replace Norwegian seafarers with foreigners if the tax refund scheme for Norwegian seafarers is significantly weakened.

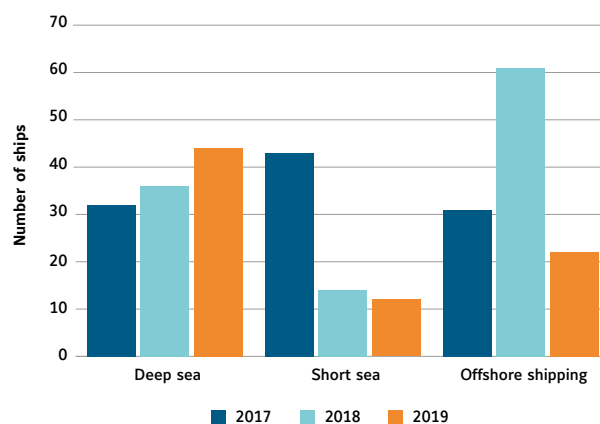
Probability that Norwegian seafarers will be replaced by non-Norwegians if the tax refund schemes for seafarers are significantly weakened



Proactive maritime policies lead to flagging home

Stable, competitive schemes are important for retaining and developing maritime businesses in Norway. Furthermore, a large number of ships under the national flag is important for Norway's influence internationally. Norwegian-registered ships have historically also provided an important base for the further development of Norwegian maritime competence.

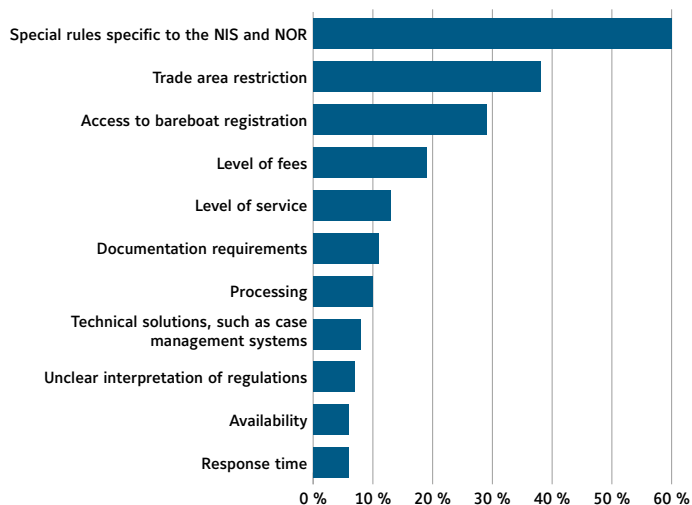
Potential for flagging ships to the Norwegian registers (NIS/NOR) from 2017 to 2019





As a result of proactive maritime policies in recent years, such as the relaxation of trade area restrictions and expansion of the net wage scheme, 96 vessels have flagged in to the Norwegian register over the past three years. In the member survey, 24 shipping companies state that they are considering flagging ships in to Norwegian registers, NOR or NIS. The total in-flagging potential is 78 vessels, divided among 44 deep sea vessels, 22 offshore vessels and 12 short sea shipping vessels.

Factors that shipowners consider as possible obstacles in the event of flagging to the Norwegian registers (NIS/NOR)



Shipowners consider specific Norwegian rules and trade area restrictions as the two most important factors that prevent flagging into the Norwegian register. 60 and 38 per cent of shipowners, respectively, state these factors as barriers. Just under 30 per cent of the shipping companies believe that the lack of access to bareboat registration is the biggest barrier.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Ensure competitive and stable framework conditions for the Norwegian maritime cluster
- Maintain a competitive Norwegian tonnage tax scheme
- Strengthen the tax refund and net wage schemes for Norwegian seafarers on Norwegian registered ships
- Strengthen the attractiveness of the Norwegian flag
- Ensure attractive and competitive export financing schemes through GIEK and Export Finance Norway
- Remove the wealth tax on working capital

2

Ambitious emission targets

Halving climate gas emissions by 2050

The UN Maritime Organisation IMO agreed in April 2018 on an ambition of 50 per cent reduction of the total emissions of greenhouse gases from international shipping by 2050, measured against 2008. Meanwhile, it is estimated that marine transport worldwide will increase by about 60 per cent in the same period. Taking this into account, emissions from each ship must be reduced by 70–80 per cent by 2050. The IMO strategy also requires 40 per cent less emissions per transported unit already by 2030. The Norwegian Shipowners' Association has been a driving force in establishing an ambitious climate agreement for shipping. This proactive ambition will be solidified over a five-year period, and the Norwegian Shipowners' Association will contribute constructively to this goal.

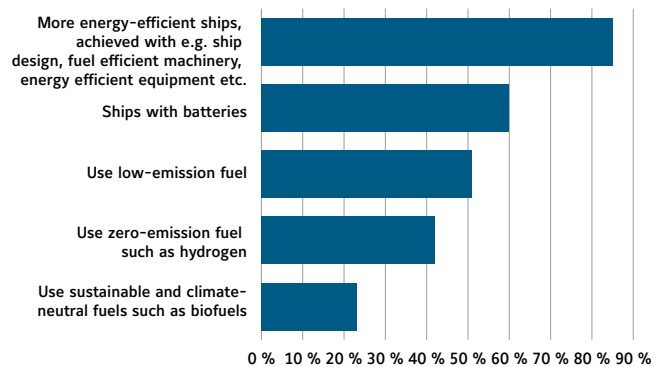
The Norwegian Shipowners' Association shares IMO's target of 50 per cent reduction in greenhouse gas emissions by 2050. Asked whether they believe that they will be able to halve their greenhouse gas emissions by 2050 in relation to 2008, about 65 per cent of shipowners responded positively. Only seven per cent responded negatively. The remainder are uncertain.

Energy-efficient ships are needed to halve emissions

Shipping is already the most energy efficient mode of transport. 80 per cent of world trade between continents is by ship. At the same time, shipping accounts for three per cent of man-made climate

emissions. Significant cuts in emissions will require a combination of a number of different measures. Norway is a world leader in the use of new fuels. At the turn of the millennium, the first LNG-powered vessels were put into operation. In 2014, fully electric ships and hybrid ships followed with battery packs, and the first hydrogen-powered ferry is expected to be in operation by 2021. In the long term, LNG may be replaced by sustainable biogas.

Technical solutions and systems that will halve climate emissions from ships by 2050



When asked which technical solutions and systems will be most important in halving greenhouse gas emissions by 2050, 85 per cent of shipping companies respond that they believe more energy-efficient ships, including ship and hull design and propulsion systems, will be the most important. Battery-powered ships and ships running on low-emission fuels follow as the next most important factors, for 60 and 51 per cent of shipowners, respectively.

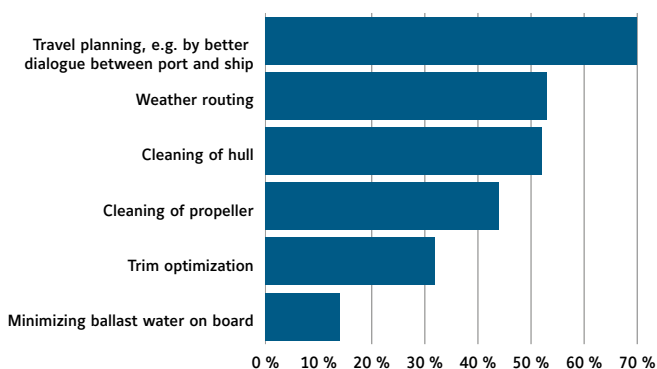


Voyage planning to achieve emissions reductions

Large ships, with more than 3,500 kW engine power, account for nearly 80 per cent of climate emissions from international shipping. These ships sail long distances, and there is currently no available zero emission technology for large ships in intercontinental traffic. It is therefore crucial to develop solutions that can ensure reduced emissions for these ships as well.

When asked about which operational measures will be most important for halving greenhouse gas emissions by 2050 compared to 2008, 70 per cent of shipowners respond that voyage planning, e.g. by better dialogue between ports and ships, will be significant.

Operational measures that will contribute to halving climate emissions from ships by 2050



Norwegian shipowners are ready for the 2020 SO_x regulations

Norwegian shipping companies appear to have positioned themselves well with a view to the entry into force of new sulphur requirements from 2020. To the question of which measures they will employ to meet the new requirements, the bulk of deep sea shipping companies answer that the solution will be to replace heavy fuel oil with approved low-sulphur fuel. The remaining segments have already in large part adapted to strict emission requirements, as they operate mostly in low emission areas for sulphur, established for example in the North Sea, large parts of the Norwegian coast, and the entire Baltic Sea.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Establish requirements for environmentally friendly transport in public procurement in order to stimulate the green shift in short sea shipping
- Ensure the development of shore power and charging for short sea shipping in hub ports
- Support research on low and zero emission solutions, including biogas and hydrogen
- Align the tax regime to reward reduction of climate and environmental emissions
- Prioritise research and development on measures that can be utilised by large ships in international traffic
- Establish a business-driven mechanism, where paid-in CO₂ tax is used to support and stimulate climate-friendly solutions

3

The seaway is the green way

Short sea shipping carries passengers and all types of goods between Norwegian ports and to and from ports in Europe. Norwegian companies compete not only with other shipping companies in Europe, but also with land transport. Replacing road transport with marine transport reduces climate gas emissions, queues, accidents, road wear and other socio-economic expenses.

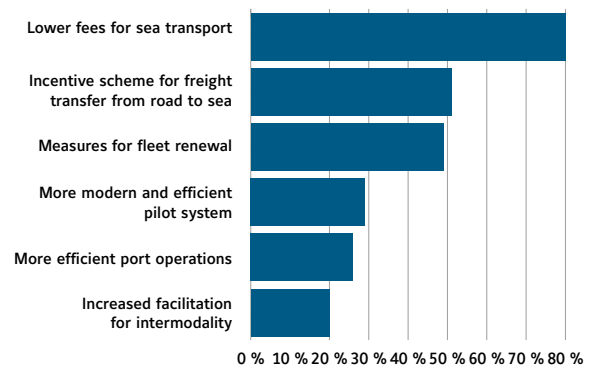
A single ship can carry cargo volumes corresponding to 200-400 trailers, with only a fraction of the polluting CO₂ emissions. By exploiting the potential for moving goods from road to sea, the climate footprint can be reduced by 300,000 tonnes of CO₂ per year. In addition, cost to society could be reduced by NOK 1.3 billion.

Lower fees strengthen marine transport

In the Norwegian National Transport Plan (NTP), a goal has been set for 30 per cent of road transport travelling more than 300 kilometres to be transferred to sea and rail by 2030. To achieve this goal, measures must be implemented that strengthen the relative competitiveness of marine transport.

In the member survey for 2019, 80 per cent of the members state that lower taxes, fees and remuneration for maritime transport are important in order to strengthen short sea shipping. Waterborne transport is the only form of transport that finances the majority of its own infrastructure. Reduced tax burdens will strengthen shipping's competitiveness against other modes of transport, and be an important step in moving goods from road to sea.

Main framework conditions for strengthening short sea shipping



About half of shipowners state that an incentive scheme for freight transfer is important in order to strengthen short sea shipping. The incentive scheme for freight transfer from road to sea was launched in 2017, and has provided support for projects with the overall goal of moving 4.5 million tonnes of goods from road to sea. The incentive scheme is currently under evaluation. The industry is unanimously in favour of continuing the scheme.



Great potential for fleet renewal

Just under half of the members state that measures for fleet renewal are important for strengthening short sea shipping. Shipping will have to reduce greenhouse gas emissions by 50 per cent by 2050 compared with 2008. The Norwegian government has stated that Norway's non-quota related emissions should be reduced by at least 45 per cent compared with 2005, and a goal should be established to halve emissions from domestic shipping by 2030. The transition to more efficient transport means and methods is an important part of the solution to bring national emissions down.

In order to achieve this, more goods must be transferred to ships, while at the same time stimulating fleet renewal with newbuildings and updating of the Norwegian short sea shipping fleet. More than four out of five shipping companies in the short sea segment are planning to contract ships over the next five years. Half of these point out that it may be relevant to build these ships in Norwegian yards. In total, these shipowners estimate that close to 30 new vessels will be built in this segment. In addition to significant reductions in climate emissions, fleet renewal creates great value and many jobs in the maritime industry throughout Norway.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Prepare a short sea shipping strategy that will help strengthen the competitiveness of the short sea shipping segment
- Facilitate green restructuring and renewal in short sea shipping. Among other measures such as; through the establishment of a top-up funding scheme, improvements in the depreciation system for ships, and support schemes for investments in climate and environmentally friendly solutions on ships
- Prolong and strengthen the incentive scheme for freight transfer from road to sea
- Reduce and simplify the tax and fee regime for short sea shipping, among other measures by reducing pilotage fees, in order to ensure a more equal treatment of the various modes of transport
- Streamline and modernise the pilot service, among other things by developing more robust and high-tech environments, and continuing to facilitate increased use of Pilot Exemption Certificates
- Prioritise major improvements in maritime transport infrastructure by facilitating more efficient and automated port operations, protecting port capital, and a more rational port structure

4

A competitive and attractive Norwegian Continental Shelf

Oil and gas resources will continue to create great value and income for the Norwegian society for many decades, and contribute to securing jobs, value creation and welfare throughout the country.

Several years of major cost reductions and improvements in efficiency, together with extensive consolidation in the supply industry, have resulted in significantly increased profitability on the Norwegian shelf. The combination of significant cost reductions and a more stable oil price, considerably higher than at the lowest levels, has resulted primarily in very good margins for the oil companies. The situation is demanding for players in the maritime part of the supply chain. In many of the offshore segments, it will not be possible to deliver further operational cost reductions and still maintain sustainable profitability.

In today's markets, we see that rates related to maritime offshore activities are not high enough to ensure sustainable profitability in the industry. For offshore shipping companies, the rate level adjusted for fleet utilisation was between 15-20 per cent below that needed to cover operating costs in 2018. The activity level in the offshore market is now higher, both in the North Sea and internationally, a trend that is expected to continue. Rates and fleet utilisation are also expected to increase, but this will largely depend on how many vessels are reactivated out of layup.

When activity levels rise and the market tightens on the supply side, oil companies must expect a significant increase in rates for ship operations. Cost cuts achieved through lower rates on operations have been driven largely by the market forces of supply and demand. This means that rates in a market with a higher degree of fleet utilisation must be expected to rise substantially from the lowest levels of 2014. Within many segments the oil companies should expect significantly higher rates measured against the lowest levels. The price development of the maritime services is marked-based and a doubling of the rates will represent nothing more than a normalised and sustainable pricing of services.

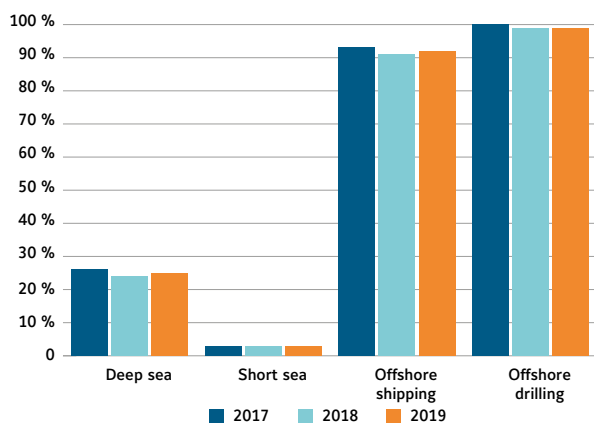
More than half of revenues from the petroleum sector

Norway is one of the world's largest maritime offshore nations, with a significant Norwegian-controlled fleet of offshore vessels and rigs. The Norwegian Continental Shelf (NCS) has, since the oil adventure began over 50 years ago, been an important arena for ensuring international competitiveness.

Norwegian shipping companies had NOK 117 billion in operating revenues from the petroleum sector in 2018. This represents a share of total revenues for shipping companies of 51 per cent, a slight decrease from 2017. For 2019, shipping companies estimate that petroleum-related income will increase to just under NOK 125 billion, a rise of almost seven per cent.



Percentage of turnover to oil/gas companies and offshore supplier industry



The proportion of petroleum-related revenues has been relatively stable in recent years. Offshore drilling companies receive all their revenues from the petroleum sector. The offshore shipping companies have 91 per cent petroleum-related revenues in 2018. This is a marginal decline from 2017, and can be attributed to these companies winning contracts in other markets, such as offshore wind. Deep sea shipowners report that they receive a quarter of their revenues from deliveries to oil and gas companies and the offshore supply industry, while the corresponding figure for short sea shipping companies is only three per cent.

Equinor's role on the shelf is seen as dominant

Last year, Parliament asked the government to review the competitive situation on the Norwegian shelf. This was timely, as Equinor controls between 70 and 80 per cent of the production on the NCS. In practice, the company manages its activity level through the company's own direct decisions, indirectly through its license shares, and as a function of other operators often gauging the behaviour of the largest player before they themselves act.

Nearly all offshore shipping and offshore drilling companies, 81 and 92 per cent respectively, experience Equinor's role as problematic for the competitive situation on the NCS.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

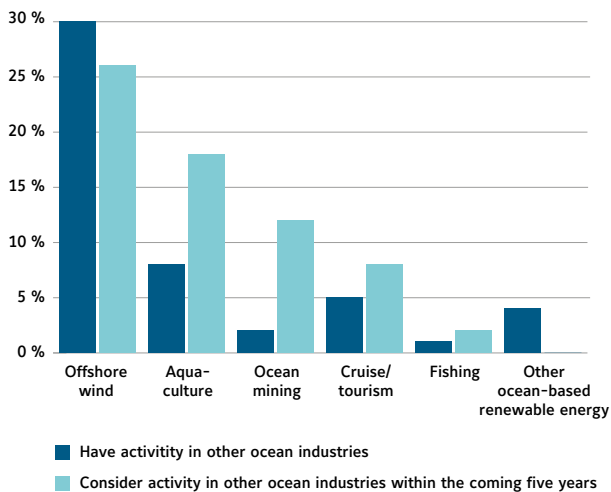
- Ensure predictable and long-term tax and fee schemes for the industry
- Maintain a steady and stable pace in allocating new areas for petroleum activity, through both licensing rounds and Awards in Predefined Areas (APA)
- Review the competitive situation on the NCS with a view to facilitating greater diversity and healthy competition
- Maintain the exploration refund scheme, as it facilitates healthy competition and diversity of contributors

5

Ocean industries – a new era for Norwegian industry

The petroleum industry, shipping, and marine operations, combined with Norwegian industry's expertise in floating solutions, are areas in which Norway is a world leader. Norwegian shipowners, offshore companies and supplier companies are well positioned to take a larger role in a renewables market with a large and realistic growth potential, like offshore wind.

Percentage of shipowners with activity in other ocean industries and expectations for these industries



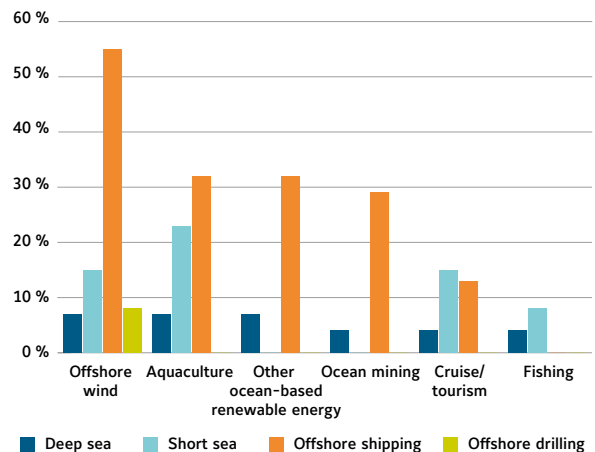
High activity in offshore wind

In addition to traditional shipping, with the transportation of goods and passengers between countries and continents, and offshore operations related to oil and gas, or offshore wind, is the area where most shipping companies operate today.

Three out of ten shipping companies have activity in the offshore wind market today. These are mainly offshore shipping companies, where six out of ten state that they have activity in this market. The corresponding figures for the deep sea and short sea shipowners are 23 and 15 per cent, respectively.

Additionally, 27 per cent of shipping companies overall express that offshore wind market is of interest the coming five years. Among the offshore shipping companies 55 per cent say they are considering activity in the offshore wind market over the coming five years.

Percentage of shipowners regarding these ocean industries as relevant for their future business





The industry's ambition is to develop competitive solutions for the offshore wind market on market-based terms. In order to mature and commercialise technology and services, there is still a need for support instruments for demonstration and risk mitigation. Norwegian authorities should support the Norwegian business sector in capitalising on opportunities and developing a leading international supply chain in this market. Norwegian participation will require the development of cost-effective technology solutions and services for the international offshore wind market. Norway also has many advantages that give us a unique opportunity to take a leading role in floating offshore wind.

Smaller suppliers in particular need arenas where they can demonstrate their services. The Norwegian authorities should therefore, in cooperation with the Norwegian business sector, contribute to further developing a competitive Norwegian value chain in floating offshore wind.

Aquaculture and ocean mining with potential for growth

Far fewer shipping companies currently have activities related to other ocean industries. Eight per cent of shipping companies state that they have activities related to aquaculture. Offshore shipping and short sea shipping companies are the most proactive segments in this case, with one in three and one in four shipping companies stating that they have activity in this segment today, respectively.

It appears that shipping companies are more optimistic about developments over the coming five years. 18 per cent of shipping companies state that they are considering the aquaculture industry as interesting, while 14 per cent say the same about ocean mining. 29 per cent of offshore shipping companies state that they are considering this market interesting over the coming five years.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Launch a national strategy for offshore wind and renewable energy with a target of ten per cent global market share by 2030
- Follow up Parliament's decision to secure a support scheme for floating offshore wind and other forms of ocean-based renewable technology to trigger investments in full-scale facilities in Norway
- Finalise the tax regime for offshore wind installations in Norway
- Ensure that state aid, loan and guarantee schemes prioritise marine wind projects specifically
- Ensure that the Research Council's programs prioritise offshore wind and renewable energy
- Prepare a tax regime for exploration for and extraction of seabed minerals
- Expand the tonnage tax scheme to include activities related to exploration for and extraction of seabed minerals

6

The maritime industry has a broad need for competence

Technological development in the maritime industry is progressing rapidly. This provides new opportunities for growth, but it also requires the authorities, educational institutions, and the business community to collaborate, rethink and adapt to a digital future.

It must be ensured that the educational institutions can be at the forefront. This includes quality technical equipment at the schools, updated competence among the teaching staff, and increased emphasis on technical and digital disciplines at the educational institutions.

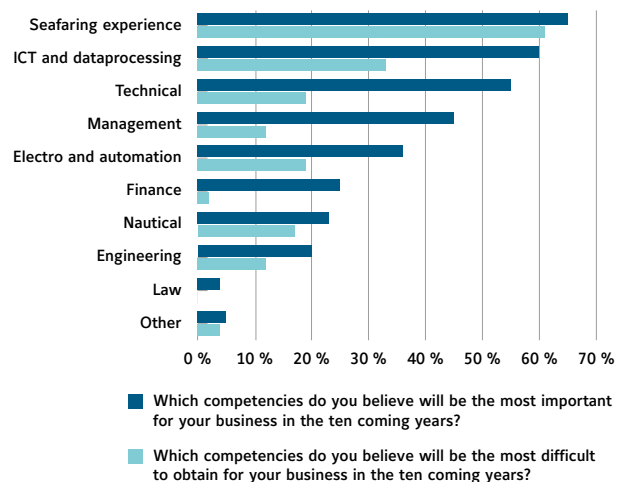
The financing of technological and maritime disciplines must be strengthened, and continued focus on maritime education is required. Costly infrastructure mandates a high degree of co-location. This is essential for creating strong academic environments and good collaboration, and to encourage specialisation.

Operational experience most in demand

In the member survey, shipping companies state that operational seafaring experience, IT and computing will be the most sought after competencies over the next ten years. These are also the competencies that are anticipated to be most difficult to obtain.

Educational institutions must be firmly anchored in the business sector. The business community must also be more closely connected to the educational institutions in order to ensure that graduates have relevant competence when they enter the workforce. To ensure this, it is important to have a sufficient number of training positions in shipping companies, among other measures.

Shipowners' competence requirements





Great need for apprentices and cadets

More than half of shipping companies have training positions. In total, the companies state that they have 1,223 training positions. This number is expected to increase to 1,347 during the year. Among deep sea and short sea companies, the need for apprentices and cadets is covered, while offshore shipping and offshore drilling companies state that current access to apprentices and cadets is not sufficient. There is a particular need for apprentices in the offshore drilling companies. Here, companies report that they expect more than doubling of the total, from 65 apprenticeships to 135.

Increased need for continuing education

As a result of rapid technological development, competence requirements are also changing rapidly. This leads to an ever-increasing need for a comprehensive commitment to continuing and higher education. The authorities must provide good schemes and incentives for companies to be able to focus on strategic continuing and further education of their employees. Sufficient access to strategic continuing and further education must also be made available.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Extend dedicated investments in maritime education with particular focus on digitalisation and sustainable restructuring
- Create good incentive schemes for continuing education for business and industry
- Ensure robust financing of costly maritime and technological education
- Establish effective transfer schemes between academies and colleges
- Facilitate increased collaboration between maritime educational institutions and the business sector

7

World-leading maritime research and innovation

Norway is at the forefront when it comes to the development of future environmentally friendly and sustainable transport solutions related to shipping. As a result of the maritime industry's unique innovative power, a number of groundbreaking concepts are under development. In order to maintain Norway's world-leading position in this area, efforts and funding for research and development of new technology must be maintained. This is especially true for climate and environmentally friendly solutions and digitisation. In these areas, the Norwegian maritime cluster has great potential to develop solutions that the world needs.

Enabling technologies and digitisation will mean that we are challenged to re-think business models, operating routines, competence requirements, risk assessments, and a host of other aspects within maritime operations. In order to exploit this potential, there is a need for increased research efforts in a number of disciplines.

The business sector's access to physical infrastructure for development and innovation is crucial for competitiveness and future value creation in Norway. The authorities must facilitate good framework conditions for research, development and innovation in the companies.

Many shipping companies see opportunities in other ocean industries

Almost half of the shipowners state that they have operations in other ocean industries than the segment in which they mainly operate today. Many shipping companies have established themselves in new ocean

industries, especially offshore wind, but several shipowners have also established themselves in the aquaculture and cruise segments. In addition, nearly every third offshore shipping company states that they are considering activity within aquaculture, ocean mining, or other renewable energy at sea the coming five years. With such a broad range of activities, it is crucial that the interaction between the ocean industries is also ensured in academia, and that the competence environment for the ocean industries is strengthened through adequate infrastructure.

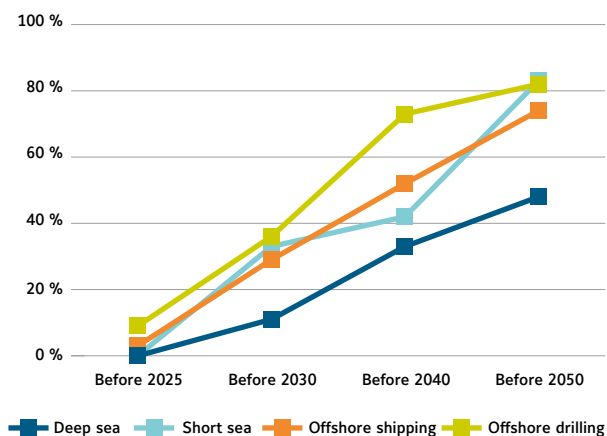
In this light, the government's selection of a concept for the Ocean Space Centre was very welcome news. Choice of concept is an important first step on the road to realising a world-leading centre of expertise for the ocean industries. It is essential for the authorities to maintain urgency for the timely realisation of the project.

Increased autonomous operations toward 2050

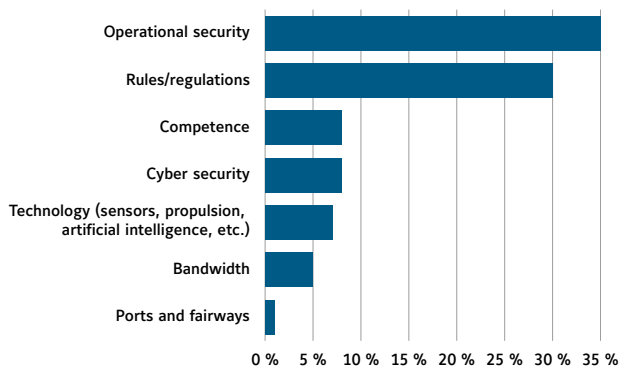
Norway has a leading position within autonomous ships, and has opened several areas for testing and further development of this technology. Already by 2030, three out of ten shipping companies expect that autonomous solutions and unmanned ships and rigs will characterise the industry to a high degree. By 2040, more than half believe that this development will have taken place, and seven out of ten expect such a development by 2050. It is particularly in the short sea, offshore shipping and offshore drilling segments that the increasing degree of digitisation will materialise first.



To which degree autonomous solutions/unmanned ships will characterize the industry towards 2050



The biggest barriers of increasing automation of operations on board ships and rigs



When asked which barriers to increased automation they believe to be the greatest, shipowners state primarily operational safety, as well as rules and regulations. Due to the fact that shipping companies often operate in international waters, it is crucial that both Norwegian and international regulations are adapted to forthcoming technological developments, and do not stand in the way of imminent technological advances.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Support Norway as a pioneer in both new technology and the development of systems that contribute to energy-efficient maritime industry
- Work toward realisation of a future-oriented Ocean Space Centre in Trondheim, Norway. It is crucial to secure funding for the pre-project phase in the state budget for 2020
- Strengthen maritime and petroleum-related research and secure a good framework for research and piloting programs, e.g. MAROFF, DemoHav, OG21, PETROMAKS and DEMO 2000
- Contribute to the establishment of a Centre for Research-driven Innovation (SFI) for autonomous ships
- Ensure that regulations, both nationally and internationally through the IMO, do not stand in the way of the natural and desired development of new technology

8

Global industry – global regulations

Norwegian shipping is a global industry and is therefore directly affected by events in other parts of the world. A global industry is dependent on global regulations. The Norwegian Shipowners' Association works to ensure that regulations for the maritime industry are primarily international, and are developed through the UN Maritime Organisation IMO and the UN Labour Organisation ILO.

Majority of turnover comes from abroad

The results of the member survey show that Norwegian shipping companies' revenues from markets outside Norway make up 61 per cent of total turnover in 2018, or NOK 139 billion. It is expected that the foreign share will remain virtually the same in 2019 as in 2018.

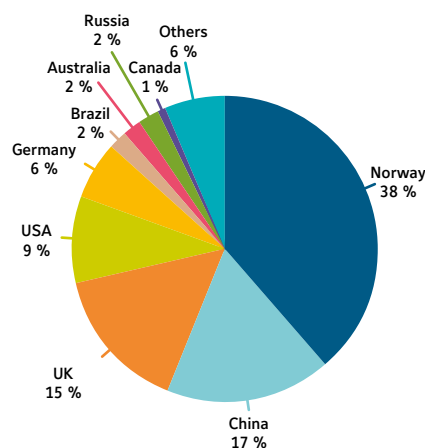
Not surprisingly, deep sea shipping companies have the largest share of their revenues from foreign markets, fully 90 per cent of total turnover, or NOK 102 billion in estimated revenue in 2018. It is expected that these shipping companies' foreign revenues will increase to NOK 107 billion this year. Thus it appears that a large portion of the deep sea shipping companies' expected revenue growth from 2018 to 2019 will come from foreign markets.

Short sea shipping companies, on the other hand, obtained 64 per cent of their revenues in 2018 from the Norwegian market. In 2018, short sea shipowners traded for just under NOK 8 billion in the Norwegian market, a decline of more than ten per cent from 2017.

The offshore shipping companies' revenues have fallen sharply since 2014. The same is also true of the foreign share. In 2018, offshore shipping companies gained NOK 22 billion in revenues from markets outside Norway, or just under 40 per cent of their revenues. In 2017, this proportion was 55 per cent.

As in previous years, offshore drilling companies have most of their revenues from the NCS.

Top ten markets shipping companies state as the most important



Shipping companies have strong positions in markets around the world. However, among individual markets, the Norwegian market is strong. Among others due to the great importance of the NCS. Almost four out of ten shipping companies rank Norway as the most important single market for their businesses, followed by China and the UK.



China increasingly important for Norwegian shipowners

China has significantly increased its importance as a market for Norwegian shipping companies since last year. Now one of six shipping companies list China as the most important market, twice as many as two years ago. The downward trend we saw in previous years for both Brazil and Australia has now stopped, and there are once again more shipping companies than previously ranking these two countries among their top three.

Protectionism is negative

Asked about how they are affected by increased global protectionism, almost six out of ten shipping companies, respond that they consider this development to be negative or very negative for their businesses. 80 per cent of the deep sea shipping companies, and 50 per cent of the short sea shipping companies, consider increased protectionism as negative.

Part of the overall picture on increased protectionist tendencies is related to the trade war between the USA and China. Half of shipping companies report this as negative or very negative for their business. Mainly deep sea shipowners are directly affected by the trade relationship between the USA and China. In this segment, seven out of ten shipping companies state that the conflict is having a negative or very negative impact on their business.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Contribute actively to regulatory processes in the IMO, and ensure predictability of entry into force, exemplified by the ongoing process to develop actions to follow up on the IMO's climate strategy
- Speak out in protest of protectionist trends in global markets
- Ensure the observance of the principles of international shipping enshrined in the Convention on the Law of the Sea, including taking an active role in the development of a new instrument on conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction
- Continue to support the WTO as the most important organization for negotiating free trade and for settlement of trade disputes
- Work actively to negotiate free trade agreements with countries comparable to those with whom the EU has entered into agreements with
- Safeguard maritime interests in negotiations on a free trade agreement with China

9

Europe – our most important market

Unrest in Europe is worrying for shipowners. Europe represents the largest and most important trading partner for the maritime industry. The Agreement on European Economic Area (EEA) ensures market access, predictability and equal terms of competition in Europe. The agreement has served and continues to serve Norway and Norwegian business well. We disagree with those who would have Norway seek to negotiate a new agreement with the EU. Uncertainty related to our most important market will particularly affect Norwegian export-oriented business and industry, and will send a very unfortunate signal. This is particularly sensitive at a time when global trade is being challenged by protectionist thinking in several important markets.

The EEA agreement is reported as being important for all the shipping groups' businesses. This is perhaps not too surprising, as Norwegian ship's calls at ports in the EU add up to almost 40,000 a year, or over 100 calls every day. The agreement is particularly important for short sea shipping companies, where almost 80 per cent stated that it is very important for their businesses.

Shipowners uncertain about "hard Brexit"

Just over one-third say that a so-called "hard Brexit", where the UK leaves the EU without an agreement, will impact their businesses negatively or very negatively. The majority of companies stated that they consider this to be neither negative nor positive. This can be interpreted to mean that shipowners are largely unsure of the consequences of the UK's withdrawal, while also finding it difficult to see how the relationship between the UK and the EU / EEA countries will be after a hard exit. In sum, it appears difficult for many companies to predict the impact this will have on their businesses.

Almost half of short sea shipowners consider a "hard Brexit" as negative or very negative, while four out of ten offshore shipping companies state the same.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Conduct an active European policy that safeguards good cooperation with EU institutions and member states, based on the EEA agreement
- Secure the interests of shipping in the Brexit process

10

Great potential in the High North

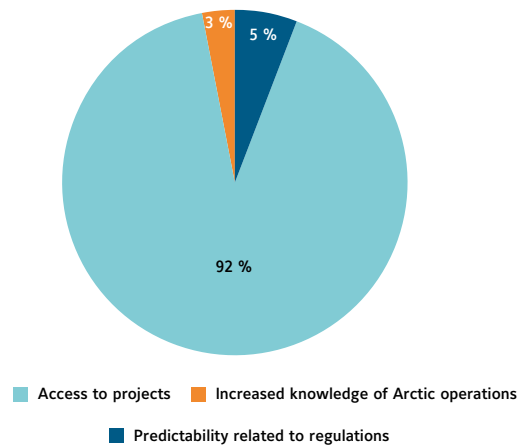
The High North holds great opportunities for economic growth, research, and innovation. Sustainable utilisation of these opportunities exposes crew and equipment to challenges that require special expertise and experience to overcome. Development of commercial activity in the Arctic therefore requires a responsible approach based on scientific, industrial and experience-based expertise. Relevant international regulations for Arctic maritime operations are required in order to ensure sustainable solutions, value creation, safety, and acceptable environmental risk. In addition, a comprehensive upgrade and development of relevant infrastructure must be carried out, and satisfactory industrial standards must be developed.

80 per cent of ship traffic in the Arctic goes in or through areas where Norway is responsible for search and rescue preparedness. Infrastructure is a prerequisite for sustainable growth and a green shift in the High North. In order for Norway to utilise the significant natural resources and safeguard our foreign policy interests in these areas, infrastructure and capacity for security and emergency preparedness must be properly dimensioned.

Lack of projects hindering growth

43 per cent of shipping companies are involved in activities in the High North. Almost all companies, 92 per cent, state that access to projects is decisive for whether they will be able to grow in the High North in the future.

Main assumptions for growth in shipping operations in the High North



THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Actively contribute to harmonised implementation of the Polar Code
- Strengthen search and rescue services in the High North in line with SARiNOR, and develop search and rescue preparedness geographically located in the Arctic, partly through strengthened presence of emergency vessels
- Intensify efforts to chart the waters around Svalbard
- Ensure year-round operation of Polarsysse
- Invest in weather radar on Svalbard to ensure daily logging of ice and weather information
- Strengthen and modernise communications infrastructure in the High North, including secure solutions that contribute to increased coverage north of the 75th parallel

11

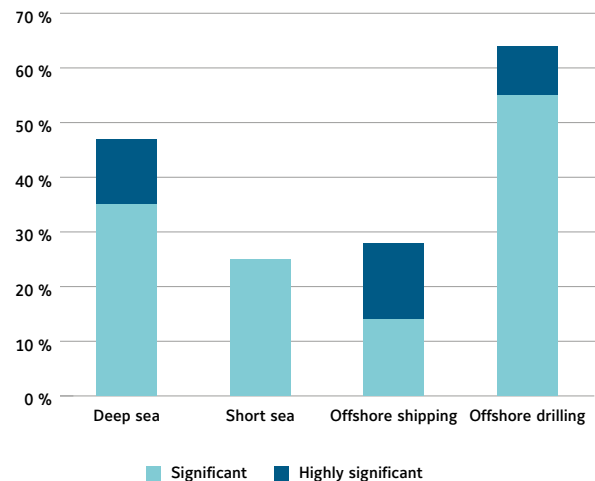
Maritime security and crisis response

The Norwegian-controlled fleet operates around the world at any given time. Ships and companies are therefore exposed to threats and security-related challenges accordingly. At the same time, the fleet represents sensors of constant evolving developments and threats around the world. Due to its global presence and large number of ships, the Norwegian fleet also represents a formidable contingency asset for the Norwegian government and its allies. At the same time, the ships under Norwegian flag are under national jurisdiction, and a crisis on board a Norwegian ship is therefore as serious as a crisis on Norwegian soil. The fleet can thus be both an asset in crisis situations and a target for unwanted incidents. In order to contribute to global maritime security, and Norway's ability to exploit the fleet as emergency preparedness assets, a comprehensive national strategy for maritime security and improved contingency plans is required.

Cybercrime the most serious security threat

In the member survey, shipping companies were asked to what extent their operations are affected by the security threats from piracy, terrorism, cybercrime, organised crime, armed conflict and geopolitical tensions. Four out of ten state that cybercrime affects their operations to a large or very large extent. 64 per cent of offshore drilling companies say that the threat from cybercrime will greatly or severely affect their operations. Just under half of deep sea shipowners state the same.

Percentage of shipowners viewing cyber crime as a threat to their business



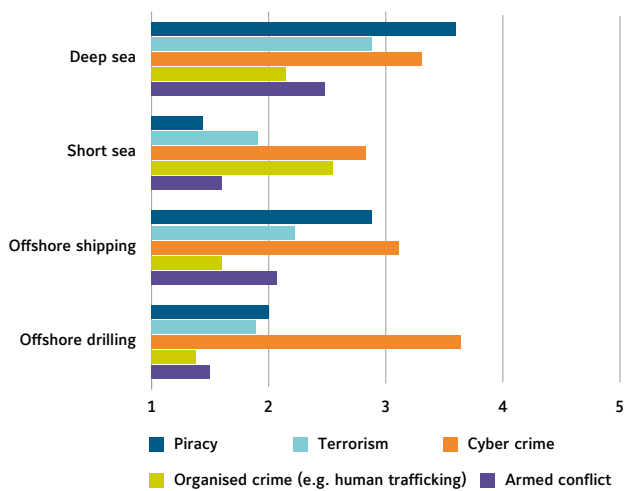
Shipping companies view terrorism, organised crime and armed conflict as less of a threat now than one year ago. Piracy is largely a concern for deep sea shipping companies.

There is reason to assume that cybercrime threats will become an increasingly relevant issue as more businesses begin to use more digitalised, automated, and autonomous services.



To what degree the following security threats impact the shipowners' operations

Scale from 1 til 5, where 1 = Insignificant and 5 = Highly significant



THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Develop a comprehensive national strategy for systematic contribution to improve maritime security in challenged waters and regions of the world
- Establish plans and systems to ensure coordination and planning for efficient use of shipping capacity in worst case scenarios
- Perform a complete review of cyber-related challenges, and facilitate the establishment of organisations, systems, and capabilities to ensure national collective defence of the cyber infrastructure
- Carry out projects on Svalbard and in the Arctic to support search and rescue, general maritime preparedness, ensure activity and sustained Norwegian presence in the region
- Procure helicopters for maritime counter-terrorism and emergency response operations at sea



12

Cleaner oceans

Eight million tonnes of plastic end up in the ocean every year. If we do not take action, a fourfold increase in plastic waste is estimated by 2050. Meeting the challenge of ocean garbage begins on dry land, and thus the problem must be solved first and foremost through initiatives on land.

At the same time, shipping has both the responsibility and the opportunity to find solutions to one of our biggest challenges for the environment. The Norwegian maritime cluster can provide technology that will contribute to mapping the extent of plastic pollution, and to developing new concepts that can contribute to the cleanup. The challenges in this area are often characterised by the lack of incentives to initiate development projects due to reluctance to cover costs.

THE NORWEGIAN SHIPOWNERS' ASSOCIATION ENCOURAGES THE AUTHORITIES TO:

- Adopt a proactive strategy to counter marine littering and the proliferation of microplastics nationally and internationally
- Initiate a new international agreement on marine garbage
- Invite shipping companies and the Norwegian maritime cluster to participate in projects to remove plastic from the sea
- Grant money for an application-based pilot scheme for the development of new technology aimed at (i) mapping and (ii) technical solutions for efficient cleanup
- Establish a market mechanism that will help develop a holistic value chain to remove plastic from the sea
- Require municipal ports to establish waste plans to better manage plastic waste, for example by facilitating increased use of recycling as part of the value chain

Data basis and methodology

Data sources used in this report are quoted in the text, tables and figures. Sources and methodology are described below. The Norwegian Shipowners' Association has worked in collaboration with Menon Economics on the analysis.

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

The Norwegian Shipowners' Association conducted a survey of its members between 15 January and 25 January 2019. The members were sent an electronic questionnaire to survey their expectations of trends in economic KPIs, growth markets, access to capital and competence, and political framework conditions. The total analysis carried out by Menon Economics includes 84 of 128 member companies, giving a response rate of 66 per cent. Questions related to financial key figures include 90 out of 128 member companies, giving a response rate of 70 per cent. Additionally, the responders are seen as representative of Association members, both in terms of size and type of company. The material thus provides a sound basis for extrapolating from sample to population. Almost without exception, responses came from owners and senior management.

Calculation of shipping companies' turnover growth in 2018 and 2019

Menon Economics maintains its own accounts database with an overview of all Norwegian shipping companies' turnover in 2017.

The questionnaire asked the shipping companies to state their turnover from 2017, estimated turnover for 2018, and projected percentage of growth in turnover for 2019. Since Menon Economics does not have complete turnover figures for all shipping companies in 2018, these have been calculated as follows:

a) The shipping companies' self-reported turnover in 2017 is compared with audited turnover for the same year, to determine 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 2018 is adjusted for the share of total turnover in each of the four shipping company groups included in the data basis.

c) Prognosis for 2019 are calculated by multiplying the 2018 turnover for each member company by their own projected growth for 2019. The estimated turnover is then summed up for all of the four shipping company groups. Estimated turnover is also adjusted for the share of total turnover in each of the four shipping company groups included in the data basis.

Valuation of the world's shipping fleet

Menon Economics has estimated the value of the world's merchant fleet from 2001 to the present, distributed among 14 segments, and all the world's countries. Selected segments are consolidated in this report. Value is calculated within designated vessel segments on the basis of newbuild costs, freight rates, age, number of ships, life expectancy, and gross and deadweight tonnage. Fleet size data is obtained primarily from IHS Fairplay, while valuation data is gleaned from a number of sources, including Clarksons Platou, the UNCTAD Review of Maritime Transport, and Worldyards. In order to arrive at preliminary value estimates for 2019, volume statistics for 2018 are combined with pricing data for 2019. Cruise ships are removed from the fleet numbers and the historical figures are also adjusted for this.

Norwegian-controlled foreign-going fleet – definitions and parameters

The Norwegian Shipowners' Association maintains statistics on the Norwegian-controlled foreign-going fleet. The parameters 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), and engaged in foreign trade
- Ships sailing under a foreign flag and owned by Norwegian-controlled shipping companies (stipulating 50% Norwegian ownership or higher) and engaged in foreign trade

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