



GLOBAL
M&A
PARTNERS

NEWSLETTER

Maritime & Offshore Offshore Wind

February 2021



Introduction to the Newsletter

Dear readers,

2020 has been a year of unprecedented economic and social uncertainty. And the ramifications of COVID-19 continue to ripple across the world. It has sent the global economy into one of its worst recessions ever, and it forced many countries into months of lockdown, reducing social and economic traffic.

One main feature of coronavirus lockdowns around the world is the complete or partial closure of borders, which brought much of international travel to a halt. It turned out to be a devastating action for people working at sea: stuck on vessels or rigs for months in a row, unable to leave and to be reunited with their families – a sore test of the mental health of seafarers and their families at home.

Governments have increased spending to protect jobs and support workers. In October the IMF estimated the government measures to alleviate the pandemic's economic blow to be \$12 trillion globally. Central banks, too, have come in to support the economy by cutting interest rates which will help governments to manage their debt.

The recent progress on coronavirus vaccines has brightened the outlook. Now the focus is likely to shift to how quickly and successfully vaccines can be distributed. Already, in 56 countries worldwide, COVID-19 vaccines are being shot: while writing this introduction, start of February, worldwide an average of 3.4 million doses per day. But with the start of the global vaccination campaign, countries have experienced unequal access to vaccines. Therefore the World Economic Forum and UNICEF made an agreement with 18 shipping, airlines and logistics companies to deliver COVID-19 vaccines to developing countries. One of the participating companies is shipping giant Maersk.

With the vaccines helping waning the impact of COVID-19 on our health, our lives will likely return to greater social and economic normalization. But normal will not be the same as pre-COVID normal, since the COVID-19 pandemic has changed the world and the effects will last – we will live in a post-COVID normal.

This newsletter will focus on the several shipping sectors and highlights a theme. The theme of this newsletter covers the Offshore Wind sector – a flourishing sector for a green future.

We hope you will enjoy reading our newsletter.

For now we wish you and your family a good health and we hope that you and your company will endure these uncertain times.

The JBR Maritime and Offshore Team

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Renewable technologies such as offshore wind, as well as other energy efficiency measures, are capable of delivering more than 90% of the emission reductions needed while also providing employment and economic gains. Around a third of all new renewable power capacity added in 2019 was from wind power. Offshore wind energy, as a clean, scalable, as well as affordable technology, will be critical in supporting decarbonization. With evolving technologies, policy shifts, reduced market and regulatory barriers, intensifying commitment to renewable energy, growth in investments, a strengthening economic case, and a strong pipeline of bankable projects, offshore wind will further help in green recovery; becoming a cornerstone of the global energy transformation movement.

Key Takeaways from the Newsletter

The global maritime industry is undergoing stiff challenges on the back of ongoing COVID-19 pandemic. The downward shift in the manufacturing and production activities have adverse ripple effects on the supply chain that is being translated in the global shipping industry.

The COVID-19 outbreak had a negative impact on the maritime sector, slowing down activity due to sharp drop in demands. Halted production in the industrial sector and drop in oil demand had a major impact on the dry bulk and tanker shipping segments. Oil tanker earnings spiked in the three months from March 2020 to May 2020, before their steep decline thereafter. However, forecasts of stabilizing global oil demand signal a better 2021 for this segment. Shutdown of cruise lines was another blow to the industry with estimated cruise traffic decline by 6-12 m passengers. Offshore vessels, too, have been laid up worldwide, with owners unable to bring them back into service or recycle them due to low demand.

Nonetheless, select segments of the industry returned to their path of recovery as economies eased lockdown measures. Increasing container volumes across the Far East-North America passage post mid-2020, gave a boost to the container shipping segment. Freight rates also touched \$5,000 per TEU, highest in the last 18 months.

The offshore wind sector was majorly shielded from the impacts of the COVID-19 crisis, mainly due to longer project timelines. The Global Wind Energy Council (GWEC) has increased its forecast for offshore wind by 5% to 6.5 GW of new installations in 2020, highlighting another record year for the industry. Up until 2024, new offshore installations with over 48 GW capacity are expected to be installed, with another 157 GW forecasted to be installed between 2025 to 2030. Given the localized nature of wind power supply chains and project construction, the sector is expected to continue to generate large numbers in local investment and jobs to support economic recovery.

Global Maritime Industry



Overview

The global maritime industry is undergoing through stiff challenges on the back of ongoing COVID-19 pandemic which has severely impacted the global demand and in-turn stalled the manufacturing activities (Exhibit 1).

Exhibit 1: Forecast for Main Shipping Markets

	Oil tanker shipping	Container shipping	Dry bulk shipping
Impact	<ul style="list-style-type: none"> New OPEC+ deal will increase Russia and Kazakhstan oil production and decrease Saudi Arabia production The corona pandemic has destroyed global oil demand growth for 2020 	<ul style="list-style-type: none"> Container shipping is disrupted by box equipment shortages which are restricting available capacity and so forcing freight rates to record highs 	<ul style="list-style-type: none"> In 2020 overall tonnes transported fell by 1.3% to 5.49bn tonnes China accounted for ~ 50% of the market when measured in tonne-miles
Demand	<ul style="list-style-type: none"> In its January 2021 OPEC forecasts that in 2021 global oil demand is to increase by 5.9 mb/d y-o-y to average 95.9 mb/d 	<ul style="list-style-type: none"> Short-term: demand for containerized goods will continue to rise, although it will remain lower than in 2019 Long-term: demand will face headwind if the global economic downturn is prolonged 	<ul style="list-style-type: none"> Short term: a challenging year ahead, with China remaining dominant and (slow) recovery of the global economy weak Medium-term: demand will grow unevenly across the diverse dry bulk sectors
Supply	<ul style="list-style-type: none"> Due to closures at Chinese yards, deliveries are expected to be a bit lower than previously anticipated Annual expected fleet growth: Crude oil tanker: 1.8% Product tanker: 2% 	<ul style="list-style-type: none"> Due to closures at Chinese yards, deliveries are expected to be slightly lower than previously anticipated Annual expected fleet growth: 2.5% 	<ul style="list-style-type: none"> Fleet growth is expected to be at its lowest level since the turn of the century
Outlook	<ul style="list-style-type: none"> Oil demand recovery will be slow and it is forecasted that it will be at least 2022 before global oil demand returns to pre-pandemic levels 	<ul style="list-style-type: none"> BIMCO now expects loss-making average freight rates for the full year IMO2020 and deteriorating demand-supply fundamentals weakens the outlook 	<ul style="list-style-type: none"> 2021 is expected to be a record breaking year both in terms of tonnes and tonne miles

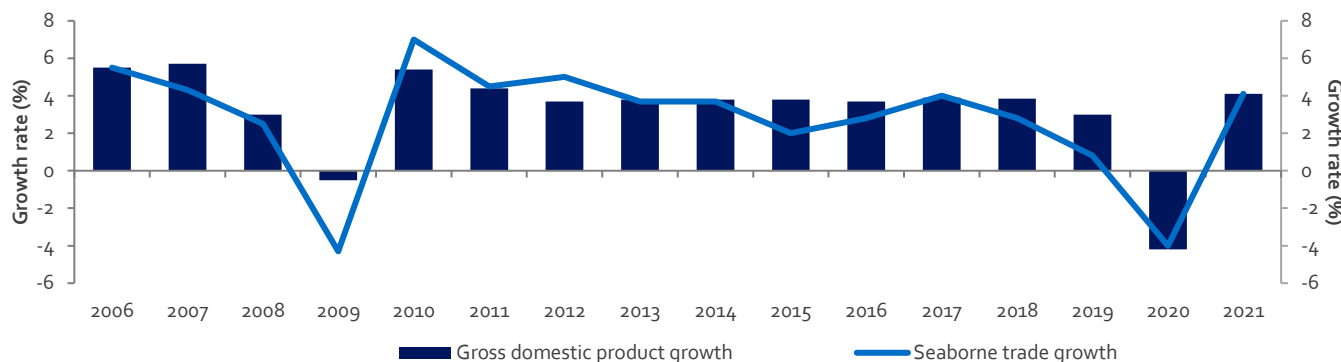
Source: BIMCO; Team analysis SG and JBR

The impact of COVID-19 is being witnessed largely on the Chinese manufacturing output that has exerted negative pressure on demand for coal and iron ore during the H1 2020 in line with decline in manufacturing activities. Such downward shift in the manufacturing and production activities have adverse ripple effects on the supply chain that is being translated in the global shipping industry. A global credit rating agency, Moody's has downgraded the outlook for the global shipping industry from 'stable' to 'negative' due to the coronavirus outbreak. Further, decline in demand for container and dry bulk shipping services is anticipated to exert downward pressure on the EBITDA of market participants in 2020. Oxford Economics predicts that "despite renewed restrictions in a number of economies in recent months, the growth rate of trade in 2021 will be strong". They expect world trade volumes to expand by around 9 per cent in 2021, after slumping by 7 per cent last year.

The outbreak of COVID-19 has disrupted the global trade creating sudden downward shift in the shipping industry. Charter rates of containers carriers and dry bulk have declined sharply due to the economic slowdown as demand dried up. The outlook of these segments remains bearish for the remaining time during 2020 and the dry bulk trade is expected to fall by 4-6% during 2020. The decline is anticipated to be driven by muted steel production and weak industrial demand that will impact coal and iron ore procurement. Additionally, container charter rates are expected to fall by 20-23% during the year in 2020 in line with a 10-12% decline in container trade. Oxford Economics estimates a world GDP growth forecast for 2021 slightly from 5.2% to

5.0%. UNCTAD estimates that global maritime trade (Figure 1) will fall by 4.1% in 2020 due to the unprecedented disruption caused by COVID-19. Nonetheless, UNCTAD expects maritime trade growth to return to a positive territory and expand by 4.8% in 2021, assuming world economic output recovers, and highlights the need for the maritime transport industry to prepare itself for a transformed post-COVID-19 world.

Figure 1: Development of International Maritime Trade and Global Output (2006–2021)



Source: UNCTAD



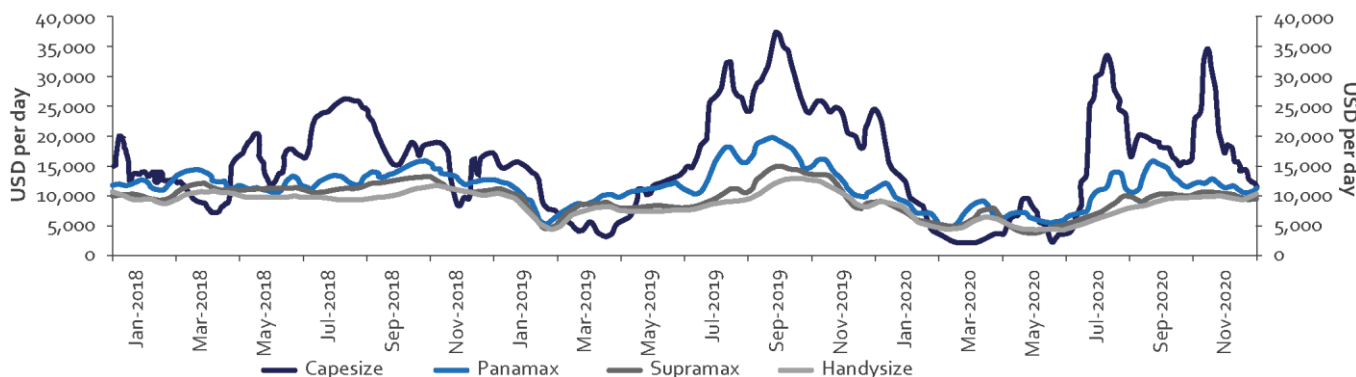
Dry-Bulk Sector

The Pandemic-hit 2020 has been a challenging year for the dry bulk sector. While the growth had started declining in 2019 and had touched loss-making levels, the beginning of 2020 has been severely hard on the dry bulk shipping market (Figure 2). Virtually all the sectors are witnessing record dip in volumes and rock-bottom freight rates due to COVID-19 induced lockdown. Smaller dry-bulk segments have fared better and have managed to keep earnings at around break-even level.

The biggest story in the dry bulk industry in recent months has been the strength of the recovery in major Chinese imports. These are up across the board, breaking previous records for monthly imports as well as imports accumulated year-till-date in 2020. Chinese recovery has been strong enough to make up for lower activity, with all ship sizes above their break-even levels.

The second half of 2020 has proven to be much stronger than the first with China pushing to make up for the lower demand in the rest of the world. Despite the strength of the past few months, average spot-market earnings in the year to date across all ship sizes are at loss-making levels, with time running out to turn this year around.

Figure 2: Dry Bulk Earnings and Break-Even Levels (2018–2020)



Source: BIMCO, Clarksons

Biggest losses came for Capesize ships which, despite jumps of up to \$35,000 per day, have averaged to \$ 2,204 per day for the year, until November. In the first five months of 2020, earnings for a Capesize averaged \$5,094 per day – around a third of what is needed to break even. On the other hand, between 1 June and mid-November 2020, earnings averaged \$20,247 per day. Supramax has been the second ship size losing more than \$1,000 per day, with daily losses averaging \$1,537. In contrast to

Capesize, Supramax earnings experienced a gradual increase from mid-May to September, since when they flattened at ~\$10,000 a day.

Key drivers for dry-bulk market include imports to China, exports out of Brazil, and beginning of the US soya export season in September that is expected to stay strong until December 2020. Record breaking US soya bean exports have supported mid-sized ships in the last months of the year.

Since tariffs were imposed, China increased its imports of soya beans from Brazil to make up for lower imports from the US. Despite imports from the US growing considerably, Brazilian exports have not suffered and are up 23.7%. China has imported a total of 83.2 million tonnes of soya beans from both Brazil and the US, which is 168 more Panamax loads (75,000 tonnes) than in the first 10 months of the previous year. Increase in tonne-mile demand has also been considerable given the long sailing distances between Brazil and the US to China. As a result, other grain exporters in the northern hemisphere have provided extra demand. In the year to date, there has been a 25.4% increase in tonne-mile exports on Panamax and Supramax ships out of the Black Sea.

In volume terms, the most important commodity for shipping is iron ore and China's importance in this market is growing as well. It has already been the top importer since 2003 and has become more dominant this year with imports have rising to 975.2 million tonnes, an 11.2% increase on the first 10 months of 2019; providing great business for Capesize ships. When demand elsewhere has remained muted, the strength of these imports, especially in the second half of the year, kept Capesize earnings above the break-even point.

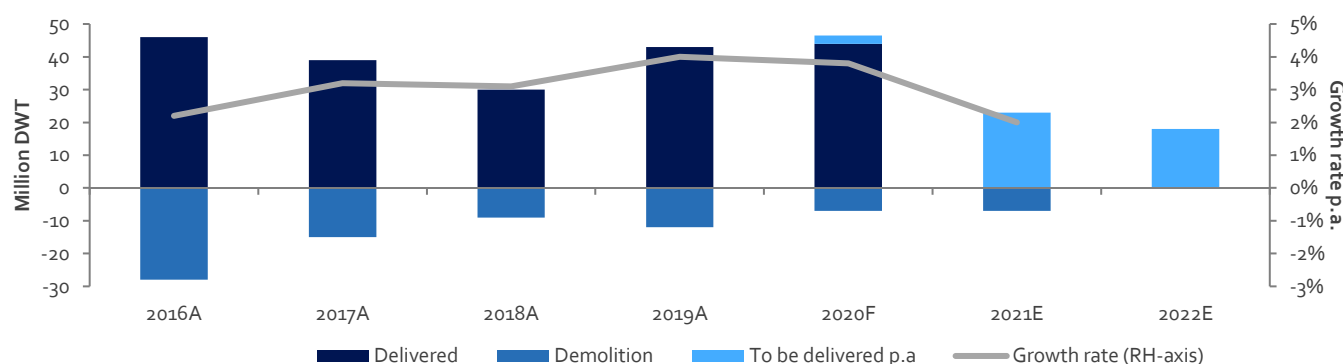
Fleet and Demolitions

Despite the disruption to shipyards in early 2020, deliveries of dry bulk ships reached a four-year high by mid-November, totalling 42.2 million DWT. BIMCO estimates full-year growth to reach 3.8%, with another 1.5m DWT to be delivered.

Drivers of fleet development were ore carriers, accounting for 54% of total demolitions, with 24 VLOCs with a capacity of 6.7m DWT. However, delivery of the 20 new VLOCs this year (~6.5m DWT) have been enough to replace all the capacity lost. Further four VLOCs are set to be launched in 2020, bringing total deliveries of these ships to 7.9m DWT.

BIMCO forecasts the pace of fleet growth to slow in 2021 to 2%, marking the lowest increase in capacity since the turn of the century, with a low order book signalling a dip in the number of ships that will be delivered. Currently 23.5m DWT is expected to be delivered in 2021.

Figure 3: Dry Bulk Ship Fleet Growth (2016A–2022E)



Source: BIMCO, Clarksons

Note: Growth rate for 2022E not available in source.

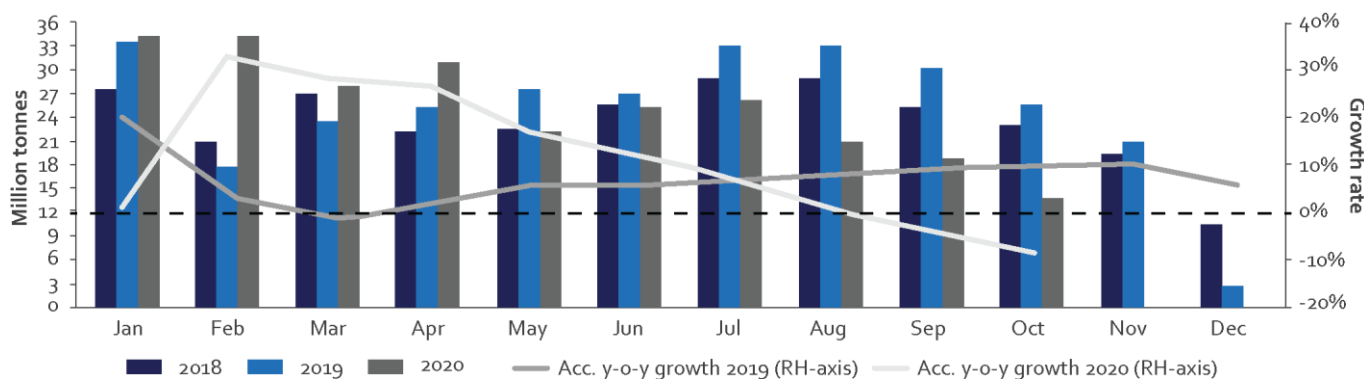
Outlook

On the positive side, China, one of the biggest drivers for the dry bulk industry, is gradually recovering and the stimulus measures around housing and construction sectors are expected to boost the demand for raw materials. As the year end approaches, development of Chinese coal imports is the most talked about story in the dry bulk market (Figure 4). In Q3 2020, Chinese coal imports were 31.9% lower than Q3 2019 and October imports were down 46.6% compared to the previous year – a loss of 60 Capesize loads (200,000 tonnes). The quota limits on coal exports will likely result in further decrease in imports in the final two months of 2020.

Loads arriving from Australia faced extended waits at Chinese ports and new orders were threatened by reconsiderations or cancellations. The delay at discharging has caused a reduction in the supply of ships and increased demand for ships that aren't tied up. Beneficial in the short-term, this is likely to be more damaging once the backlogs clear out. Additionally, any reduction in the coal imports from Australia would lead to increase in tonne-mile demand due to the short sailing distances. Replacement imports from regions further afield could result in a potential upside in this case.

While China has been a major contributor to dry bulk shipping through its focus on boosting industrial production, which was 6.9% higher in September 2020 compared to the previous year; advanced economies are falling behind. They are likely to measure up once the COVID-19 crisis passes, supporting dry bulk shipping with a slow recovery in 2021.

Figure 4: Chinese Coal Imports (2018–2020)



Source: BIMCO, General Administration of Customs PR China

Recent Developments

While the outlook for the year has been mostly negative, the surge in dry bulk rates in the mid of June and October 2020 has been very heartening for the struggling industry. Panamax and Handymax were hugely supported by US soybeans trade which is expected to decline post reaching its peak in the last few months of 2020. A second round of lockdowns in Europe is also expected to impact trade in the Atlantic basin. Despite the strong demand for iron ore entering a seasonal slowdown and a fall in Chinese coal demand slow down dry bulk recovery, surge in rates have been witnessed in most segments:

Panamax: Healthy demand for both minerals and grains from the North has positively impacted rates in most regions of the Atlantic. Rates gained traction with support led by both the North in the Atlantic and the North Pacific in Asia.

Supramax/Ultramax: Rates have gone up with strong demand from the US Gulf, Arabian Gulf, Asia, and the Indian Ocean.

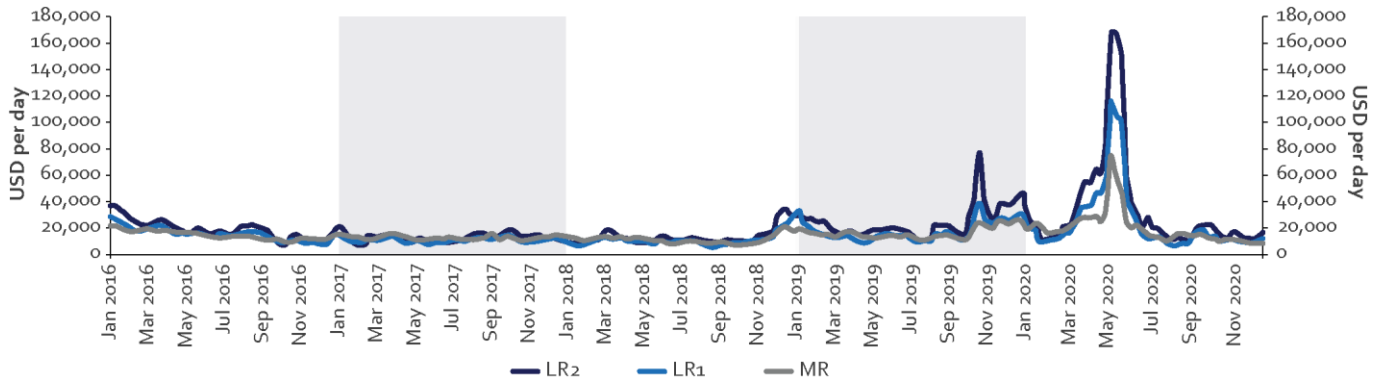
Handysize: East coast South America captured the spotlight with a surge in demand between September end and early October. Tonnage with November dates were tight, particularly in north Brazil. US Gulf also showed signs of improvement.



Tanker Shipping

The tanker shipping industry is facing hard times due to the escalating freight rates against poor market fundamentals. Mismatch between oil production and demand, shrinking tonnage availability, and growing freight rates have collectively led to an increase in floating storage.

Figure 5: Oil Product Tanker Earnings (Jan 2016 – Nov 2020)



Source: BIMCO, Clarksons

Geopolitical tensions have broken down the OPEC+ alliance and erupted the crude oil tanker spot freight market (Figure 5). In January 2021 within the OPEC+ alliance Saudi Arabia voluntarily reduced its daily output with 1m barrels per day during February and March. Meanwhile Russia and Kazakhstan are upscaling their production with 75,000 b/d in both February and March. Further, BIMCO expects the global oil demand to fall in the long term.

The tanker industry experienced a boost immediately after the start of the COVID-19 crisis due to lower oil price and higher exports from major producers. However, lower aviation and transport demand and fundamentally lower oil consumption due to global lockdown have affected the industry.

China was very active in buying crude oil in Q2 2020 to profit from the low prices, with Chinese crude oil imports rising by 10.6%, to reach 458.6m tonnes over the first 10 months and slowing in the last months i.e. October. China has also replaced Saudi Arabia with Russia as the largest source of their crude oil imports, lowering the demand for tanker shipping as a considerable share of imports from Russia is delivered by pipeline or rail.

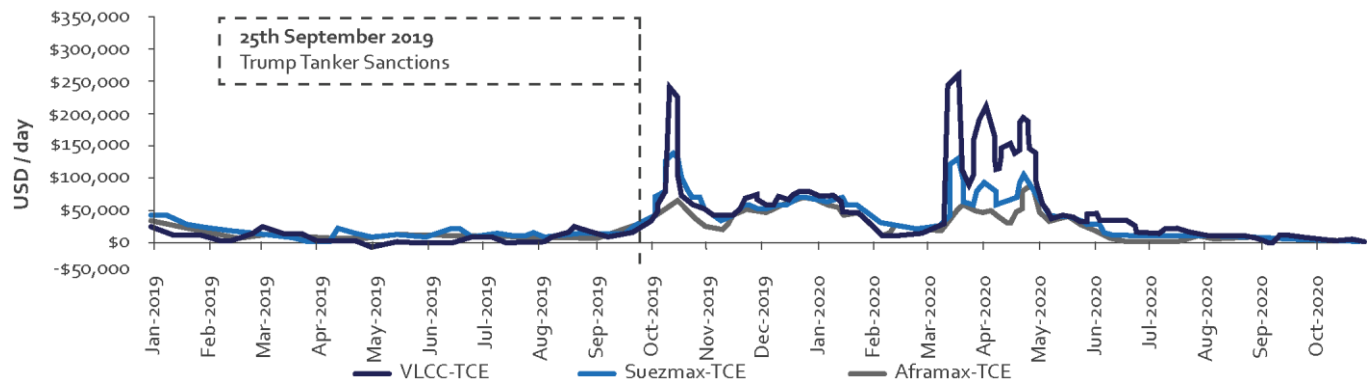


VLCC average earnings were at \$12,806 per day in the spot market, less than half of what is needed to break even at the start of November.



At \$6,890 per day and \$4,728 per day, earnings of both Suezmax and Aframax, respectively, were considerably below break-even levels.

Figure 6: Crude Oil Tanker Earnings (Jan 2019 – Oct 2020)



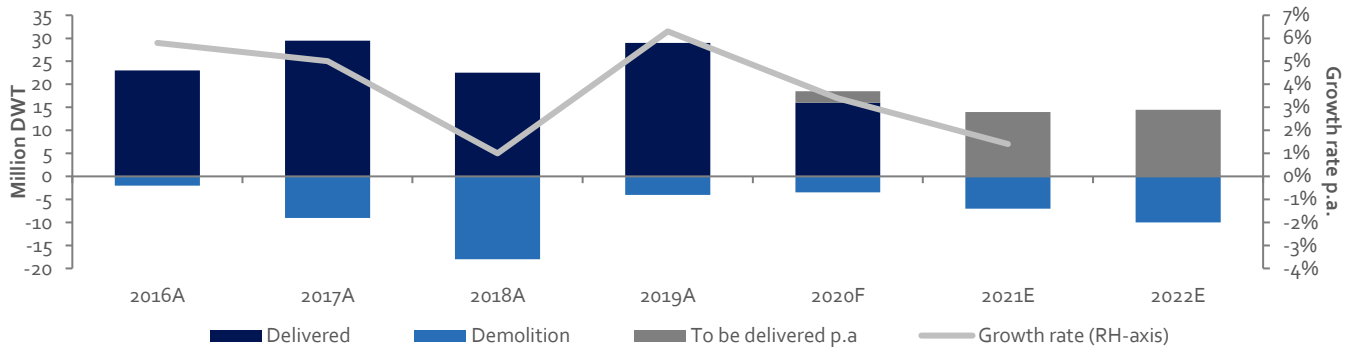
Source: VesselsValue

The slowdown in economic activity worldwide had started in 2019 and followed into the subsequent year. The trade-to-GDP multiplier is anticipated to fail to deliver expected guidance under such conditions. Additionally, the product tankers have seen little demolition activity of just 1.1m DWT. Thus, the fleet will grow by 2.5%, down from the 4.7% last year, but higher than the

1.8% in 2018. Along with demolitions, deliveries of crude oil tankers have also fallen. So far, 16.2m DWT have been delivered, against demolitions of 1.1m DWT, leaving year-to-date fleet growth at 3.1%. BIMCO expects full year fleet growth to be at 3.5%.

Of the crude oil tankers, VLCCs experienced the highest fleet growth. The 32 VLCCs delivered with an average size of 304,371 DWT added 9.7m DWT. Additionally, no VLCC demolitions since June 2019 have contributed to unrestrained fleet growth.

Figure 7: Crude Oil Tanker Fleet Growth (2016A–2022E)



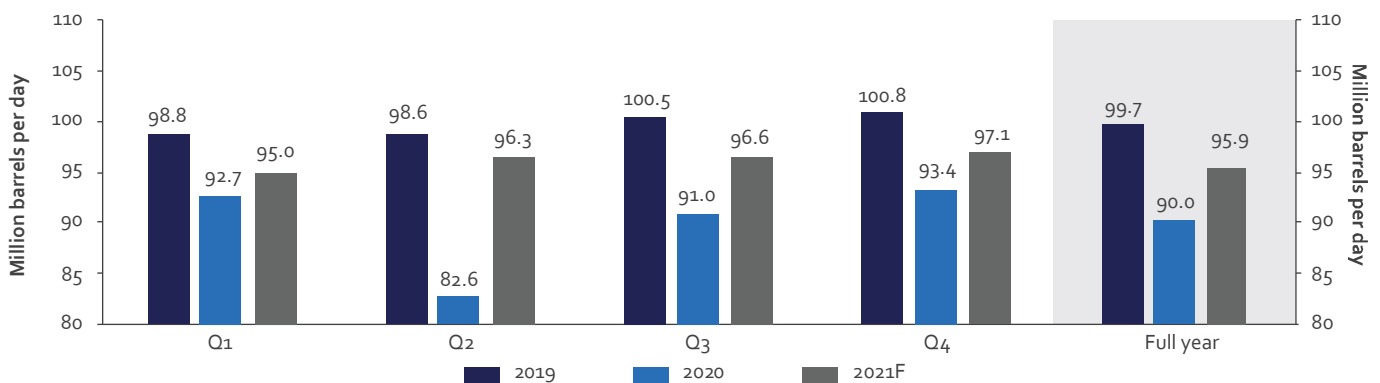
Source: BIMCO, Clarksons
Note: Growth rate for 2022E not available in source.

Outlook

Experts forecast a challenging 2021 for tanker shipping, attributed to lower global demand which will rise from 2020 levels but is expected to remain below 2019 levels (Figure 8). OPEC forecasts that global oil demand in 2021 will rise from the 90 m bpd in 2020 to 95.9m bpd, however, demand will remain depressed until at least the middle of 2021. Next, drawdown of stocks is also expected to be a challenge for tanker shipping by lowering actual demand for shipping and adding to overcapacity as ships engaged in floating since Q2 free up and return to market.

However, volatility as a result of geopolitics – oil price wars, ad hoc sanctions on certain tankers, and so on – may also present an opportunity for freight rates to soar on several occasions.

Figure 8: Global Oil Demand (2019–2021F)



Source: BIMCO, OPEC

Chemical Tankers

Chemicals are important building blocks for a large amount of products, e.g. for personal care, digital communications, packaging or pharmaceuticals. A continuing flow of chemicals is necessary for the world’s recovery of the pandemic. Meanwhile production of base chemicals and intermediates has become highly concentrated in some specific regions worldwide, making its imprint on the trade routes and the value chains (Exhibit 2).

Exhibit 2: Concentration of capacity for selected chemical product categories

Chemical	Global capacity (kt)	Global distribution of capacity (2020)								Main end products
		China	Rest of APAC	North America	Europe	Middle East	Russia Eastern Europe	South America	Africa	
Adiponitrile	1,896	0%	1%	66%	33%	0%	0%	0%	0%	Textiles, automotive parts, electric appliances
Chlorobenzenes	1,104	59%	21%	0%	18%	0%	0%	1%	0%	Solvents, herbicides, dyestuffs, rubber products
Ethyl Acetate	5,876	62%	18%	5%	7%	1%	1%	6%	1%	Solvents
HMDA	2,230	20%	3%	42%	33%	0%	0%	2%	0%	Textiles, automotive parts, electric appliances, consumer goods
Linear Olefins	5,484	2%	3%	56%	15%	12%	2%	0%	10%	Packaging, pipes, electrical cables
NB Copolymers	1,776	19%	60%	5%	13%	0%	3%	1%	0%	Pharmaceuticals, agricultural compounds, fragrances, rubber products
Polyester Fibres	87,237	74%	20%	2%	2%	0%	0%	1%	0%	Textiles
Polyester Polymer	135,626	61%	21%	6%	7%	2%	1%	2%	1%	Textiles, packaging, automotive parts, electric appliances, pipes, consumer goods
Polyisoprene	1,061	32%	8%	10%	0%	0%	49%	0%	0%	Rubber products, textiles
SAN	1,487	11%	56%	15%	15%	2%	0%	1%	0%	Packaging, electric appliances

High share of global capacity Low share of global capacity

Source: World Economic Forum

Chemical tankers carry several hundred different chemicals, divided into three main groups: organic chemicals/petrochemicals, vegetable oil/animal fats (vegoils) and inorganic chemicals. Organic chemicals are derived from crude oil and natural gas production and represent the largest group of chemicals traded. Vegoils are derived from plants and include (most importantly) palm oil and soybean oil. Inorganic chemicals are mineral-based and are comprised mostly of acids. IMO-class tankers are tankers with International Maritime Organisation (IMO) Certificate of Fitness (CoF), capable of carrying chemicals and vegoils. However, no such certification is required for transporting clean petroleum products (CPP) and all chemical tankers are thus capable of carrying CPP.

In 2020 the market for chemical tankers was relatively strong, despite the pandemic. At the start of 2020 the pandemic demand decreased, due to the lockdown, but from June/July the market revived. As countries came out of lockdowns many chemical plants resumed operations.

The positive market development was also driven by a low influx of newbuilds. Tanker owners are unsure which technology is best to comply with future environmental requirements and wait to invest in new tankers.

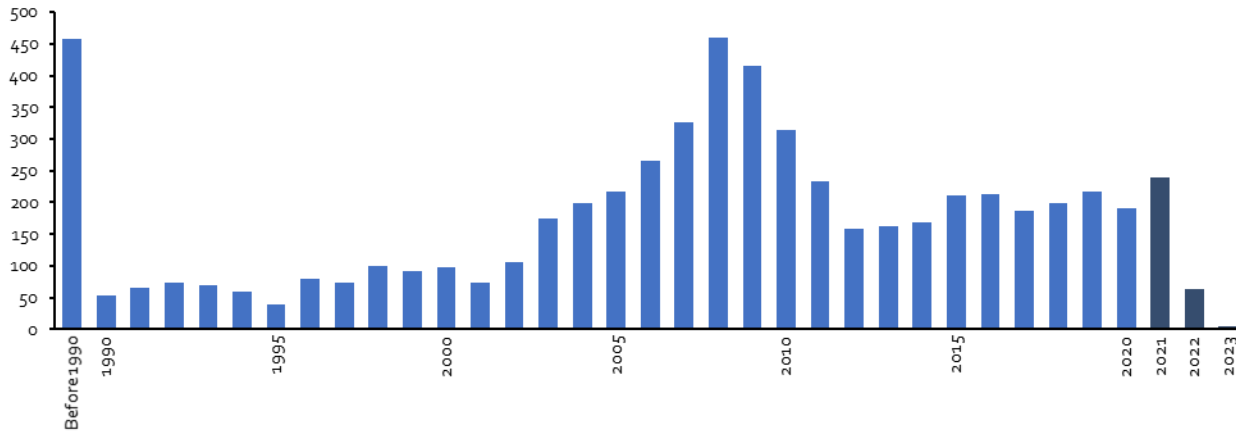
The supply was also influenced by the number of swing tonnage. Swing tonnage comprises vessels which are usually involved in the oil products trade but may also swing into parts of the chemical trade when this is economical. As chemicals are less volatile, usually MRs can swing across to chemicals if earnings get too low. However, when in March 2020 crude oil prices plunged the use of tankers as floating storage increased. This led to an upsurge of the product tanker freight rates, which in turn attracted high swing tonnage from the chemical fleet: 79 vessels, together about 2.9m DWT, mainly MR-sized tankers switched from the chemical trade into the CPP trade.

The present fleet of chemical tankers consists of about 5,700 vessels, with a total of 123m DWT (Figure 9). The average age of the fleet is 15 years and the average tonnage is 21,000 DWT. At the start of 2021 a total of 307 vessels are on order, with a total of 8.7m DWT. The average tonnage of the newbuilds is with over 28,000 DWT higher than the average tonnage of the current fleet. Main orders are from the Japanese company Nisshin and Bahri of Saudi Arabia.

The chemical tanker market is extremely fragmented: according to IHS these 5,700 vessels and 307 newbuilds are operated by more than 1,600 companies with a fleet of five vessels or less and about 235 companies with a fleet of more than five chemical tankers. So it is not strange that consolidation is taking place as well in vessel acquisition as in company mergers. Some examples are Stolt Nielsen, which acquired five chemical tankers from Chemical Transportation Group, built in 2016 and 2017. The tankers are 26,000 DWT and with stainless steel tanks. In November Team Tankers sold its European fleet of seven chemical tanker vessels to Dutch De Poli Tankers Group. In 2019 Maersk acquired seven chemical tankers from Malaysian AET, BW

Group sold 13 chemical tankers to the Israeliian Ace-Quantum Chemical Tankers and Nordic Tankers was sold to Japan's MOL. Uni-Tankers has announced it is looking for acquisition in 2021.

Figure 9: World chemical tanker fleet by building year



Source: IHS



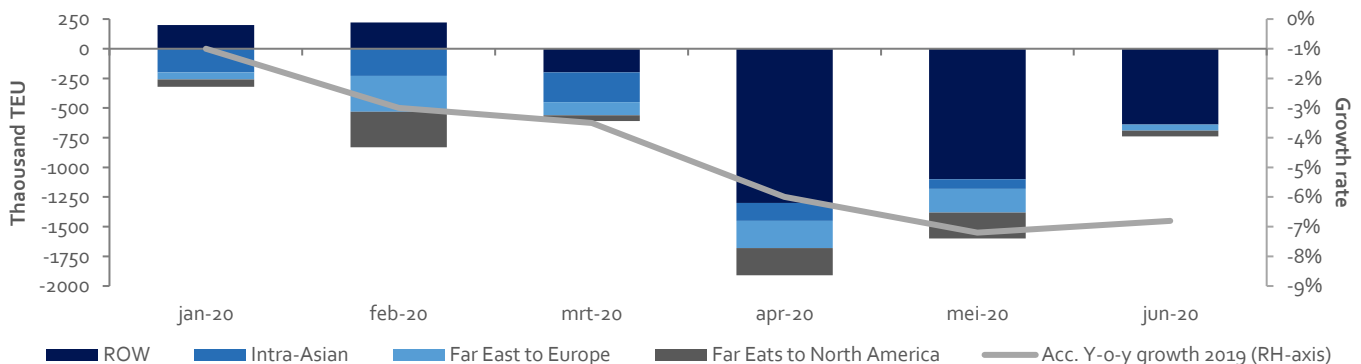
Container Shipping

The container shipping market is heavily dependent on consumer spending, which was severely impacted during lockdowns across the globe. The months of April and May suffered the worst impact compared to the previous year with container shipping volumes declining by 1.9m TEU (-13.6%) and 1.7m TEU (-11.0%) respectively (Figure 10). The lost volumes in June were less than half of this, down 0.7m TEU (-5.1%) and signalled the beginning of a muted recovery.



Figure 10: Change in Container Volumes from 2019

On main trade lanes and the rest of the world

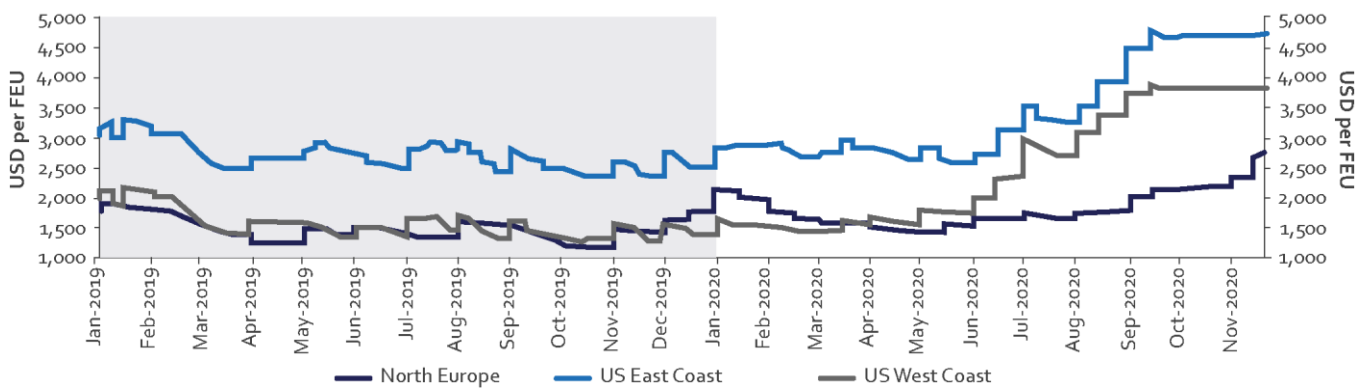


Source: BIMCO, CTS

Despite lower demand due to the pandemic, carriers achieved high freight rates and profitability in the first half of the year through large-scale capacity reductions and low bunker prices. Shipping containers on long-term contracts compared to short-term ones, have also been key to carriers' profitability. Tonnage providers suffered the most due to idle ships but demand started showing signs of improvement in the second half of the year.

Long-term rates experienced a boost after short-term container freight rates reached record highs on many of the major container shipping trades. Long-term freight rates between the Far East and the US rose, mirroring the development in short-term contracts that saw an increase in freight rates to the US, outpacing the rise in spot rates to Europe. Rates increased from \$2,412 per FEU on 30 September to \$3,133 per FEU on 1 October. These declined once again but at \$3,207 per FEU, still 25.7% higher than on the corresponding day in 2019. In mid-September, spot rates into the US were at record high and continued increasing until 15 September, when they jumped for the last time and have since remained steady near the record-breaking levels. (Figure 11).

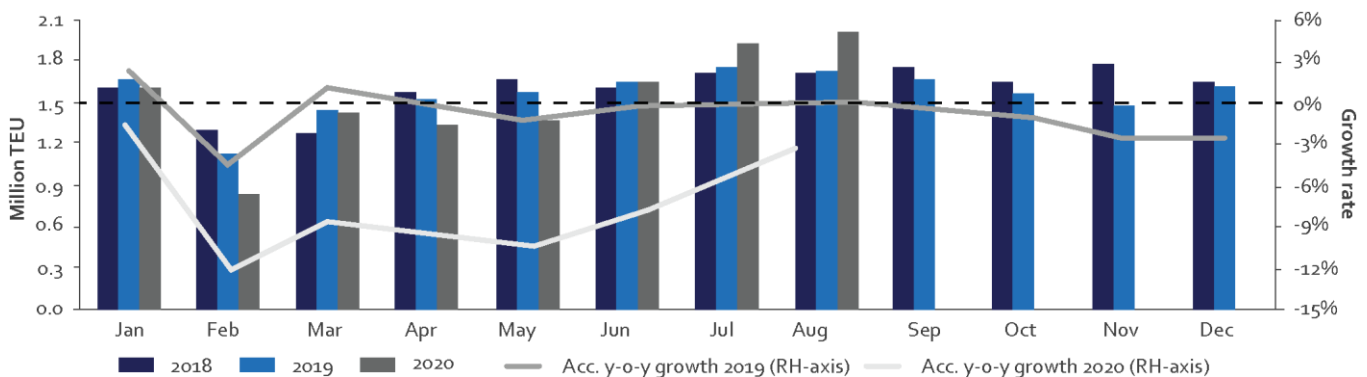
Figure 11: Container Shipping Spot Freight Rates – Far East (2019–2020)



Source: BIMCO, XENETA

Container volumes between the Far East and North America also got stronger in the second half of 2020 with volumes up by 180,000 TEU and 280,000 TEU in July and August respectively (Figure 12), benefitting from large-scale restocking in the US. With these strong volumes, the Far East to North America trade is outperforming the development in the rest of the world.

Figure 12: Far East to North America Container Volumes (2018–2020)

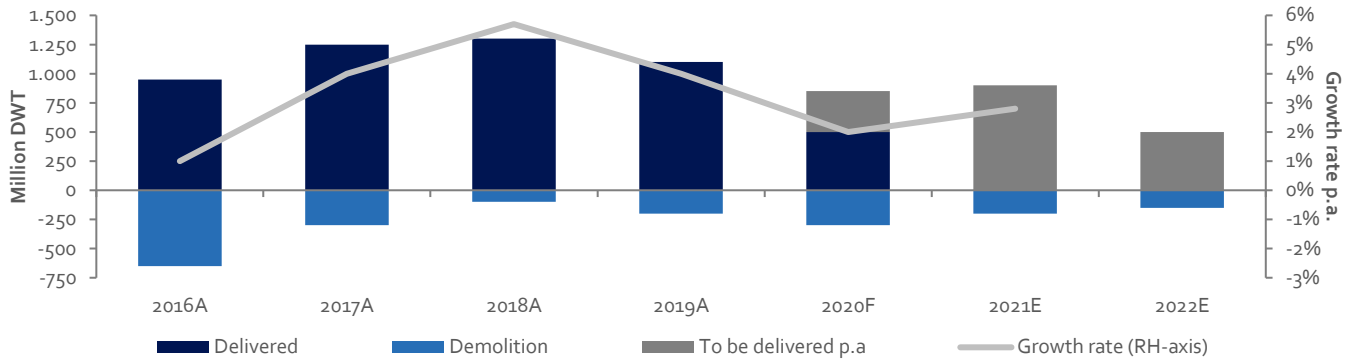


Source: BIMCO, CTS



Demolitions included 93 ships, removing 184,380 TEU from the market, consisting majorly of feeder ships; while deliveries totaled to 721,582 TEU, leaving fleet growth at 2.3% so far for this year. BIMCO anticipates container shipping fleet to reach 23.6 m TEU by the end of the year, a rise of 2.7% from the start of the year. Feeder ships are the most popular with currently 182 ships on order.

Figure 13: Container Ship Fleet Growth (2016A–2022E)



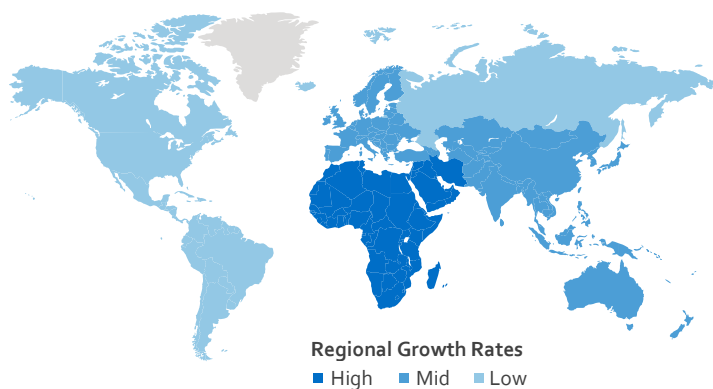
Source: BIMCO, Clarksons
Note: Growth rate for 2022E not available in source.

Offshore Supply Vessel

The Offshore Supply Vessel (OSV) market is oversupplied, and the demand outlook is weak. To balance the market, scrapping of laid-up and older tonnage is necessary. This entails owners (and their banks) writing off value of their fleets. Until now, many market participants have been unwilling to do so. All players hope that others will



Figure 14: Vessels Market – Growth Rate by Region (2019–2024)



Source: Mordor Intelligence

take the loss or that an unforeseen event will boost demand. If a large part of the fleet remains intact, the oversupply persists, causing low rates and utilisation. North America has been the dominant OSV market with increasing offshore exploration activities in the region including the Gulf of Mexico driving up demand for OSVs. Additionally, increasing offshore activity in Asian countries, especially India could potentially lead to long-term contracts for the OSV providers (Figure 14).

Growth drivers include growing exploration activities, increasing number of offshore wind farm projects, and increasing offshore decommissioning activities.

Buoyed by decline in capex and opex for both offshore oil and gas projects, the demand for OSVs is expected to surge. Additionally, decline in costs has also led to increasing exploration activities in ultra-deep waters and Arctic regions. It could, in turn, further fuel demand for OSVs.

OSV operators are increasingly investing in more efficient and environment friendly battery-hybrid propulsion. Major companies including Tidewater, Atlantic Offshore, and Harvey Gulf International Marine are upgrading their vessels with battery-hybrid propulsion and US-based SEACOR Marine aims to have the largest battery-hybrid-powered OSVs fleet.

Recent Developments

Offshore marine services companies are looking to reduce capacity by selling vessels in view of the lack of demand vis-a-vis global oversupply of offshore supply vessels and the pandemic. There are over 1,000 vessels laid up worldwide, with owners unable to bring them back into service or recycle them - compounding already low utilisation rates. Increasing cost of reactivating vessels and cash shortage is preventing further investment into OSVs.

The key factor has been a downturn in the oil and gas industry - offshore project contract awards crashed from a high of \$60 bn in 2019 to \$10 bn in 2020, that has forced incumbents to re-evaluate their fleet composition and future fleet deployment. A case in point was the divestiture of two anchor handler tug and supply vessels by Maersk Supply Service.

” As a response to the recent downturn in the oil and gas industry, we have re-evaluated our fleet composition and future fleet deployment.

—Maersk Supply Service Chief Commercial Officer, Carsten Gram Haagensen

Oil and gas companies are expected to defer as much as \$131 bn worth of oil and gas projects that were to be approved in April 2020 (Rystad Energy) due to the crash in oil prices resulting from the supply and demand imbalance in the wake of COVID-19. This could result in up to 10% contraction in volumes and \$3 bn in revenue loss for the offshore drillers.

Moreover, decreasing rate of utilisation has resulted in many OSV owners approaching their creditors for yet another round of restructurings. This, in conjunction with the fact that advances in technology have led to higher rate of obsolescence of floating units, is expected to lead to more pressure on OSV companies to right-size their inventories.

Impact of COVID-19

The offshore industry has adopted digital technologies to lessen the impact of COVID-19 mitigation measures. Since the pandemic, compulsory quarantine measures and social isolation practices have affected the way offshore vessels and drilling rigs operate, affecting the daily lives of offshore workers. Companies such as IEC Telecom is providing remote access facilities to give crew enhanced online connectivity while at the same time increasing the bandwidth speeds to cope with the escalating digital traffic.

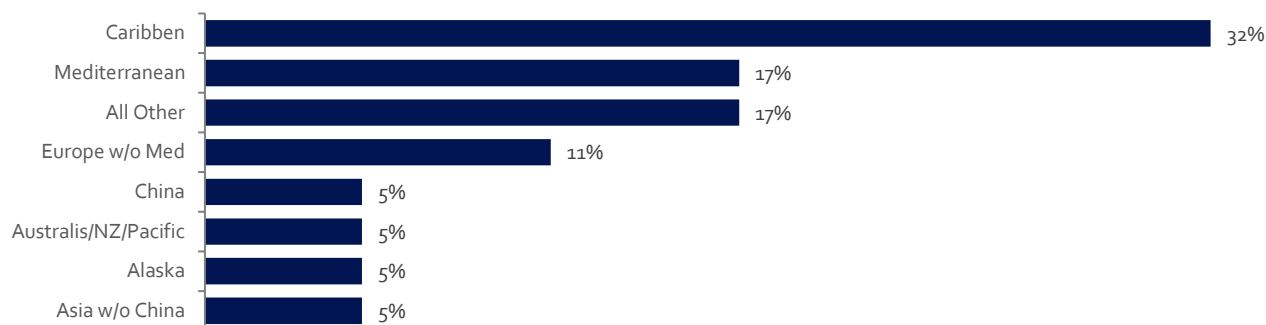


Cruise Line

The cruise industry growth will be driven by a record order book of over 117 new cruise ships with deliveries scheduled through 2027. The average cost of a new ship is \$578 m, while the average tonnage is ~82,000, and the average capacity is 2,113 passengers. New ship deployment will be largely driven by the Caribbean region (32%), followed by the Mediterranean region (17%), and the European region (11%) (Figure 15). Key market participants have initiated their growth plans. For instance, MSC Cruises is planning for the biggest growth with 14 ships on order including 10 mega-ships, four smaller, and 1,000-guest luxury vessels since the company is focusing on dominating the high-end market. Additionally, Carnival Corporation has 20 ships on order from 2019, extending its order book through 2024. Further, Royal Caribbean Cruises has an order book of 15 ships with a delivery line through 2026.



Figure 15: Global Scenario of New Ship Deployment by % (2020)



Source: Cruise Line International Association

Figure 16: Worldwide passengers carried (2009-2021f)



Source: Cruise Lines International Association

The global passenger capacity was at 27.5 m in 2018 and is down to 7.1m in 2020 (Figure 16). In 2019 demand for cruise from North America accounted for almost 59% of the total number of cruise passengers. Other markets that largely contributed towards the cruise shipping industry included Europe (Germany, the UK, and Ireland being the three largest European source markets for cruises) and the rest of the world (especially Australia/New Zealand and Asia).

The coronavirus situation has severely impacted cruise demand for most of 2020 and seen many sailings cancelled well into 2021. According to the world tourism organization (UNWTO), international tourism has declined by 65% in the first quarter of 2020 and is forecasted to decline by 58% to 78% in 2020.

While cruising has tentatively restarted in Europe and new regulations are being formed for a potential return in the US, the industry still faces uncertainty. Hundreds of cruise ships have now been laid up at sea, forcing cruise companies to sell off the cruise ships. In September 2020, Carnival Corporation announced its plans to sell 18 cruise ships, resulting 12% decrease in the overall fleet.

Before the COVID-19 outbreak, the last decade showcased record growth for the cruise industry that was intended to continue during 2020 and later years. According to the CLIA, 32m passengers were expected to travel on cruise ships in 2020, growing from 27.5m in 2019. Since 2009, cruise ship passengers grew from 17.2m to 27.5m in 2019, growing at CAGR of 5.4% during 2009-2019. Additionally, cruise industry revenues were estimated to showcase faster growth from ~15.7 bn in 2010 to an estimated 31.5 bn in 2020, highlighting a CAGR of 7.2%. In 2019, there were 278 ocean cruise line ships operating across 55 cruise companies and over 500 river cruise ships. The ship operators were planning to add another 19 ships in 2020.

Impact of COVID-19 on the Cruise Line Industry

The blow from the COVID-19 pandemic on the cruise industry has been devastating. Travellers with underlying health conditions are avoiding cruise ships with a fear of increasing the risk of infection in a cruise-ship environment. In case of an outbreak, cruise lines will have to force passengers to undergo extra health screening. Additionally, ships will be required to mandatorily follow the new enhanced cleaning procedures, including more frequent hull cleaning. Some companies are

dismantling cruise ships and selling them as scrap metal, with several vessels arriving in Britain, Italy, and the US for dismantling.

The Centers for Disease Control and Prevention on issued a framework for a phased resumption of cruise ship operations as the no-sail order, issued in March in response to the coronavirus pandemic, neared expiration on in early November. However, The Cruise Lines International Association (CLIA), an industry group that represents 95% of global ocean-going cruise capacity, announced the extension of suspension of US cruise operations through December 31 to let its members prepare for the implementation of measures to address COVID-19 safety issues.

Moody's Investors Service has lowered its outlook for the lodging and cruise industry from 'stable' to 'negative' since both the industries are facing revenue losses in 2020 due to the pandemic outbreak. The cruise lines have planned to start sailing as the pandemic restrictions are easing out. The cruise lines are chalking out plans to tackle the pandemic while sailing by taking safety precautions such as redirecting ships to new destinations. For instance, Singapore has planned to start sailing cruise ships amid the coronavirus pandemic, but the cruise ships will not make any stops and return to the port they departed to keep crew and passengers safe. The cruise passengers are loyal and are likely to return to cruising after the shock of the outbreak wears off. The cruise lines will initiate offering discounts to entice travellers to return to the water.



Ports / Terminals

The ports and terminals market is witnessing growing usage of Internet of Things (IoT) solutions to improve safety and enhance the operational efficiency at port terminals. IoT operations reduce human effort and increase the efficiency of the operations in the areas including real-time tracking of containers and ships, controlling and enabling access to Closed Circuit TV (CCTV) cameras for the entire port, and tracking and identifying assets and vehicles for complete traceability within the proximity of the port. Additionally, ports and terminals sector is giving a greater emphasis on investing into new technology such as AI and blockchain and transforming into 'Smart Ports', as there are growing threat of cyber-attacks due to having sensitive maritime data points on supply chain such as vessel navigation, cargo handling and container tracking.



Reduction in the workforce and fall in demands have pushed freight rates lower. Additionally, country-wise restrictions at ports, such as the ban on crew changes, and longer unloading periods are disrupting global supply chains.

Impact of COVID-19 on Ports/Terminals

Due to the recent outbreak of COVID-19, the container port volumes declined over the first few months of 2020 but are reflecting uneven signs of recovery in the third quarter of 2020. The average number of container vessels arriving weekly at ports have started to recover, rising to 9,265 by early August from 8,722 in mid-June. The number of ships pulling into ports to unload and load containers rebounded in many parts of the world, reflecting recovery for world merchandise trade, which suffered a historic year-on-year fall of 27% in the Q2 2020.

The weekly container ship port calls in China and Hong Kong had climbed to 4.1% higher than the 2019 numbers by early August 2020, and calls in North America and Europe were still 16.3% and 13.2% in August 2020, which is below the levels registered one year earlier.

Eventually, the global ports are improving as the lockdown is easing. For instance, the US ports handled 1.9m TEU in July 2020, 2.3% down compared with the same period during the previous year but recovered from 19.3% down in June 2020. Cargo ships were also being used for medical and emergency supplies during the COVID-19 pandemic. Additionally, the Mediterranean Shipping Company (MSC) has developed a Suspension of Transit (SOT) container shipping program to prepare for a recovery in demand for freight services once the lockdown eases. The program is built to ensure business continuity and maintenance of vital container carriage services such as the movement of food, fresh produce, medical equipment, and other essential goods. The initiative has focused on catering to the demand for a variety of goods from Asia.

Exhibit 3: Global Top 10 Ports (H1 2020)

Ports	By Half Year Container Volumes (TEU)		% Change
	H1 2020	H1 2019	
Shanghai	20,060,000	21,540,000	-6.9%
Singapore	17,837,000	18,030,000	-1.1%
Ningbo-Zhoushan	13,250,000	13,910,000	-4.7%
Shenzhen	11,070,000	12,410,000	-10.8%
Guangzhou	10,760,000	10,940,000	-1.6%
Busan	10,746,000	10,861,300	-1.1%
Qingdao	10,340,000	10,300,000	0.4%
Hong Kong	8,647,000	9,064,000	-4.6%
Tianjin	8,580,000	8,330,000	3.0%
Rotterdam	7,000,000	7,529,000	-7.0%
Total	118,290,000	122,914,300	-3.8%

Source: Maritime Intelligence – Informa plc

Exhibit 4: Top 5 Global Terminal Operators by Equity-Adjusted Throughput (2019)



Source: Drewry - Global Container Terminal Operators Annual Review and Forecast 2020/21

PSA International handles a throughput of 60.4 mteu (Exhibit 4), followed by China Cosco Shipping (48.6 mteu).



Global container port capacity expansion is forecasted to contract by ~ 40% over the next five years in the wake of the COVID-19 induced slowdown in port throughput. The global container terminal capacity is projected to grow at a CAGR of 2.1% over 2020-2025, equating to an additional 25m TEU a year. - Drewry Global Container Terminal Operators Annual Review and Forecast Report

The ports and terminals' operations market is highly fragmented that includes domestic and international market players. The market is witnessing stiff competition at the regional level in line with a larger concentration of vendors in the developed economies such as the US and Europe and the technologically advanced countries such as China, Korea, and Singapore. Companies with technical and financial resources have developed expertise in services, which provides them a competitive advantage over the other players. The competitive environment in the market expected to intensify during the coming years with an increase in services, extensions, and technological innovations.



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DP World, Hutchison Port Holdings Trust, PSA International, and Cosco are the key vendors in the global port and terminals operations market.

Offshore Wind

Introduction

In a world increasingly affected by climate change, alternative energy sources are of increasing importance. Fortunately, the natural world offers plenty of opportunities for clean, renewable energy. The ocean is one of them, offering energy generation opportunities in the form of offshore wind, tides, and waves. Of these, offshore wind has gained significant popularity given the many advantages they offer over other ocean as well as land based renewable energy sources.

Struggling to establish long term viability a decade ago, offshore wind is proving to be one of the leading sources of renewable energy generation in the rapidly transitioning energy sector. The global offshore market has grown at a CAGR of 24% between 2013 and 2019, bringing total installations to 29.1 GW, which accounted for 5% of the total global wind capacity at the end of 2019.

Apart from being a source of clean and increasingly affordable electricity, offshore wind farms deliver more energy than wind farms on land, have minimal impact on their surroundings, and help mitigate climate change. However, infrastructure remains one of the biggest challenges. Offshore wind farms are expensive to build and maintain, particularly when they face harsh weather conditions, such as storms and hurricanes. Technological advancements have helped this sector in developing high-capacity, resilient solutions while also reducing costs; paving the way for a promising future for this sector.

Top 10 offshore wind energy farms accounted for 21.7% of total offshore wind energy farm capacity in 2019. Among the top ten largest offshore projects, seven were located in the UK, representing about 75% of the total capacity of these projects. Construction of the Dogger Bank Wind Farm off the eastern coast of England in the North Sea will add capacity of 3.6 GW, making it the world's largest project at 3x capacity of the world's biggest existing wind farm.

Exhibit 5: Top 10 Operational Offshore Wind Energy Farms (2019)

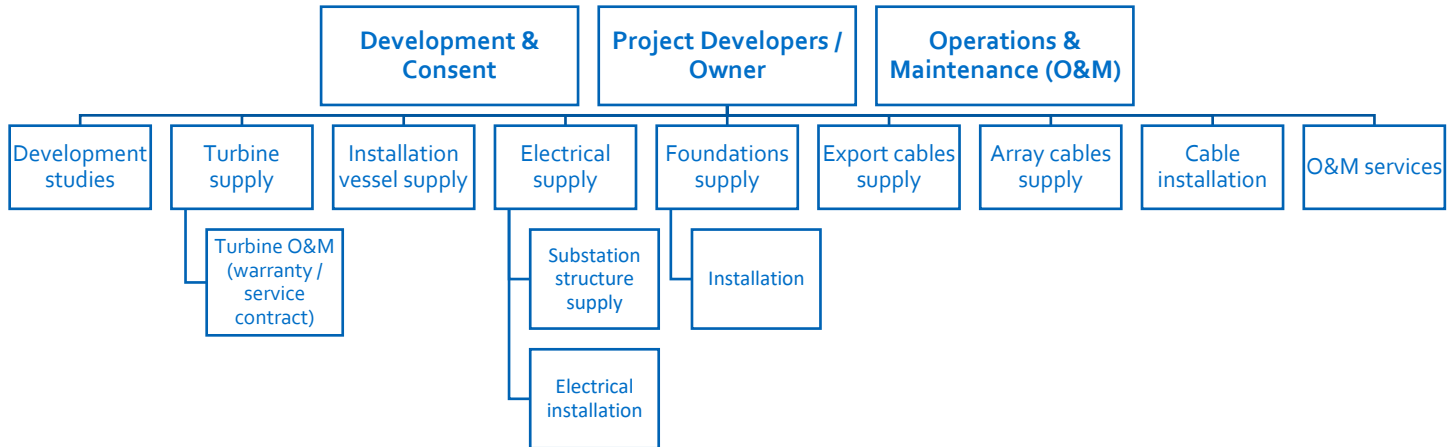
Project	Country	Capacity (MW)
Hornsea Project One	United Kingdom	1,218
Walney Extension	United Kingdom	659
London Array	United Kingdom	630
Project Gemini	Netherlands	600
Beatrice	United Kingdom	588
Gwynt y Mor	United Kingdom	576
Race Bank	United Kingdom	573
Greater Gabbard	United Kingdom	504
Binhai Beiqu Offshore Wind	China	500
Borkum-Riffgrund II	Germany	465

Source: GlobalData

Market Participants

The market is supported by crucial players segmented into the following: owners, project developers, wind turbine manufacturers, and service providers. Wind farms developers have trended towards use of multi-contract strategies with multiple packages for design, manufacture and installation of an offshore wind farm in an attempt to cut costs and to avoid placing too much risk on the prime contractor.

Exhibit 6: Breakdown of a Typical Offshore Wind Project Supply Chain (Multi-Contract Structure)

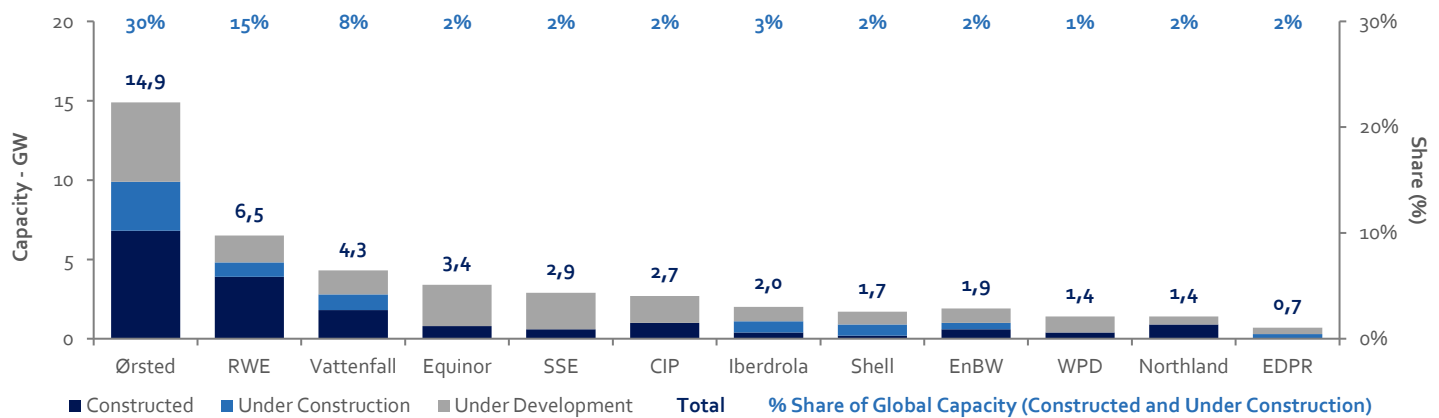


Source: Offshore Renewable Energy Catapult

Owners: Owners are companies or individuals that carry the wind farm as an asset and profit from the sale of electricity. They are responsible for acquiring financing, hiring a developer, organizing power purchase agreements with local utilities, and maintaining overall responsibility for the profitability of the project.

Project developers: Developers are contracted by the project owner to plan and develop a project, often from the beginning stages of site assessment through the final stage of commissioning the project. Developers are responsible for selecting project site, ensuring viable grid connectivity for the project, determining the need for upgrades to the existing grid and researching the most effective way to sell the electricity generated by the wind project. Developers are also responsible for organizing contractors and subcontractors to design, build, erect, and commission the project.

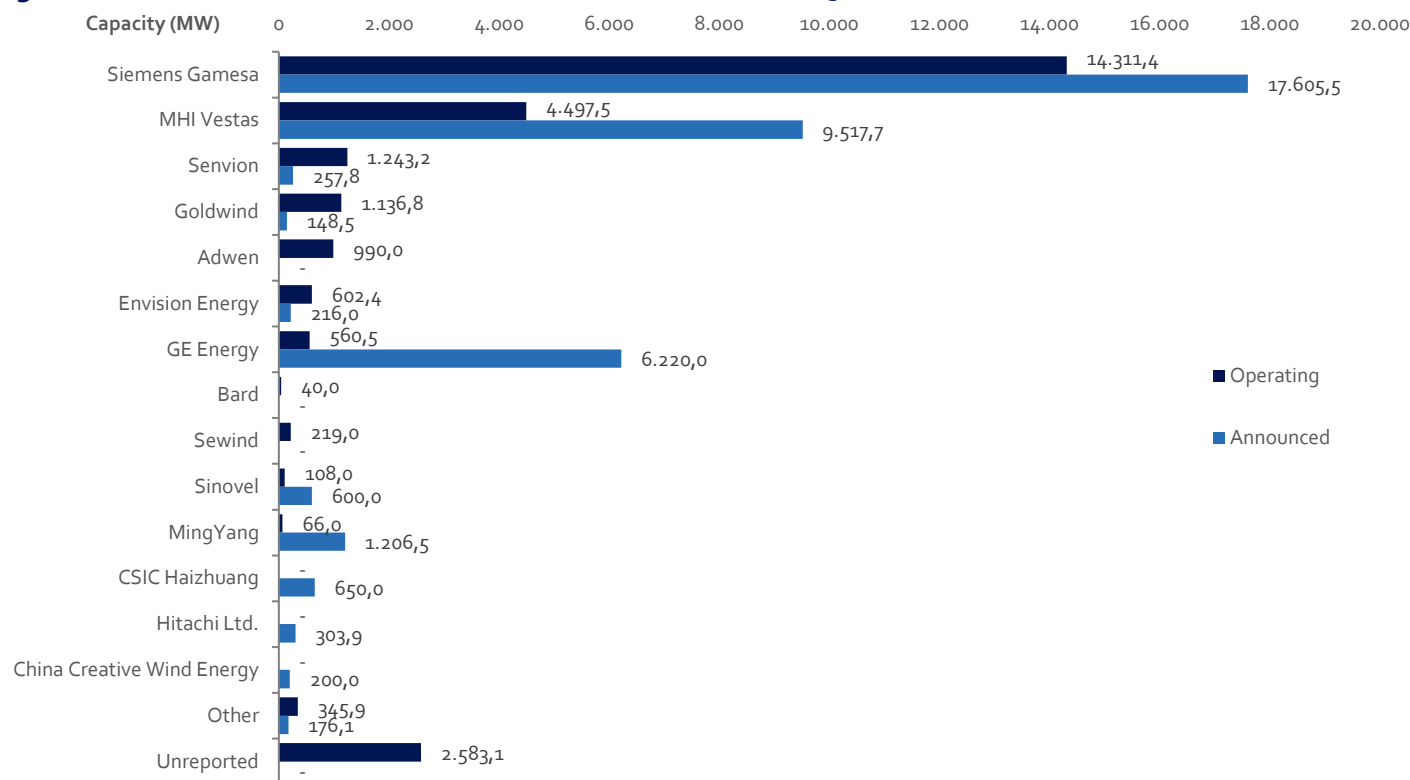
Figure 17: Major Developers (March 2020)



Source: US Department of Energy

Wind turbine manufacturers: These companies, generally, are large multinational corporations with multiple business units that manufacture and supply turbine and associated components for installations. They also provide O&M services post-installation of their products. Notable players in this segment include Siemens, Vestas, Sewind, Envision, and Goldwind.

Figure 18: Offshore Wind Turbine Manufacturer Market Share (2019)



Source: NREL

NB: In 2020 Senvion was acquired by Siemens Gamesa

Operating projects: Siemens Gamesa was the largest global supplier of offshore wind turbines, with about 58% of installed capacity (14,311 MW), while MHI Vestas held ~18% share.

Announced projects: Siemens Gamesa accounted for 47% of projects with announced turbine supply agreements. The MHI Vestas share grew with a 26% share of announced projects versus 18% of operating projects. GE also witnessed a major jump in share from 2% to 17% of announced projects.

Competition among turbine manufacturers to supply to the offshore wind market is fierce given their limited numbers compared to wind farms on land. Manufacturers are engaging in R&D initiatives to drive efficiency and decrease the cost of offshore wind energy. This includes manufacturing turbines with more power and larger capacity.

Progress in 12-14 MW prototype development was made with the launch of GE’s 12 MW Haliade-X turbine (adjustable 14 MW) in March 2018. It is considered the most powerful offshore wind turbine in the world with its 220-meter rotor, 107-meter blade, leading capacity factor (60-64%), and digital capabilities. The machine has won numerous orders, including the world’s biggest offshore wind farm - Dogger Bank Wind Farm, and cut into the business that has been dominated by Siemens Gamesa and to a lesser extent by MHI Vestas.

In May 2020, the Spanish-German wind turbine manufacturer - Siemens Gamesa, announced building the world’s largest windmill. The 14 MW machine with a rotor diameter of 222 meters (728 feet) is just two meters bigger than GE’s Haliade-X turbine. The SG 14-222 DD will be ready for a prototype in 2021 and commercially available in 2024. The new turbine will increase annual energy production by 25% compared to Siemens Gamesa’s largest turbine available currently and can extend capacity to 15 MW with a Power Boost feature. With claim on the world’s biggest windmill, Siemens Gamesa will be well positioned to solidify its position as the market leader.

Service providers: Service providers offer support throughout the value chain in the offshore wind industry. These include substructure, foundation, and cable suppliers and installation services; offshore installation vessels; and operations and maintenance service providers.



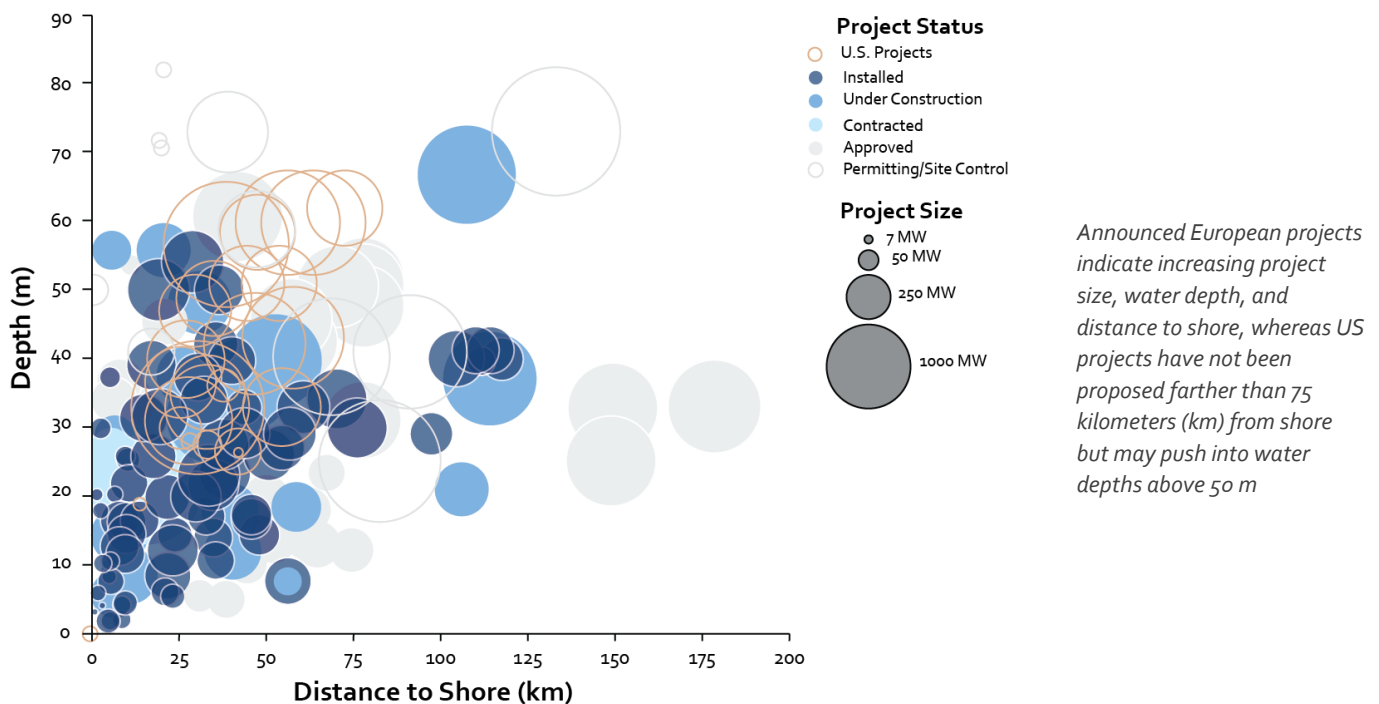
Offshore Technologies

Offshore wind allows countries to open new sites with high wind resources, building farms at gigawatt-scale close to densely populated coastal areas. This has made offshore wind an important addition to the portfolio of renewable sources used to decarbonise the energy sector, growing from 0.1 GW in 2000 to close to 29 GW by the end of 2019.

A main driver of this accelerated market growth and deployment is the sharp decrease in technology costs, with offshore wind currently being cost competitive with all other energy generation technologies. From 2010 to 2019, the global weighted average levelized cost of electricity (LCOE) of offshore wind decreased 29% from \$0.16 per kilowatt-hour (kWh) to \$0.11/kWh. IRENA forecasts LCOEs to continue to fall to an average between \$0.05/kWh and 0.09/kWh by 2030 and between \$0.03/kWh and 0.07/kWh by 2050.

Developments in wind turbine technologies as well as in foundations, installation, access, operation and system integration have enabled moves into deeper waters, farther from shore, to reach sites with better wind resources (Exhibit 7). These turbines, rooted in the seabed by monopile or jacket foundations, are still restricted to waters less than 50-60 metres deep. This is a major limitation, as some of the largest potential markets for offshore wind, such as Japan and the US, have few shallow-water sites. Scaling up offshore wind markets undoubtedly requires offshore wind turbines to move into deeper waters (> 50 metres) with higher wind resources. Therefore, floating foundations are potentially a game-changing technology for offshore wind generation.

Exhibit 7: Fixed-Bottom Offshore Wind Project Depths and Distances to Shore

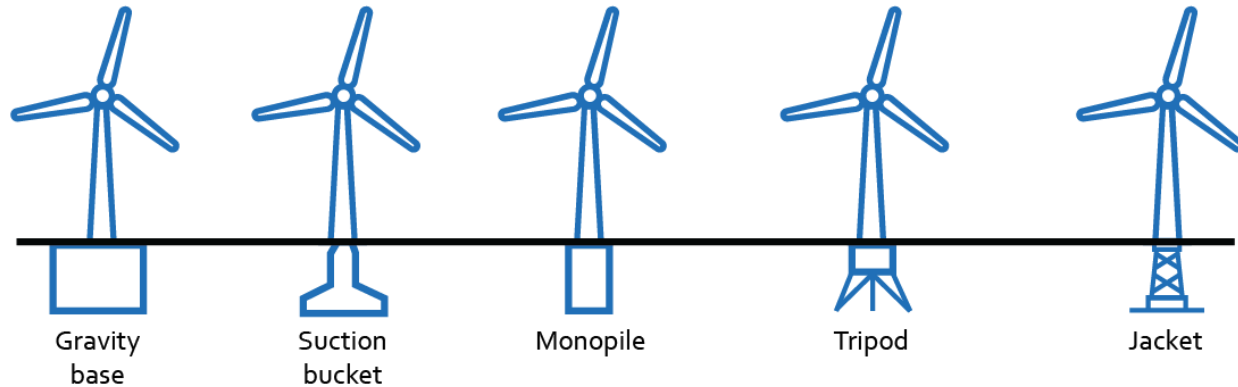


Source: National Renewable Energy Laboratory (NREL)

Fixed-Bottom Turbines

These turbines are similar in design to onshore wind turbines where the tower is built from the ground up. But being built into the sea-floor, these are limited by the depth of the water; only viable in depths up to 60 metres. Nonetheless, most offshore wind deployments have been on fixed bottom structures with 27,208 MW installed on fixed foundations.

Exhibit 8: Offshore Wind Fixed Foundation Technologies (Substructure Technologies)



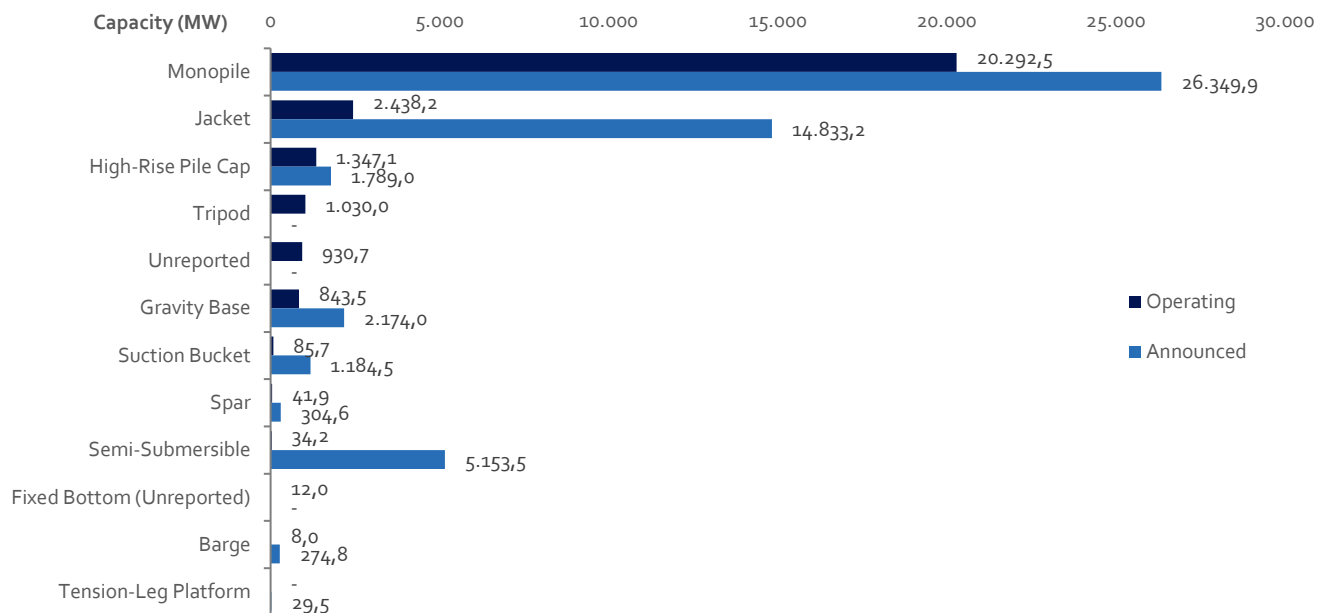
Source: MDPI

Technology advancements in fixed-bottom substructures have enabled siting in deeper water. In 2019, capacity-weighted average depth of installed projects was 31 m. Project announcements indicate an increase in average depths to 43 m by 2025.

Operating projects: Monopiles were used in 75% of installed fixed-bottom global capacity in 2019 while jackets accounted for 9%. The remainder of installations used various foundation types including high-rise pile cap, suction bucket, tripod, and gravity base.

Announced projects: 74% of announced projects (151,017 MW) in the pipeline have not announced the substructure type. 51% of substructures for announced projects are monopiles, lower than the 75% share among operating projects. For depths greater than 60 m, the industry is developing multiple types of floating substructures.

Figure 19: Offshore Wind Substructure Technology Used in Operating and Announced Projects (2019)

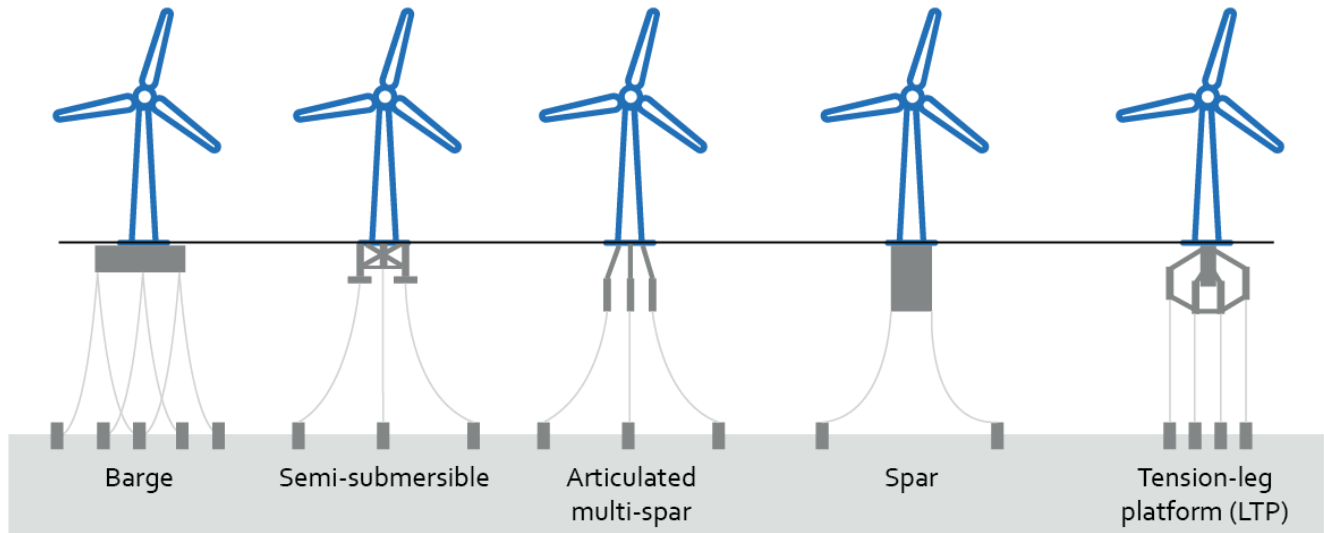


Source: NREL

Floating-Bottom Turbines

Floating offshore wind platforms work by connecting the buoyant substructure of the turbine to the seabed using mooring cables. Floating wind systems can help foster future offshore wind development by accessing higher-speed and more consistent wind resources than their fixed-bottom counterparts can access.

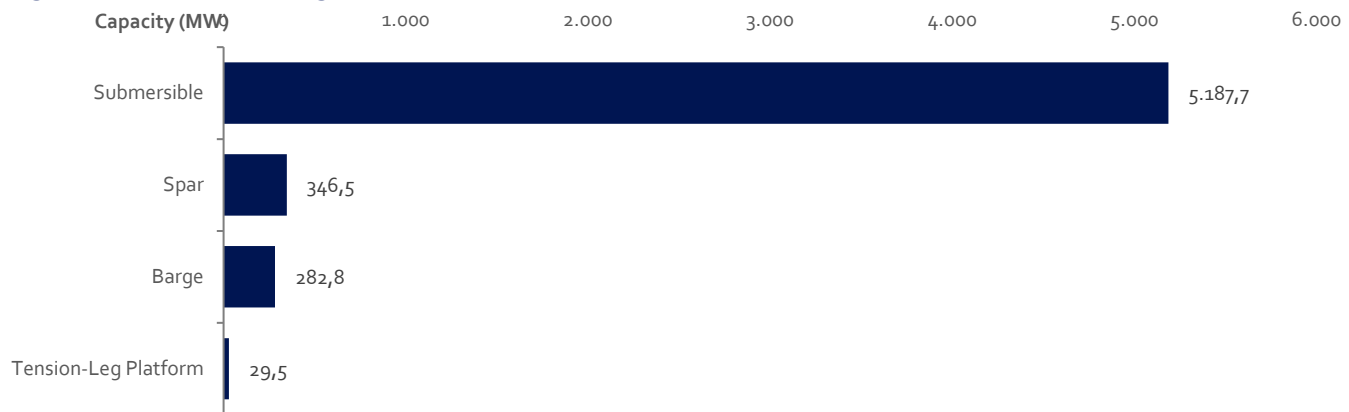
Exhibit 9: Offshore Wind Floating Foundation Technologies (Substructure Technologies)



Source: International Renewable Energy Agency (IRENA)

Floating foundations offer the offshore wind industry two important opportunities: they allow access to sites with deeper water (below 50 metres) and as far as 80 kilometres from shore. The first full-scale prototypes for floating wind turbines have been in operation for several years, with three main designs being tested: spar buoys, spar-submersible and tension-leg platforms. The strong economic incentive of harnessing the world’s existing usable offshore wind resources, for the development of floating offshore wind technology can make these bring down the cost of these structures.

Figure 20: Global Floating Substructure Market Share (Installed and Announced – 2019)



Source: NREL

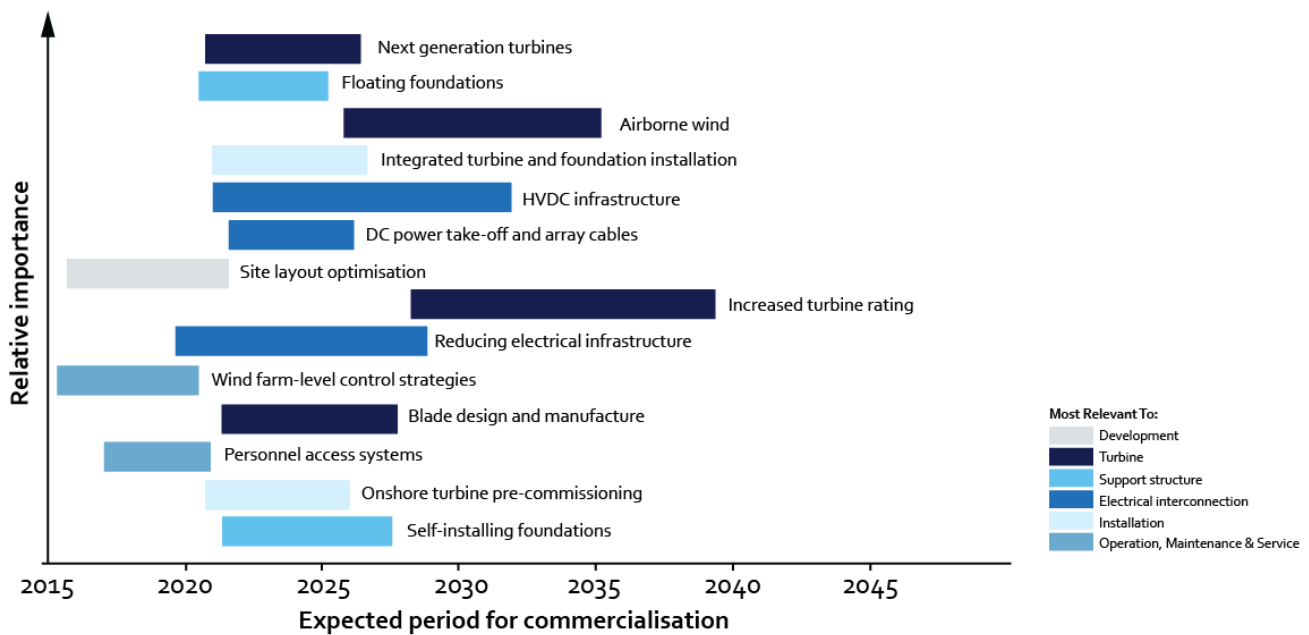
In 2019, there were 7,663 MW of projects in the floating pipeline; the substructure type is announced for roughly 76% (5,847 MW) of the total pipeline. Semisubmersibles account for about 89% of installed and announced capacity for projects which the intended substructure type is known. Semisubmersibles have shallow draft, which allows for full assembly and commissioning at quayside, as well as tow-out to an offshore station without the use of heavy-lift installation vessels. Approximately 5% use or plan to use spars. The remaining substructures are tension-leg platforms and barges.

Significant and encouraging developments in floating foundations have been seen in recent years. Globally, there are 13 announced floating offshore wind projects: 9 in Europe (France, Portugal and the UK), 3 in Asia (Japan and the Republic of Korea) and 1 in the US (Power Technology, 2019). By 2030, industry experts estimate that around 5 GW to 30 GW of floating offshore capacity could be installed worldwide and that, based on the pace of development across various regions, floating wind farms could account for up to 15% of global offshore wind installed capacity, around 150 GW by 2050.

The Norwegian energy company Equinor is planning a floating offshore wind farm called Hywind Tampen, located 140 kilometres offshore with water depths ranging between 260 metres and 300 metres. It is an 88 MW floating wind power project designed to supply electricity for offshore oil and gas operations in the Norwegian North Sea, due to start operations in 2022. Tampen will be the world’s largest floating offshore wind farm, with 11 large wind turbines with Hywind floating foundations, with each turbine having a rotor diameter of 167 metres and 81.5-metre-long blades.

R&D together with technology-driven innovation will likely lead to turbine sizes reaching between 15 MW and 20MW in a decade or two, from around 9.5 MW currently. The combination of improved wind turbine technologies, deployment of higher hub heights and longer blades with larger swept areas will lead to increased capacity factors. For offshore wind farms, enhanced capacity factors are expected in the range of 36% to 58% by 2030 and 43% to 60% by 2050, compared to an average of 43% in 2018.

Exhibit 10: Anticipated Timing and Importance of Innovations in Offshore Wind Technology



Source: IRENA

Key areas of technology innovation for the uptake of offshore wind with potential impact on different areas have been identified (Exhibit 10). Developments in blade, drivetrain and control technologies, in particular, will enable the development of larger, more reliable turbines with higher capacity ratings. The average size of offshore wind turbines grew by a factor of 3.8 in less than two decades to 6 MW in 2019 and is expected to grow to output capacity of 15–20 MW by 2030.

Technological developments in wind turbine foundations will also be one of the key factors enabling the accelerated deployment of offshore wind, permitting access to better wind resources, in deeper waters and further from the shore. Floating foundations are expected to contribute to significant growth in offshore wind capacities in Asia in the future with China exploring its offshore potential of 496 GW in water depths of less than 20 metres, 1,127 GW in depths between 20-50 metres, and 2,237 GW in depths between 50-100 metres in its exclusive economic zone. IRENA forecasts floating wind farms to cover between 5-15% of the global offshore wind installed capacity by 2050.

Innovation in integrated turbine and foundation Installation technologies are also being sought after as they reduce both the installation cost and the exposure to health and safety risks with executing the complete installation in a single offshore operation. However, technology developments in this domain need to continue to keep up with the installation needs of larger turbines entering the market.

Levelized Cost of Energy (LCOE)

The main cost components for offshore wind farms are the turbines (including towers), the foundations, the grid connection to shore and the installation. With dedicated offshore turbines being designed, total installed costs for offshore wind in the early 2000s climbed as projects shifted from shallow waters close to shore into deeper waters farther offshore – raising the foundation, grid connection and installation costs.

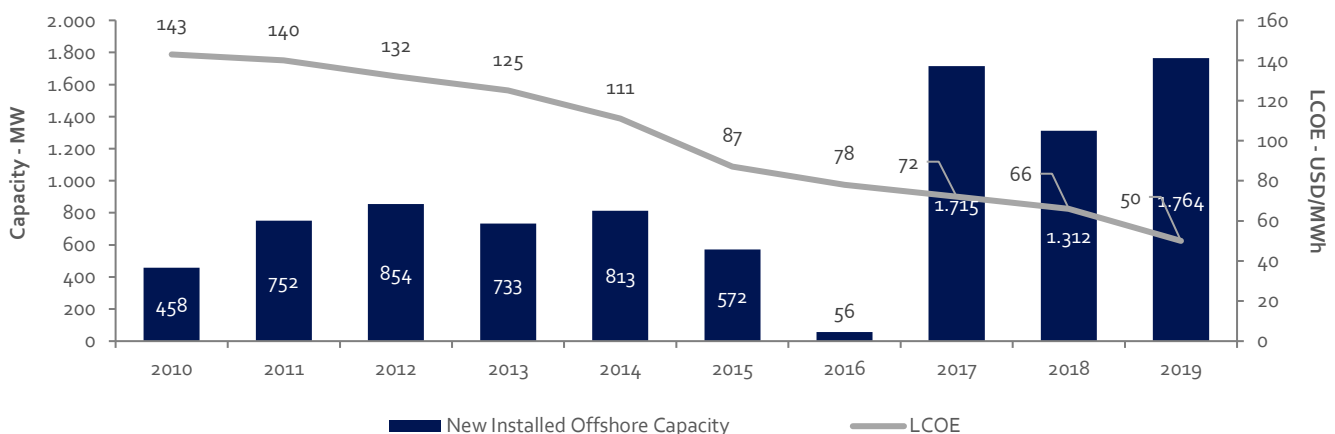
The total installed costs since then peaked from an average of around USD 2,500/kW in 2000 to around USD 5,400/kW by 2011–2014, before falling to around USD 4,350/kW in 2018 due to advances in offshore wind turbine technology. With further development in technology, this is expected to drop further in the coming decades to \$1,700-3,200/kW by 2030 and \$1,400-2,800/kW by 2050.

Turbine manufacturers are constantly working on their technology, improving turbine capacity and resilience to achieve reductions in LCOE and applications in a wider range of marine environments. In fact, reduction in LCOE has been a primary goal in increasing offshore wind turbine size since the turbine represents the largest cost component, accounting for up to 45% of total installed costs. The technical capacity factors are higher for bigger offshore turbine with a higher nameplate capacity, rotor diameter, and tower height, which in turn increases the annual energy production. Although larger turbines per unit are costlier than smaller units, they save on the CAPEX for foundations, cables, and installation as well as the OPEX due to lower turbine units.

Other factors contributing to the improvement in competitiveness include increasing developer experience (which reduces project development costs and risks) and economies of scale across the value chain that have resulted in declines in total installed costs, O&M costs and the cost of capital as project risk. O&M costs have been reduced through the optimisation of O&M strategies, preventative maintenance programmes based on predictive analysis of failure rates, and economies of scale in servicing offshore wind zones rather than individual wind farms.

The UK is an offshore wind leader and very well demonstrates that with an increased market certainty and volume visibility, scale is one of the keys that support competition and innovation in the supply chain to drive competitiveness and reduce costs. Cost of the Contract for Difference (CfD) in late 2019 fell by around 30% compared to in 2017, and as much as 66% compared to the first round held in 2015. Projects are now being delivered for as low as \$50/MWh, making offshore wind one of the lowest cost options for new power in the UK – cheaper than new gas and nuclear power. Increasing competition to support future installations is expected to continue to drive down cost through downward pressure on pricing and economies of scale.

Figure 21: UK's New Installed Offshore Capacity versus Offshore LCOE



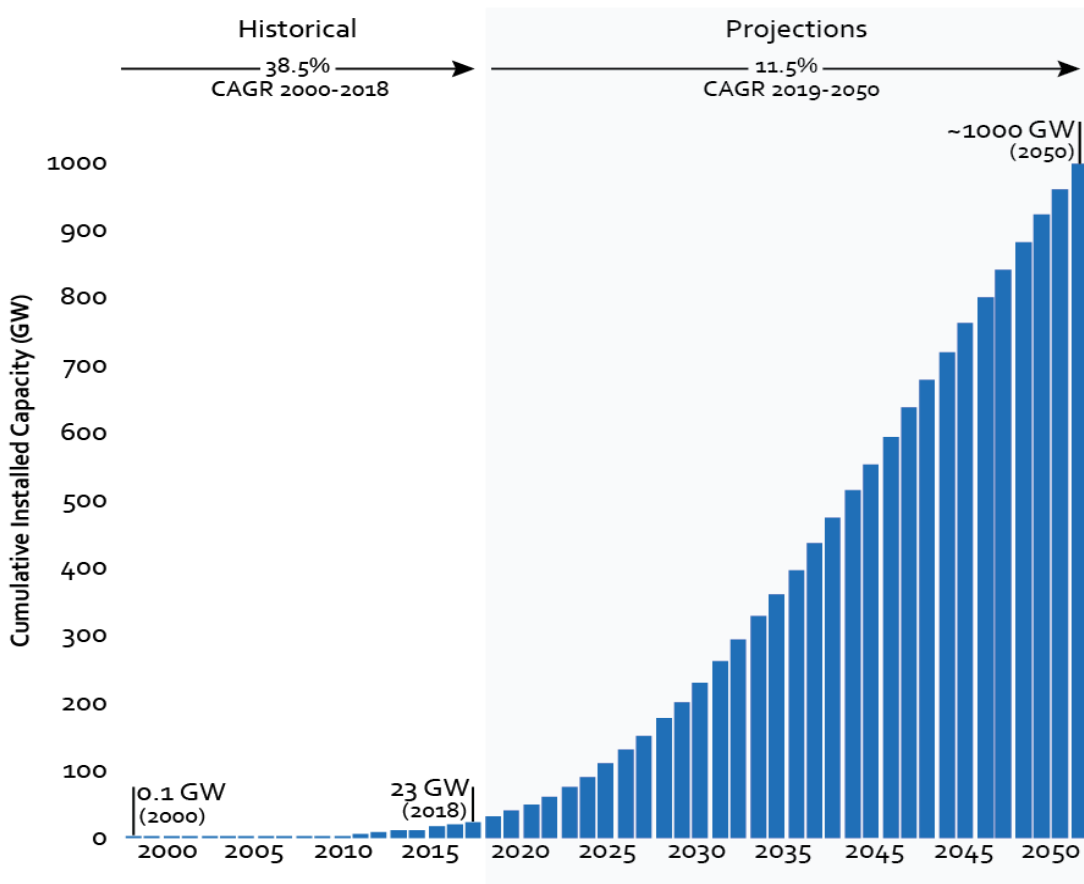
Source: IRENA

Market Growth and Trend Developments

Installed Capacity and New Installations

The first commercial-scale offshore wind farm was commissioned in 2002 in Denmark with an installed capacity of 160 MW. By the end of 2019, the world’s installed offshore wind capacity accounted for close to 29 GW. IRENA forecasts offshore wind to increase substantially by 2050. The offshore market would grow significantly over the next three decades, with the total installed offshore wind capacity rising nearly ten-fold from just 29 GW in 2019 to 228 GW in 2030 and near 1,000 GW in 2050 (Figure 22). Offshore wind would represent around 17% of the total global installed wind capacity of 6,044 GW in 2050, estimated by IRENA. This reflects a CAGR of 11.5% for the next three decades, which is below the historical average of 38.5% between 2000 and 2018.

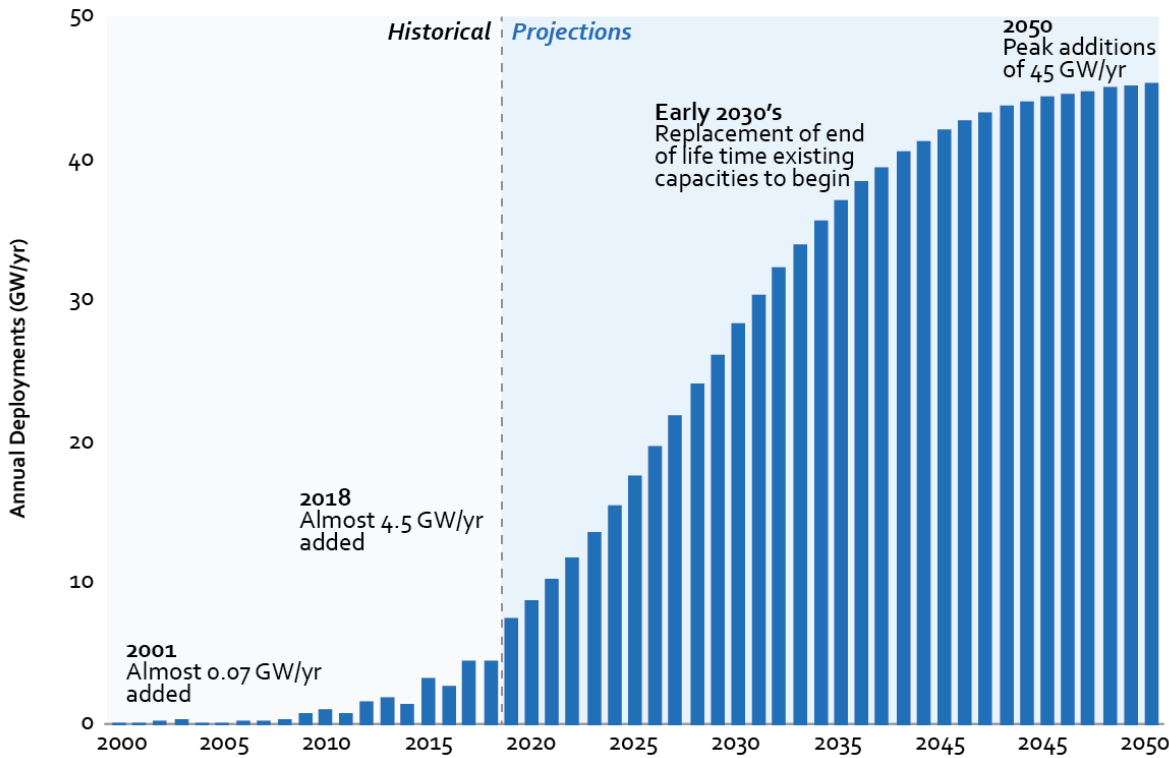
Figure 22: Annual Offshore Wind Capacity (2000–2050)



Source: IRENA

A significant increase in new offshore wind installations is expected to occur in the next three decades. In addition to the large increase in new offshore wind power installations, existing wind turbines that were built before 2010 would approach the end of their technical lifetime and would need to be replaced with improved technological designs. Replacement of retired capacities should begin in the early 2030s and would gradually increase from 2040. Overall, the total annual offshore wind capacity addition would need to increase by more than 4.5 times by 2030 (to 28 GW/year) and by 7.5 times by 2050 (to 45 GW/year), compared to the 6.1 GW of capacity added in 2019 (Figure 23).

Figure 23: New Installations Forecast (2000–2050)



Source: IRENA

Globally installed offshore wind capacity crossed the 30 GW mark by the end of June 2020, with more than 2.5 GW capacity being added during the first half; growing despite the COVID-19 crisis. Globally, 10 new offshore wind farms went into operation in UK, China, Germany, Portugal, Belgium and the US. The average size of a newly added offshore wind farm during the first half of 2020 was 254 MW compared to 325 MW in 2019.

Regional Distribution and Growth

Currently, majority of the global installed offshore wind capacity is commissioned and operated in the North Sea and nearby Atlantic Ocean. Of the 157 offshore wind farms in operation globally: 105 are located in Europe, 50 in Asia, and two in the US. Europe accounted for the largest share in cumulative installed capacity as well as new installations in 2019 (Figure 24).

Figure 24: Total Offshore Wind Installations and New Offshore Wind Installations by Region (2019)

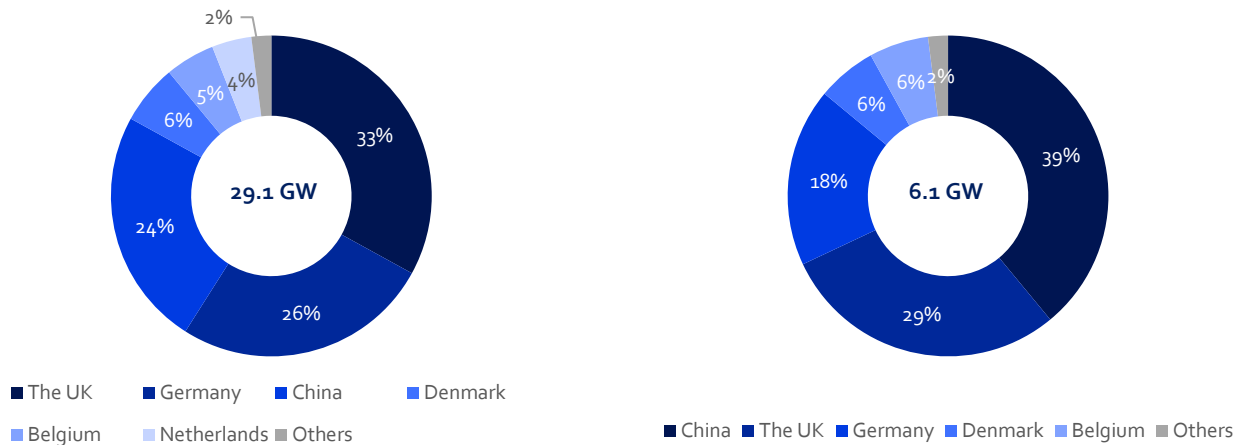


Source: GWEC

The UK remained the world’s biggest offshore wind market with almost 10 GW of installed capacity in 2019. This crossed the 10 GW mark as 714 MW were added during the 1H of 2020. Germany retained its second place with a total of 7.5 GW, but only 203 MW of new capacity were added during H1 2020. China is growing rapidly with 1.4 GW of newly installed capacity already added during the H1 2020 (Figure 25).

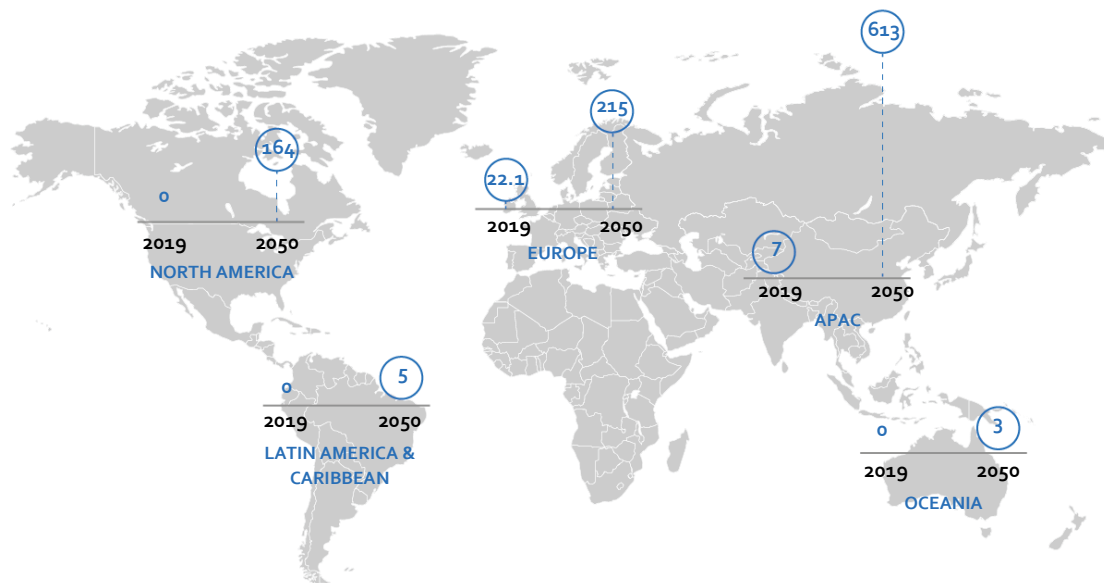
Floating Wind: In 2019, a total of 65.7 MW of floating wind had been installed globally, of which 32 MW is located in the UK, 19 MW in Japan, 10.4 MW in Portugal, 2.3 MW in Norway, and 2 MW in France. Of the 11.4 MW new capacity of floating wind added in 2019, 8.4 MW is in Portugal and 3 MW in Japan.

Figure 25: Total Offshore Wind Installations and New Offshore Wind Installations by Country (2019)



Source: GWEC

Figure 26: Regional Distribution Growth Forecast



Source: IRENA, WindEurope

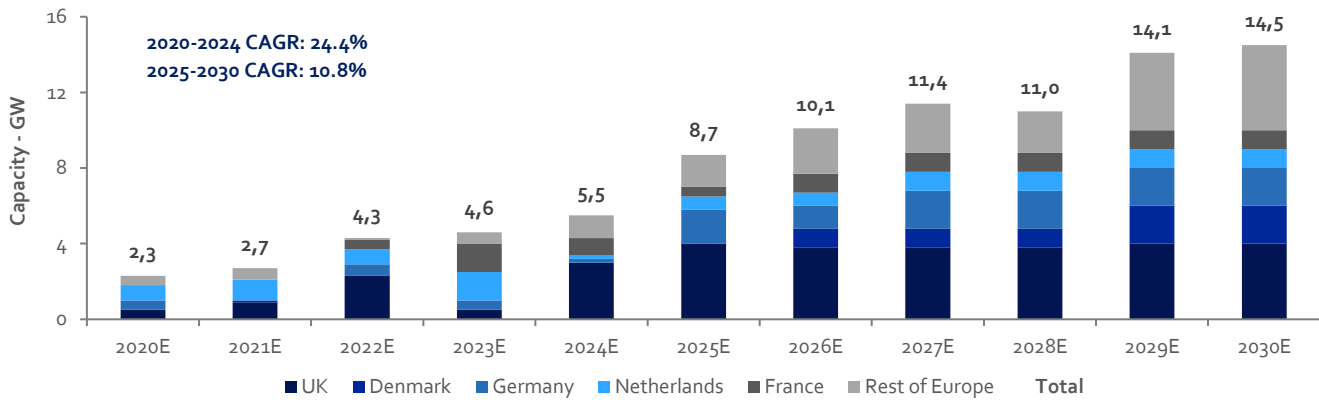
Europe currently leads the offshore wind industry. However, IRENA forecasts suggest that APAC will dominate global offshore wind power installations by 2050. APAC will surpass Europe with total capacity exceeding 100 GW by 2030 and 600 GW by 2050, supported by exponential deployments in Asian waters – mainly in China, India, and Japan. Europe is forecasted to grow steadily

over the next three decades, with total offshore wind capacity growing nearly four-fold to 78 GW by 2030 and nearly ten-fold to 215 GW by 2050. According to IRENA forecasts, North America would be another emerging offshore wind market, completely backed by the US. It is forecasted to grow more strongly from less than 1 GW in 2019 to almost 23 GW by 2030 and 164 GW by 2050.

Europe:

Europe is at the forefront of offshore wind installations as well as turbine technology, enjoying double-digit growth in the past decade to become the world’s largest regional market at the end of 2019. R&D and government initiatives have helped offshore wind establish itself as a cost competitive source of power generation. Through collaboration among European markets and experienced stakeholders, a robust offshore wind supply chain has been built in countries neighbouring the North Sea and Baltic Sea. GWEC Market Intelligence forecasts the European offshore wind market to continue to grow strongly, as new offshore wind projects are cheaper to build and operate than new nuclear power and gas-fired power plants, making it a core source of energy to help Europe meet its carbon-neutrality goals by 2050.

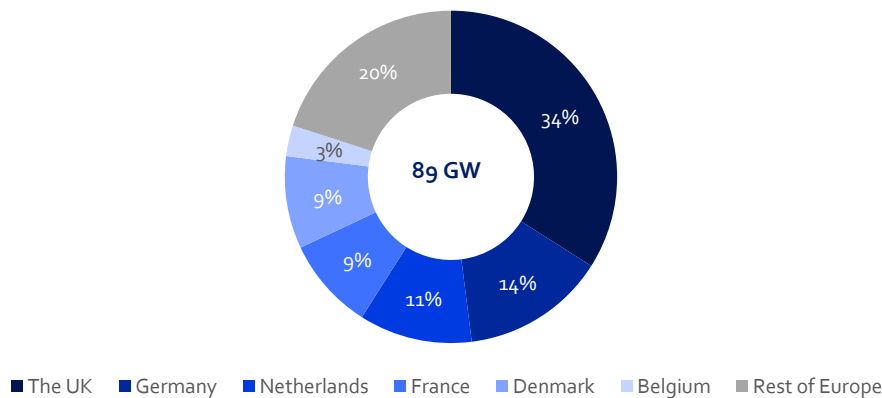
Figure 27: Offshore Wind Growth in Europe – New Installations (2020E–2030E)



Source: GWEC Market Intelligence (June 2020)

Though off to a slow start in 2020 due to the COVID-19 crisis, the European offshore market is on its way to recovery with the UK’s CfD 2 projects going online in 2022. New installations in Europe are likely to reach 8.7 GW in 2025. An increase in proposed offshore wind activity from established markets and activities in new European markets, such as those around the Black Sea, new installations are likely to exceed 10 GW in 2026 and then potentially reach 15 GW by 2030.

Figure 28: Distribution of Total Offshore Wind Capacity Added Between 2020–2030



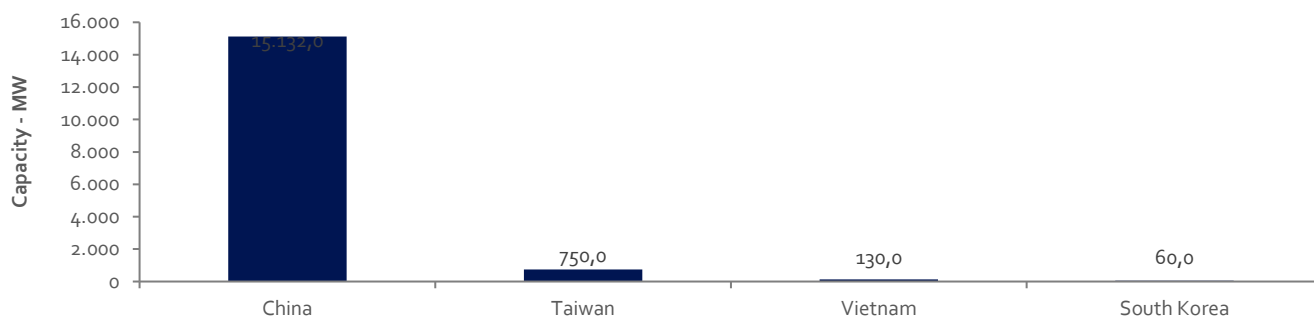
Source: GWEC

Apart from world leader UK, Germany has major share in the European market. Approval of the amendment to the Offshore Wind Act (WindSeeG) by Germany’s Federal Cabinet in June 2020, will further push growth in this market. The bill increases the 2030 offshore wind target from 15 GW to 20 GW, and also establishes a long-term offshore target of 40 GW by 2040. France’s Multiannual Energy Programme (Programmation pluriannuelle de l’énergie (PPE)) that came into force in April 2020, tenders up to 8.75 GW of offshore wind capacity from 2020 to 2028. The PPE also increases the intended operating offshore wind capacity to between 5.2-6.2 GW by 2028. The 2023 operating capacity target is 2.4 GW, while from 2024 onward, France will tender 1 GW annually of either fixed-bottom or floating wind capacity, based on cost.

APAC:

Japan built Asia’s first offshore wind project in 2003. However, the offshore market did not take off in earnest until 2014, when the Chinese central government released the National Offshore Wind Development Plan. In 2017, China passed the 1 GW annual installation milestone and a year later, surpassed the UK as the world’s top market in new installations. China will continue to dominate the APAC region with more than 70% market share until 2024. Taiwan is expected to be the largest offshore market after China in new installations in the same period.

Figure 29: Projects Under Construction in Asia (Q1 2020)

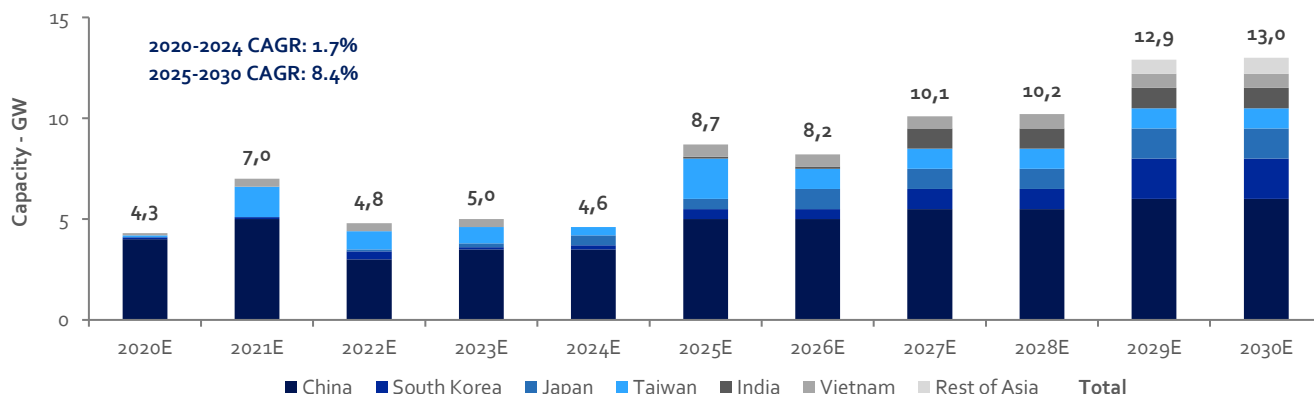


Source: GWEC Market Intelligence (May 2020)

China was the third largest offshore market in total installations at the end of 2019 (after the UK and Germany). With large volumes of new capacity added (4-5 GW/year), it is expected to surpass the UK as the world’s largest offshore market in total installations by 2021. However, major declines are likely given the termination of the offshore wind subsidy by the central government.

With ~130 MW offshore wind capacity online at the end of 2019, Taiwan is positioned to become the second-largest offshore wind market in the APAC region. It will connect 5.5 GW of new offshore wind by 2025 and another 10 GW will be tendered by the government through auctions for commissioning by 2035.

Figure 30: Offshore Wind Growth in Asia – New Installations (2020E–2030E)



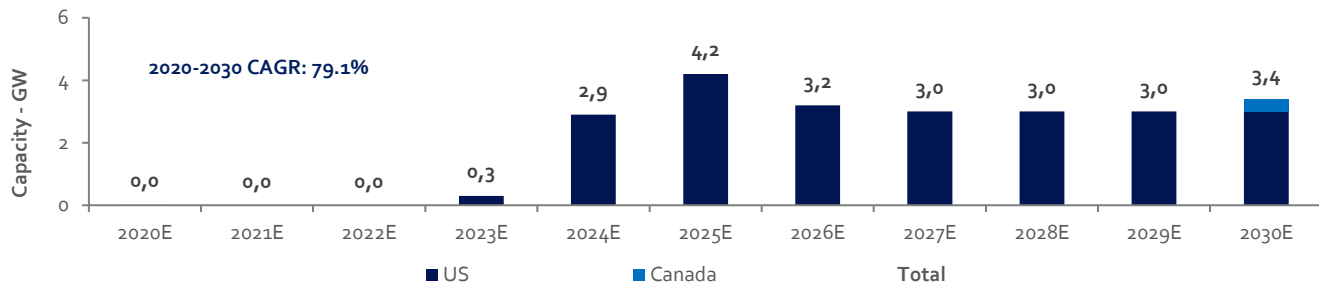
Source: GWEC Market Intelligence (June 2020)

Japan, South Korea and Vietnam will add to new installations 2025 onwards, resulting in China’s market share to drop to 58% in 2025 and 46% by 2030. Estimated to grow steadily at 1.7% during the first half of the decade, the region is predicted to pick speed post 2025, growing at a CAGR of 8.4% till 2030. The top five markets in this region in new installations will be China (52 GW), Taiwan (10.5 GW), South Korea (7.9 GW), Japan (7.4 GW), and Vietnam (5.2 GW). Rest of the region is at the early stage of development, facing the challenge of developing a local supply chain, necessary competencies, and capabilities to build a flourishing offshore wind industry.

North America:

North America installed its first test offshore wind turbine off the coast of Maine in 2013, and connected its first commercial wind project to the grid in Rhode Island in December 2016. At the end of 2019, North America had 30 MW of offshore wind capacity, making it the only region with commercial offshore wind outside of Europe and APAC. By 2030, 23 GW of offshore wind is predicted to be installed in this region, of which about 12% is expected to come from Canada.

Figure 31: Offshore Wind Growth in North America – New Installations (2020E–2030E)



Source: GWEC Market Intelligence (June 2020)

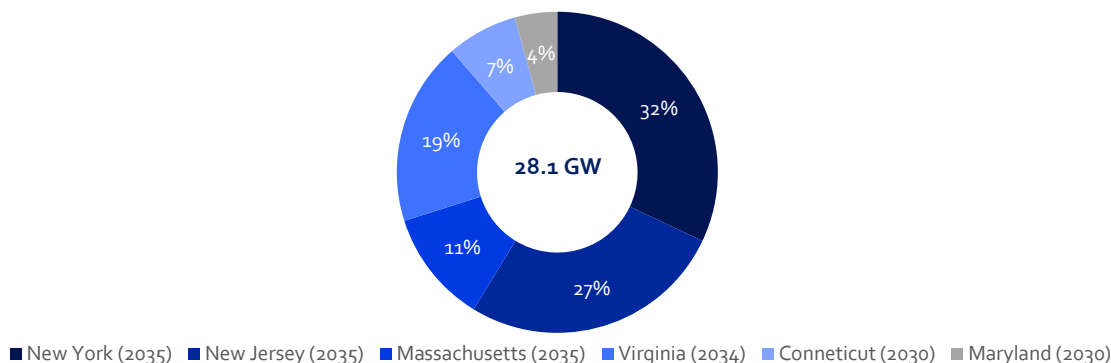
The US offshore wind pipeline grew by 2,697 MW in 2019 to a total capacity of 28,521 MW. The breakdown of this pipeline is as follows:

- Operating: 30 MW
- Under construction: 12 MW
- Permitting stage: 6,439 MW
- Under site control: 17,440 MW
- Planning: 4,600 MW

US states consisting of New York, New Jersey, Maryland, Connecticut, Massachusetts, and Virginia are driving strong demand for offshore wind energy with total announced offshore wind procurement targets worth 28,898 MW in early 2020, growing from 19,968 MW in 2018 and corresponding to 8,930 MW of new commitments.

Addressing challenges such as slow project permitting, establishing a local supply chain, and fostering investment and long-term planning in grid and port infrastructure will the US realize its potential in the offshore wind market.

Figure 32: Offshore Wind Development Targets in the US



Source: GWEC

Development Initiatives Across Key Countries

Policy changes are key to the development of the offshore wind sector, either encouraging or limiting its growth potential over the term of its implementation and also beyond.

Exhibit 11: Key Announcements Impacting the Offshore Wind Industry (2019–2020YTD)

Region / Country	Development
Europe	<ul style="list-style-type: none"> In 2019, European countries developed their National Energy and Climate Plans (NECPs) and set their Renewable Energy targets to 2030. Europe announced plans to add up to 100 GW of offshore wind capacity by 2030 The Energy Ministers from the 10 countries – Belgium, Denmark, France, Germany, Ireland, Luxembourg, the Netherlands, Norway, Sweden and the UK – met in December 2019 as the 'North Seas Energy Forum', to revise the scope of their existing cooperation. Since 1 January 2020, Germany has presided over the cooperation, which will focus on maritime spatial planning, electricity grids, and developing hybrid offshore projects
The UK	<ul style="list-style-type: none"> In spring 2019, the UK government announced an offshore Sector Deal aimed at developing a strong industrial base in the UK to support its ambitious offshore wind plans. The agreement includes the 30 GW target by 2030 as well as an available budget of up to £557m for future CfDs, plans to increase exports fivefold, and an increase in localization to develop the country's supply chain
Germany	<ul style="list-style-type: none"> The Federal Government passed the draft of the Investment Acceleration Act in August 2020, allowing construction to continue during any litigation processes A new draft of the EEG (EEG 2021) was introduced in September 2020 to provide financial incentives for local communities to accept new projects and to remove restrictions on new constructions in northern Germany while also creating a quota for new-builds in the south The new EEG 2021 proposes extending payments to projects reaching the end of their support scheme term to avoid decommissioning and instead encourage refurbishment and repowering
Spain	<ul style="list-style-type: none"> A new auction regime was approved in October 2020 to reach 2030 targets. The design of the new auctions strongly influences the amount of wind capacity awarded, with projects indicated to be awarded on a MWh-basis
France	<ul style="list-style-type: none"> France's Multiannual Energy Programme (PPE) that came into force in April 2020, tenders up to 8.75 GW of offshore wind capacity from 2020 to 2028
Japan	<ul style="list-style-type: none"> Public consultation w.r.t. the first designated Promotion Area (Nagasaki Goto City) closed in May in Japan. Publication of the final auction conditions for Japan's first general waters offshore wind zone auction are anticipated in June 2020 The government of Japan launched its first-ever auction for fixed bottom offshore wind projects within the country's General Common Sea Area for four offshore wind zones including Noshiro (Mitane Town and Oga City), Yurihonjo City North, Yurihonjo City South, and Choshi City, in November 2020 Further, the government is expected to award 1.5 GW through an offshore wind tender in 2021 to support capacity growth beyond 2022
India	<ul style="list-style-type: none"> The removal of tariff ceilings was announced in March 2020 to enable increased participation along with the introduction of hybrid auctions to raise competition and spur higher participation

Taiwan	<ul style="list-style-type: none"> Taiwan set a new feed-in-tariff (FiT) for 20-year offshore wind Power Purchase Agreements signed in 2020. Rates dropped by as much as 7.6% compared to 2019 prices
Philippines	<ul style="list-style-type: none"> In July 2020, the Department of Energy announced that a s part of the Philippine renewable portfolio standards (RPS) scheme, the government will conduct auctions for the supply of green energy, scheduled to be held in 2021
Vietnam	<ul style="list-style-type: none"> FiT for onshore and offshore wind installations is planned to be extended to 2023
The US	<ul style="list-style-type: none"> The US Treasury's extension of production tax credit (PTC) Safe Harbour provisions to mitigate construction challenges and delays related to COVID-19 were announced in May 2020, accelerating annual onshore wind additions In August 2020, the University of Maine announced a joint venture called New England Aqua Ventus, LLC, with Mitsubishi subsidiary Diamond Offshore Wind, and RWE Renewables, to develop the first US floating wind project using commercial technology
Mexico	<ul style="list-style-type: none"> In January 2019, Mexican power regulatory entity CENACE, cancelled (Clean Energy Certificate) CEL auctions; creating policy uncertainty and threatening further development of renewable capacity

Source: WindEurope, Ashurst LLP, Offshorewind.biz / Navigo, IEA, NREL



Impact of COVID-19

Offshore wind has been less impacted than most energy sectors by the pandemic. In contrast, offshore wind had the most FIDs of all renewable technologies, as the COVID-19 crisis did not delay major deals in Europe, the largest market. Longer project timelines and concentration of installations in the latter half of the decade also have shielded this sector from the immediate lockdown impact of the pandemic. IEA forecasts an acceleration in offshore wind additions of 7.3 GW, driven by delayed projects becoming operational as key countries in Europe and the US passed regulations providing flexibility for commissioning deadlines. Driven by an offshore wind FiT for projects which will be grid-connected by 2021, the market has sufficient runway and production capacity to rebound from the slowdown in activity caused by the pandemic during the first half of 2020.

In Europe, projects scheduled for commission in 2020 and 2021 are currently under construction in the UK, Germany, the Netherlands and Belgium. During the pandemic, two big projects - Borssele I & II and Seamade, generated first power in April and July 2020, respectively. Developers in the Netherlands, the UK, and France closed financing for almost 5 GW of new offshore wind capacity, while in China, several large-scale offshore projects reached financial close to meet the 2021 deadline for FiT phase-out. In the US, the 12 MW Dominion Virginia demonstration project was successfully installed in June 2020.

GWEC has increased its forecast for offshore wind installations by 5% to 6.5 GW of new installations in 2020, a record year for the industry over 2019's 6.1 GW, led by the installation rush in China. The sector has demonstrated its resilience, signalling a future of growth, green recovery, and significant investment opportunities.



Future Outlook

The offshore wind is in a dramatically different position than it was ten years ago. Having grown from 1 GW of installations primarily in Europe in 2010, the offshore wind market is now accelerating in markets around the world. China is set to lead in new capacity, while emerging markets in the APAC region and North America are seeing increased momentum. Europe is expected to maintain steady growth.

The global offshore wind market outlook to 2030 has become more promising over the past year as governments raise their offshore targets and new countries enter the market. With a compound annual growth rate of 18.6% until 2024 and 8.2% up to 2030, new annual installations are expected to cross the milestones of 20 GW in 2025 and 30 GW in 2030. GWEC Market Intelligence predicts over 205 GW of new offshore wind capacity being added over the decade from 2020–2030, 75% of which will be installed in the latter half (2025–2030), as projects currently in planning get connected to the grid.

strategy
corporate finance
restructuring

interim executives

Offshore wind already accounted for 10% of global new wind power installations in 2019. GWEC anticipates this share to increase to 20% as offshore wind plays an increasingly important role in the overall growth of the global wind market, supported by expansion into new markets and acceleration of the global energy transition.

As the world's largest regional offshore wind market, Europe is expected to maintain steady growth, but new installations, predominantly in APAC, are likely to surpass Europe in the coming years, through 2030. China and Taiwan are major contributors to the offshore wind sector in the near-term between 2020-2024, while contribution from the US will become sizeable from 2024 when the first utility-scale offshore project comes online.

While the COVID-19 pandemic has impacted energy consumption and supply chains globally, the offshore wind sector is expected to be largely shielded in the long term, due to increasing cost-competitiveness and longer project development timelines. As the offshore wind market matures, new areas of innovation will boost growth. This coupled with significant investment from oil majors and leading wind developer along with policy coordination and supportive frameworks with help offshore wind realize its potential and become a core pillar of the global energy transition movement.

Offshore Wind M&A Transactions (2019-YTD)

VINCI Energies SA. acquires EWE Offshore Service & Solutions

In Dec'20, VINCI Energies SA. has acquired EWE Offshore Service & Solutions GmbH, a Germany-based company engaged in operations management and maintenance services of offshore wind farms, for an undisclosed consideration. The acquisition will expand VINCI Energie's energy transition brand Omexom.

TRIG and InfraRed Capital Partners Limited agree to acquire 20% stake in East Anglia ONE

In Nov'20, The Renewables Infrastructure Group Limited (TRIG) and InfraRed Capital Partners Limited agreed to acquire a 20% stake in East Anglia ONE Limited, the UK-based company engaged in operating an offshore wind farm, from Green Investment Group Limited (GIG) for an undisclosed consideration. TRIG and InfraRed acquire 14.3% and 5.7%, respectively. The acquisition reduces TRIG's price sensitivity and provides subsidized revenues. It also increases offshore wind investments to about 29% of its total portfolio, strengthening its position.

Vestas Wind Systems to acquire 50% stake in Mitsubishi's MHI Vestas Offshore Wind

In Oct'20, Vestas Wind Systems A/S agreed to acquire 50% stake in MHI Vestas Offshore Wind A/S, the Denmark-based offshore wind turbines business from Mitsubishi Heavy Industries, Ltd. (MHI), for a consideration of ~€709m. The acquisition enables Vestas Wind to meet the consumer demand. Post-acquisition, both the firms will form a joint venture for sales of onshore and offshore wind power turbines.

Greencoat UK Wind to acquire 25.1% stake in Walney Offshore Windfarms

In Sep'20, Greencoat UK Wind Plc agreed to acquire 25.1% stake in Walney Offshore Windfarms Ltd. from SSE Plc., for a consideration of £350m. The sale of WOW marks the first stage of SSE's disposal plans.

Total S.A. to acquire 51% stake in Seagreen

In Jun'20, Total S.A. agreed to acquire 51% stake in Seagreen 1 offshore wind farm project from SSE Renewables (Ireland). Total S.A. will pay £70m as consideration and earn-outs up to £60m on performance basis. The acquisition strengthens Total's position in the world's major offshore wind market.

JERA Co. agrees to acquire stake in Formosa III

In Mar'20, JERA Co., Inc. agreed to acquire 43.75% stake in Formosa III, a Chinese Taipei-based offshore wind project with a total generation capacity of 2GW, from EnBW Energie Baden-Wuerttemberg AG and Green Investment Group Limited, for an undisclosed consideration. This transaction will help JERA, GIG and EnBW to develop a partnership that will transform Formosa 3 as per international best practices, supporting operative localization and will lead to enhancing Taiwan's green energy requirements.

Siemens AG acquires stake in Siemens Gamesa

In Feb'20, Siemens AG agreed to acquire an 8.071% stake in Siemens Gamesa Renewable Energy, S.A. (SGRE), the listed Spain-based company which design, build and operate renewable energy power plants, from Iberdrola SA. The transaction was valued at €1.1 bn.

EDPR Offshore Espana acquires wind assets and project pipeline from EDP Renovaveis, S.A and ENGIE SA

In Jan'20, EDPR Offshore Espana announced the acquisition of wind assets and project pipeline from EDP Renovaveis, S.A and ENGIE SA by way of a joint venture deal. The acquisition aims to solve the problems posed by various industrialists in the European region and enable growth and enhance competencies.



Electricity Supply Board of Ireland acquires 50% stake in Neart Na Gaoithe offshore wind farm project

In Nov'19, Electricity Supply Board of Ireland has agreed to acquire a 50% stake in Neart Na Gaoithe offshore wind farm project, the UK-based 450MW offshore wind farm, from Electricite de France S.A. for undisclosed consideration. The acquisition is in line with Electricity Supply Board's strategy to create a low carbon generation portfolio and is crucial for its Climate Action Plan.

MIRA acquires stake in Gwynt y Mor Offshore Wind Farm

In Oct'19, Macquarie Infrastructure and Real Assets (MIRA) agreed to acquire an additional 10% stake in Gwynt y Mor Offshore Wind Farm Limited, from Siemens AG for an undisclosed consideration. The investment represents MIRA's support for UK's transition to a future powered by renewables.

GIG Limited acquires stake in East Anglia ONE offshore wind farm

In Aug'19, Green Investment Group Limited agreed to acquire 40% stake in East Anglia ONE offshore wind farm from Iberdrola SA for a consideration of £1.63 bn. The implied equity value of the transaction is £4.1 bn. The acquisition represents GIG's plan to strengthen UK's energy transition.

TRIG acquires stake in Gode Wind I GmbH

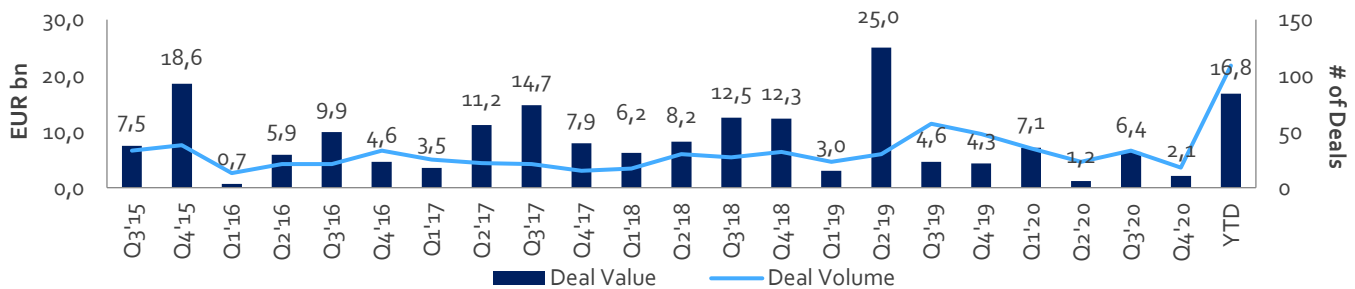
In Jun'19, The Renewables Infrastructure Group Limited (TRIG) agreed to acquire a 25% stake in Gode Wind I GmbH, a Germany-based 330MW offshore wind farm, from Global Infrastructure Partners for an undisclosed consideration. The transaction allows TRIG to expand its portfolio of infrastructure assets.

Consortium acquires stake in Veja Mate Offshore Project

In Feb'19, a consortium of Commerz Real AG, wpd invest GmbH, KGAL GmbH & Co. KG and Ingka Holding B.V., acquired ~80% stake in Veja Mate Offshore Project GmbH from Siemens Financial Services GmbH, Copenhagen Infrastructure Partners K/S and Highland Group Holdings. The consortium invested ~€2.3 bn for acquiring an 80% stake to support Commerz Real to achieve 2020 target of renewable energy production exceeding the energy consumption.

M&A Activity in the Maritime & Offshore Industry

Figure 33: M&A Deal Value and Volume (Q3 2015-Q4 2020)



Source: Merger Market

Recent M&A Transactions

Ann. Date	Target	Country Code	Target Description	Buyer	Deal Value (€m)	EV (€m)	EV/Rev (x)	EBITDA (x)
7-Dec-20	SEACOR Holdings Inc.	US	US-based company engaged in the operation of a diversified fleet of offshore support vessels that serve the oil and gas exploration industry	American Industrial Partners, LLC	-	-	-	-
4-Dec-20	Odfjell Terminals Korea (24.5% Stake)	KR	South Korea-based terminal for storage and distribution of petrochemicals	Odfjell SE	32	81	4.9x	22.0x
1-Dec-20	Norspan LNG 21 AS (99.99% Stake)	NO	Norway-based company in shipping business	CapeOmega AS	-	-	-	-
28-Nov-20	Wenzhou Port Group Co., Ltd.; Jiaxing Port Holdings Group Co., Ltd.; Zhejiang Haigang Jiaxing Port Co., Ltd.; Zhejiang Yiwu Port Co., Ltd.; Zhejiang Toumengang Port Co., Ltd.	CN	China based port operator; China based port operator; China based port operator; China-based port operator	Ningbo Zhoushan Port Company Limited	720	-	-	-
18-Nov-20	Chettinad Builders Pvt Ltd	IN	India-based coal and bulk commodity ports business	JSW Infrastructure Limited	114	114	-	-
17-Nov-20	Cont-Service Oy / Ab	FI	Finland-based company offers sea container transports	SMC Service Oy	-	-	-	-
11-Nov-20	East Anglia ONE Limited (20% Stake)	GB	UK-based company operating an offshore wind farm	InfraRed Capital Partners Limited; The Renewables Infrastructure Group Limited	-	-	-	-
11-Nov-20	Wagle Chartering AS (50% Stake)	NO	Norway-based short sea shipping company that act as broker, agent and commercial manager	Longship Group BV	-	-	-	-
9-Nov-20	Viking Cruises	US	US-based provider of river and small ship ocean cruises. It provides city-to-city itineraries that offer a range of cultural locales, destinations, shore excursions	TPG Capital LP; Canada Pension Plan Investment Board	422	-	-	-
1-Nov-20	De Keizer Marine Engineering B.V.	NL	Netherlands-based company engaged in designing, building and installing electrical installations and computer-controlled alarm, monitoring and operating systems for the luxurious yacht and shipbuilding industry	Eekels Technology B.V.	-	-	-	-
29-Oct-20	MHI Vestas Offshore Wind A/S (50% Stake)	DK	Denmark-based joint venture between Mitsubishi Heavy Industries and Vestas Wind Systems engaged in offshore wind turbines business	Vestas Wind Systems A/S	709	-	-	-
23-Oct-20	BSE Maritime Solutions	AU	Australia-based company providing ship repair and supporting services to defense, commercial, tourism, and luxury vessel customers	Austal Limited	17	17	-	-



21-Oct-20	Chongqing Chemical Harbour Co., Ltd. (35% Stake)	CN	China-based company engaged in providing terminal services for ships	China National Aviation Fuel Group Logistics Co., Ltd.	12	-	-	-
17-Oct-20	Baodarun (Xiamen) Investment Co., Ltd. (bulk carrier assets)	CN	China-based state-owned investment holding company which owns bulk carriers engaged in dry bulk shipping	Xiamen ITG Group Corp., Ltd.	63	63	-	-
12-Oct-20	BBL Transport SA	FR	France-based company engaged in providing road, rail, and marine freight transportation services along with inventory management and warehousing facilities	Geneo Capital Entrepreneur	15	-	-	-
11-Oct-20	R & M Ship Technologies Group	DE	Germany-based provider of interior outfitting for ships and marine installations, such as cruise ships, ferries and offshore platforms	China State Shipbuilding Corporation Limited	-	-	-	-
5-Oct-20	Euronav NV (Concord Vessel) (50% Stake)	BE	Belgium-based ship owned by Euronav NV	Seven Islands Shipping Limited	17	-	-	-
5-Oct-20	Grammer Logistics, Inc. (Dry Bulk business)	US	US-based Dry Bulk business of Grammer Logistics	TFI International, Inc.	-	-	-	-
2-Oct-20	PostNord AB (Swedish Air & Ocean activities)	SE	Sweden-based air & ocean activities of PostNord AB	Scan Global Logistics A/S	-	-	-	-
2-Oct-20	Paul's Hauling Ltd.	CA	Canada-based provider of bulk transport services in Western Canada	RTL-Westcan Group of Companies	-	-	-	-
29-Sep-20	Safe Harbor Marinas	US	Operates more than 100 marinas in US and also provides other marine services	Sun Communities	1,719	1,719	7.2X	31.4X
28-Sep-20	Nordic Bulk Carriers (33.7%)	DK	Operates as a dry bulk shipping company specialising in provision of ice class bulk carrier services	Pangaea Logistics Solutions	19	-	-	-
24-Sep-20	Zhejiang Shipping Group	CN	Engaged in coastal and inland river freight transportation and international ocean shipping transportation	Zheshang Development Group	214	214	1.2X	1.7X
14-Sep-20	The Plaquemine Terminal, The Freeport Terminal, The St. Charles Terminal	US	Comprises of industrial terminal for marine operations and chemical storage.	Vopak Industrial Infrastructure Americas	523	523	-	-
11-Sep-20	Bestway Marine and Energy Technology (44.4%)	CN	Provider of marine and offshore engineering technological services	Xiamen Longhai Investment Management, Shanghai Dingguo Enterprise Development	150	361	-	-
28-Aug-20	PT Kiat Ananda Cold Storage, PT Ananda Solusindo, PT Manggala Kiat Ananda, PT Trans Kontainer Solusindo	ID	Comprises of freight forwarder and ship freight business	K.R.S. Corporation	52	52	-	-
27-Aug-20	Rizhao Lanshan Wansheng Harbour Company	CN	Engaged in port handling, loading and unloading of iron ore, and logistics services	Rizhao Port	36	-	-	-
19-Aug-20	Avana Logistek	IN	Operates as a multi-modal logistics services company, providing strategic and operational logistics support services	Unifeeder ISC FZCO	25	25	-	-
10-Aug-20	Total Terminal International Algeciras	ES	Operates container terminal and manages ships, shore cranes, automatic stacking cranes, and shuttle carriers	CMA CGM, DIF Capital Partners	43	-	-	-
6-Aug-20	China Shipping Port (Laizhou)	CN	Engaged in port business at Laizhou port	Yantai Port Group	144	-	-	-
15-Jul-20	Deutsche Binnenreederei (81.1%)	DE	Provider of inland shipping transport and logistics services, focusing on container transports and dry bulk and heavy lift freight	Rhenus PartnerShip	18	-	-	-
10-Jul-20	GOI Travel (50.0%)	ES	Operates as a logistics operator focused on the transport, assembly and installation of bulky goods	Moira Capital Partners	17	-	-	-
9-Jul-20	Silversea Cruises (33.3%)	MC	Operates a fleet of luxury cruises and smaller cruise ships	Royal Caribbean Cruises	230	-	-	-
7-Jul-20	Yingkou Port Liability	CN	Engaged in providing of cargo loading, unloading, storage and transportation services.	Dalian Port (PDA) Company	1,883	1,883	-	-
12-Jun-20	Trust Energy Resources (3 dry bulk vessels)	SG	Comprises of dry bulk carrier vessels of Trust Energy Resources	Oldendorff Carriers	189	189	-	-
5-Jun-20	Zhoushan Tianqi Shipping	CN	Engaged in providing shipping services	Undisclosed bidder	11	-	-	-
11-May-20	Teekay LNG Partners	US	Engaged in ship transport of gas, oil and other utilities	Teekay	111	3,456	6.2x	8.6x
11-May-20	Odfjell Terminals (Dalian) (50.0%)	CN	Comprises of tank terminal for hazardous and non-hazardous liquid products	VTTI	55	-	-	-
4-May-20	Imperial Shipping Services	DE	Provider of shipping services for European inland waterway	Haefen und Gueterverkehr Koeln	225	225	0.6x	-
15-Apr-20	Porto Karras	GR	Operates resort, golf club, yachts, dining lounge and vineyard	Belterra Investments	205	205	-	-
31-Mar-20	Weihai Haida Passenger Transport (66.7%)	CN	Provider of sea passenger transportation services	Bohai Ferry	43	-	-	-
Mean							3.6x	17.4x
Median							3.6x	16.1x

Source: Merger Market



The M&A deals in the global maritime and offshore industry witnessed after-effects of the pandemic with a 66.8% decline in deal value and a 45.5% decline in deal volume in the fourth quarter performance of 2020. This was a major downfall from the peaking growth numbers of the previous quarter. In fourth quarter of 2020, the deal value fell by 50.9% and deal count fell by 62.5% respectively during the same quarter in the previous year.

Key M&A Transactions (Jan'20-YTD)

CapeOmega AS to acquire stake in Norspan

In Dec'20, CapeOmega AS agreed to acquire a 99.99% stake in Norspan LNG 21 AS, a Norway-based company in shipping business, from Knutsen LNG AS, for an undisclosed consideration.

JSW Infrastructure Limited acquires Chettinad Builders Pvt Ltd.

In Nov'20, JSW Infrastructure Limited acquired Chettinad Builders Pvt Ltd, an India-based coal and bulk commodity terminal business, for a minimum consideration of \$135m. The acquisition enhances JSW's presence across South-East and West coast of India, thus expanding its access to hinterland trading hubs. This transaction also supports JSW's growth strategy to reach an annual cargo handling capacity of 200 metric tonnes by 2022 and generates synergies with JSW's Paradip Port 30 metric tonnes coal export terminal.

Austal Limited to acquire BSE Maritime Solutions

In Oct'20, Austal Limited agreed to acquire BSE Maritime Solutions, an Australia-based provider of ship repair and supporting services to defense, commercial, tourism, and luxury vessel customers, for a consideration of \$19.6m. The acquisition is part of Austal's strategy to expand and strengthen its support business, and provides Austal access to a dockyard and ship lift capability in the northeast region of Australia which is capable of moving 1120 tones.

TFI International acquires Dry Bulk business of Grammer Logistics

In Oct'20, TFI International announced plans to acquire the Dry Bulk business of Grammer Logistics for an undisclosed value. Addition of Grammer Logistics will expand TFI's US specialty truckload operations and will be a good strategic fit with TFI's BTC East.

Government of the Republic of Trinidad and Tobago acquires CL Marine

In Sep'20, The Government of the Republic of Trinidad and Tobago acquired CL Marine Limited, a Trinidad & Tobago-based port facility, for an undisclosed consideration in an insolvency transaction. The government was the highest creditor of CL Financial, owed more than \$28 bn.

Mullen Group acquires the remaining 60% stake in Pacific Coast Express

In Sep'20, Mullen Group acquired the remaining 60% stake in Pacific Coast Express for undisclosed consideration. This acquisition is in line with Mullen's strategy of making long-term investments into businesses that support the consumer part of the economy, specifically less-than-truckload shipment.

Unifeeder, a subsidiary of DP World PLC, acquires Transworld Feeders, Avana Logistek and Transworld Feeders

In Aug'20, Unifeeder, a subsidiary of DP World PLC, acquired Transworld Feeders, Avana Logistek and Transworld Feeders to enhance its presence within trade routes west of the Indian Subcontinent. This transaction will enhance Unifeeder's supply chain solutions between East Africa, Gulf, the wider Indian Subcontinent and this acquisition complements the DP's recent acquisition of Feedertech and Perma shipping.



PSA and GIP restructure their terminal businesses

In Aug'20, PSA Investments, a subsidiary of PSA International and Gruppo Investimenti Portuali have received approval from the Genoa Port Authority for restructuring their Genoa based operations. This will lead to PSA becoming the majority shareholder in and obtaining management control of both PSA Genova Pra' and SECH.

Macquarie Infrastructure and Real Assets acquires 70% stake in International Transportation Service from Kawasaki Kisen Kaisha

In Aug'20, Macquarie Infrastructure and Real Assets acquires 70% stake in International Transportation Service from Kawasaki Kisen Kaisha for an undisclosed consideration. This transaction is in line with Kawasaki Kisen Kaisha's portfolio strategy to review the group companies related to the containership business.

Carnival Corp Selling Ships to Cut Costs

In Jun'20, Carnival Corp, a cruise company, entered into preliminary agreements for the disposal of six vessels. The company is working toward additional agreements. The company reported a loss of \$4.4 bn in 2Q20.

Maersk Tankers spins off ZeroNorth

In Jun'20, Maersk Tankers spun off ZeroNorth to accelerate digitalization of shipping with its Optimise software to address CO2 emissions and boost earnings. ZeroNorth has 6 customers and over 300 vessels use Optimise software. Increased adoption of the software could lead to decline in CO2 emissions by 50m metric tonnes and increase in industry's revenue by up to \$12 bn over the next five years.

Maersk Supply Service Divests Vessels

In Jun'20, Maersk Supply Service divested Maersk Advancer and Maersk Asserter vessels to an international buyer due to insufficient commercial opportunities in the wake of COVID-19 pandemic. The divestment will help in right-sizing the supply side of the OSV market.

Norden Forms Strategic Partnership with Diamond S Shipping

In Jun'20, tanker shipping companies Norden and Diamond S Shipping have formed a strategic partnership, DiaNor, which will be marketed and operated through Norient Product Pool. As part of the partnership, the two companies will consolidate their tanker fleets. Diamond S will contribute 28 ships and subsequently Norient Product Pool will manage a combined fleet of 150 medium range tankers.

Mitsubishi Heavy Industries Seeks to Merge with Mitsui E&S' Shipbuilding Unit

In Jun'20, Mitsubishi Heavy Industries announced that it is in talks to acquire the shipbuilding unit of Mitsui E&S. The merger will help the companies compete better in a business that is rapidly consolidating. The Mitsui E&S' shipbuilding unit's sales fell by around 40 % year-over-year in FY2020.

Sembcorp Marine Demerging from Sembcorp Industries

In Jun'20, Sembcorp Marine, a builder and operator of a repair facilities in Singapore for the offshore, marine and energy industries, announced a \$1.5 bn recapitalization plan backed by its current parent company Sembcorp Industries and investment firm Temasek. After the demerger both the companies will focus on their individual operations. The current parent company will hold 70% stake in Sembcorp marine after the completion of the demerger.

Teekay Corporation acquires an undisclosed stake in Teekay LNG Partners LP

In May'20, Teekay Corporation has agreed to acquire an undisclosed stake in Teekay LNG Partners LP. Teekay LNG will issue 10.75m newly-issued Teekay LNG common units to Teekay. The transaction is to eliminate all of the Partnership's incentive distribution rights (IDRs) between both the parties. The implied equity of the transaction is \$974m.



Haefen und Gueterverkehr Koeln AG acquires Imperial Shipping Services GmbH (ISS)

In May'20, Haefen und Gueterverkehr Koeln AG agreed to acquire Imperial Shipping Services GmbH (ISS), a Germany-based shipping services provider for European inland waterways, for \$247mn. The deal complements Haefen's investment portfolio for logistics and freight transport companies and will also expand Haefen's services in chemical and gas shipping.

Lürssen and German Naval Yards Kiel

In May'20, Lürssen and German Naval Yards Kiel (GNYK) decided to consolidate their military and naval surface shipbuilding activity through a joint venture.

Royal IHC Reaches Agreement for Acquisition and Refinancing

In Apr'20, Royal IHC entered in a Heads of Agreement with an industry consortium of major players, including HAL Investments, Ackermans & van Haaren, MerweOord, and Huisman, in the maritime sector and its existing syndicate of banks to acquire and refinance IHC Merwede Holding B.V.

Active Capital Company Acquired Delta Coastal Services

In Mar'20, Amsterdam-based private equity firm Active Capital Company acquired a majority stake in dredging and coastal reinforcement company Delta Coastal Services.

MPC Container Ships raised \$13m

In Feb'20, Norway-based MPC container ships raised \$13m (Nkr125m) in a private placement with investments from Star Spike Ltd, CSI Beteiligungsgesellschaft mbH, and Pilgrim Global ICAV. MPC Container owns and operates a portfolio of container ships with strong focus on the feeder segment between 1,000 and 3,000 TEU.

Port & Free Zone World FZE (PFZW) acquires DP World in \$2.7bn deal

In Feb'20, PFZW, a subsidiary of Dubai World Corporation (DWC), agreed to acquire 19.6% stake in DP World, a UAE-based business of international marine terminal operations and development. This deal will enable DWC to focus on its strategy of transforming from a global port operator to infrastructure-led end-to-end logistics provider. The deal values DP World at an enterprise value of \$25.8bn.

GATX Corporation sells American Steamship Company (ASC) business segment to Rand Logistics

In Feb'20, Rand Logistics has signed an agreement to acquire ASC, a US-based transportation company operating a fleet of self-unloading vessels, for a consideration of \$260mn. The combination will create growth opportunities for both Rand Logistics and ASC and result in improving customer service and shipping capacity.

TUI and Royal Caribbean joint venture – TUI Cruises acquires luxury brand Hapag-Lloyd Cruises

In Feb'20, TUI Cruises signed a contract to acquire Hapag-Lloyd Kreuzfahrten, a Germany-based provider of luxury and expedition cruises. Hapag-Lloyd Cruises which is valued at \$1.3bn will be the second pillar of the successful joint venture, providing an ideal starting point for accelerated growth in TUI's Cruise division.

CSAV Increased Stake in Hapag-Lloyd

In Jan'20, Chilean Compañía Sud Americana de Vapores acquired majority stake in Hapag-Lloyd, German shipping major, for approximately \$300m.



Magellan Midstream Partners sells select marine terminals to Buckeye for \$250mn

In Jan'20, US-based owner and operator of refined petroleum pipelines have acquired three marine terminals from Magellan Midstream Partners. The terminals are located in Connecticut, Delaware and Louisiana. The sale aligns with Magellan's strategy of optimizing its asset portfolio by divesting non-core assets.

China Merchants Port (CMPort) transfers 22.6% equity of (TCP) to (CPD) Fund

In Jan'20, CPD Fund, a China-based fund managed by China-Portugal Development (CPD) Fund has acquired 22.6% stake in Terminal De Containeres de Paranaguá (TCP), a Brazil-based container port terminal operator, for a consideration of \$150mn. This equity transfer is the first time for CMPort to bring in strategic investors for its overseas existing terminal assets.

Sociedad Matriz SAAM enters the Columbian towage market, consolidates its presence in Central America and expands operations in Mexico

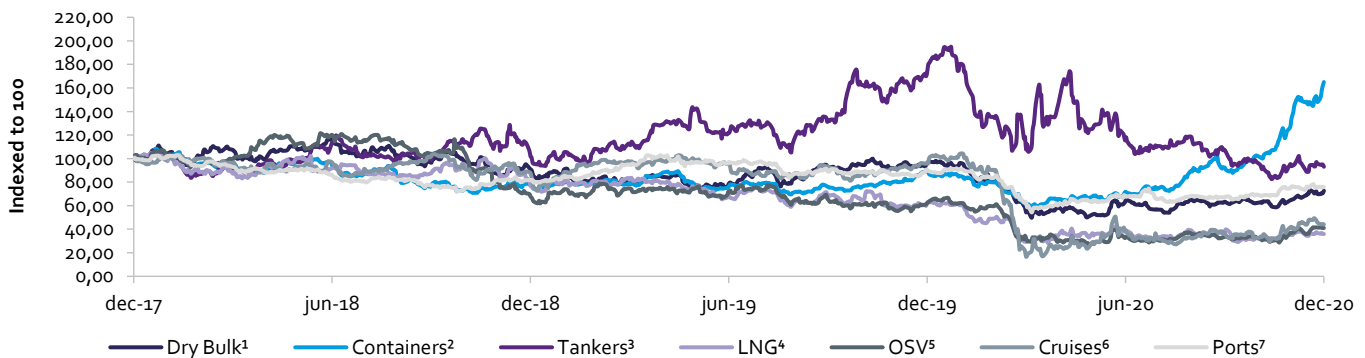
In Jan'20, SAAM has agreed to acquire 70% stake in Intertug, a Columbia-based provider of port and harbour assistance and specialized terminal operations, via a capital increase and share purchase, for a consideration of \$75mn. The deal values Intertug at an enterprise value of \$98mn.

Adani Ports and SEZ (APSEZ) acquires controlling stake of 75% in Krishnapatnam Port Company (KPCL)

In Jan'20, 3i Group via 3i India Infrastructure Fund and CVR Group have agreed to sell 75% stake in KPCL, India-based business of handling containers, coal, break bulk and other bulk cargo, for a consideration of \$1.6bn. The transaction will accelerate APSEZ's stride towards 400 MMT by 2025 and will increase its market share from 22% to 27% in hinterland catered by KPCL.

Share Price Performance

(% Change)	Dry Bulk	Containers	Tankers	LNG	OSV	Cruises	Ports
3Y	(27.3%)	65.0%	(6.9%)	(64.1%)	(59.0%)	(55.9%)	(24.2%)
1Y	(23.0%)	84.8%	(45.2%)	(40.0%)	(32.8%)	(54.0%)	(16.3%)
6m	15.4%	130.7%	(19.4%)	(5.4%)	26.4%	14.8%	10.8%



Source: FactSet as of 17 Dec'20

Notes:

1. Includes Pacific Basin Shipping, Star Bulk Carriers and Great Eastern Shipping
2. Includes A.P. Moller – Maersk, Evergreen Marine, Cosco Shipping and Orient Overseas
3. Includes Frontline, Euronav and Tsakos Energy Navigation
4. Includes GasLog, Teekay LNG Partners and Golar LNG
5. Includes Solstad Offshore, Tidewater and SEACOR Holdings
6. Includes Royal Caribbean Cruises, Carnival Corp and Norwegian Cruise Line Holdings
7. Includes Shanghai International Port, China Merchants Port Holdings, Adani Ports & SEZ, Dalian Port and International Container Terminal Services

The overall maritime segment witnessed a steep decline early in 2020 amid the COVID-19 pandemic, as free movement of goods was hampered due to lockdown restrictions globally. However, the market has shown some sign of recovery post Apr'20 as the situations started recovering.

Over the past three years, Tanker industry has shown a continuous growth in its performance and has outperformed the other sectors in the maritime industry. The tanker market had a positive 2019, but the first half of 2020 has been volatile due to the impact on demand from the COVID-19 pandemic, coupled with the excess of crude oil that flooded the market in H1 2020. While the tanker market declined in Feb'20, it was strong again in Mar'20, mainly due to a low oil price and a lack of agreement within OPEC+ regarding further production cuts. The price, already at a low level, fell further. This resulted in significantly increased oil trading – and sharply rising rates in the tanker market. Volatility due to geopolitics such as oil price wars and ad hoc tanker sanctions led to tanker performance to soar on occasions, which has now returned to pre-COVID levels.

Container stocks have had the most direct impact of slowing economic growth in the shipping industry, with demand for containerised goods being one of the first things to be affected. Nonetheless, the segment gained traction as soon as lockdowns were eased around June, and has since been following an upward trend.

The share prices of Cruise line stocks have underperformed over the last three years. In 2020, the industry has been shut down due to government regulations regarding the COVID-19 pandemic, further stunting its performance.

Peer Analysis

Company Names	Country	Country	Share Price (€)	% of 52-Week High	Market Cap (€m)	EV (€m)	LTM		Net Debt/ EBITDA (x)
							Enterprise Value/ Rev(x)	EBITDA (x)	
Dry bulk									
Star Bulk Carriers	Greece	GR	6.57	61.0	631	1,888	2.7x	9.8x	6.2x
Pacific Basin Shipping	Hong Kong	HK	0.16	79.3	729	1,357	1.0x	7.0x	3.6x
Great Eastern Shipping	India	IN	3.13	70.5	460	494	1.0x	2.1x	0.1x
Mean							1.6x	6.3x	3.3x
Median							1.0x	7.0x	3.6x
Containers									
A.P. Moller - Maersk A/S	Denmark	DK	1,716.40	98.2	34,337	37,206	1.1x	5.9x	1.5x
COSCO SHIPPING Holdings	China	CN	0.84	97.0	14,418	22,845	1.2x	10.4x	5.5x
Orient Overseas	Hong Kong	HK	7.18	100.0	4,493	3,333	0.5x	5.4x	1.6x
Evergreen Marine	Taiwan	TW	0.86	99.1	4,123	5,721	1.0x	5.0x	3.5x
Mean							0.9x	6.7x	3.0x
Median							1.0x	5.7x	2.6x
Tankers									
Euronav	Belgium	BE	6.72	57.3	1,370	2,199	1.7x	2.4x	1.0x
Frontline	Bermuda	BM	5.44	46.0	1,075	2,792	2.3x	4.4x	2.7x
Tsakos Energy Navigation	Greece	GR	7.51	36.9	141	1,517	2.5x	5.2x	3.7x
Mean							2.2x	4.0x	2.5x
Median							2.3x	4.4x	2.7x
LNG									
Golar LNG	Bermuda	BM	7.61	56.4	829	2,896	6.8x	10.7x	nm
Teekay LNG Partners	Bermuda	BM	9.65	67.0	839	1,330	2.5x	3.7x	6.3x
GasLog	Greece	GR	3.17	34.5	302	4,163	6.8x	9.9x	7.1x
Mean							5.4x	8.1x	6.7x
Median							6.8x	9.9x	6.7x
OSV									
SEACOR Holdings	United States	US	33.94	83.3	302	4,163	6.4x	nm	3.5x
Tidewater	United States	US	7.80	43.2	316	395	1.0x	8.5x	0.7x
Solstad Offshore	Norway	NO	0.95	7.4	71	2,858	6.2x	24.7x	24.7x
Mean							4.5x	16.6x	9.6x
Median							6.2x	16.6x	3.5x
Cruises									
Carnival Corporation	United States	US	17.66	37.7	17,405	31,480	3.4x	nm	nm
Royal Caribbean Cruises	United States	US	60.38	49.6	14,050	27,145	6.5x	nm	nm
Norwegian Cruise Line Holdings	United States	US	20.75	38.6	6,550	14,065	5.7x	nm	nm
Mean							5.2x	nm	nm
Median							5.7x	nm	nm
Ports									
Shanghai International Port (Group)	China	CN	0.57	74.7	13,150	14,564	4.0x	17.8x	3.7x
Adani Ports & SEZ	India	IN	5.19	97.7	10,550	13,369	10.5x	17.4x	3.6x
China Merchants Port Holdings	Hong Kong	HK	1.01	62.1	3,683	9,243	9.4x	19.8x	9.3x
International Container Terminal Services	Philippines	PH	2.11	87.8	4,305	5,935	4.2x	7.9x	4.8x
Dalian Port	China	CN	0.08	67.8	2,283	2,547	3.0x	8.1x	2.2x
Mean							6.2x	14.2x	4.7x
Median							4.2x	17.4x	3.7x
Overall Mean							3.8x	9.3x	4.8x
Overall Median							2.8x	8.0x	3.6x

Source: FactSet as of 17 Dec'20

Recent Development of Key Players

Diana Shipping Inc. commences self-tender offer to purchase up to 6,000,000 shares

In Dec'20, Diana Shipping Inc. announced the commencement of a tender offer to purchase up to 6,000,000 shares, or about 6.7%, of its outstanding common stock using funds available from cash and cash equivalents on hand at a price of \$2.00 per share.

PPA S.A. invests at the Ship Repair Zone in Perama

In Dec'20, PA S.A. announced the signing of the agreement for the implementation of the project: "Infrastructure Improvement of Ship Repair Zone in Perama – Phase B", on a budget of approximately €20m for upgrading of the existing port infrastructure, the construction of new infrastructure and E/M installations.

Globus Maritime Limited announces Registered Direct Offering

In Dec'20, Globus Maritime Limited announced entering into a securities purchase agreement with certain unaffiliated institutional investors to issue approximately 1.41 million of its common shares and warrants to purchase up to an aggregate of 1.27 million common shares at a purchase price of \$8.50 per common share and accompanying warrant (or \$8.49 per pre-funded warrant and accompanying warrant) in a registered direct offering.

10 platform supply vessels of Hermitage Offshore Services were sold for EUR 68M during the process of bankruptcy

In Oct'20, Hermitage Offshore Services which was part of Emanuele Lauro-led Scorpio Group filed for bankruptcy in late August leading to sale of its 10 platform supply vessels to creditors for EUR 68M. Additionally, 11 crew vessels owned by Hermitage Offshore Services will be sold to an unaffiliated third party for EUR 4.5M. This sale event will lead to exit of Lauro from offshore business.

ADNOC adds third ultramax to bolster its Bulk management portfolio

In Oct'20, UAE-based Abu Dhabi National Oil and its ship owning arm ADNOC Logistics & Service added 1-year old Tsuneishi-built 63,000 dwt ultramax from MX Bulk Management for around EUR 22M. This is the third ultramax in bulk management portfolio of seven ships.

Keppel has grabbed a contract worth EUR 375M in the offshore renewable energy industry

In Oct'20, Keppel Offshore & Marine secured an engineering, procurement and construction (EPC) contract for a vessel which will be operating in the offshore renewable energy industry. This is in line with Keppel's 2030 vision for seeking opportunities to provide solutions in renewable energy space.

Hapag-Lloyd becomes the first company in world to convert large container ship to use LNG as fuel

In Oct'20, Hapag-Lloyd's SAJIR got upgraded by China's Huarun Dadong yard so that it can use LNG as fuel after 1,300-tonne LNG tank was added in containership by September. The company incurred additional cost of EUR 25.4M for the conversion.

DFDS started a new freight ferry service between Patras and Trieste

In Oct'20, DFDS through BU Med initiated a new shipping line between Patras in Greece and Trieste in Italy to accommodate rising demand.

Carnival to close down operations of 18 ships amid the pandemic

In Sep'20, Carnival announced plans to scrap in total 18 ships to cut down the costs and narrow down the losses occurred due the cruise ban globally amid pandemic. The discontinued ships constitute around 12% of the company's total fleet strength.



ProMare and the Finnish Wartsila to launch world's first fully autonomous ship with IBM

In Sep'20, Promare and Finnish Wartsila joined hands with IBM to build world's first fully autonomous ship. The trials phase for the ship have already began from 26th September.

FTI Group has announced closure of various divisions, brands, and subsidiaries

In Aug'20, Due to major restructuring amid pandemic FTI Group planned to shut down operations of various subsidiaries. This has also affected its one-ship shipping company FTI Cruises operating a small classic cruise ship named as MS Berlin.

Global Maritime entered into a partnership with Cathie to provide jack-up consultancy solution

In Jul'20, Global Maritime entered into partnership with Cathie to provide Site Specific Assessment (SSA) and Leg Penetration Assessment (LPA) and other services for jack-up operations. Both the firms analysed more than 1,500 individual jack-up locations for operability.

Carnival to sell six cruise ships as bookings dry up and reported a loss of \$4.4 bn

In Jun'20, Carnival Cruise reported a loss of \$4.4 bn in the last three months and planned to sell six cruise ships as bookings were cancelled due to COVID-19 pandemic. Revenue dropped to \$700.0m in March-May period of 2020 from \$4.8 bn for the same period in 2019, as the booking dried up and the corporation's cruise line stopped sailing.

SE Asian ports need to invest billions as shippers seek alternatives to China

In Jun'20, Ports in South-east Asia planned to invest up to \$13 bn to upgrade the terminal capacity to handle the expected shift in sourcing away from China that has been triggered by COVID-19 supply chain disruptions. An estimated amount of \$13 bn investment is required to increase the port capacity in Vietnam, Thailand, the Philippines, Myanmar, Indonesia, Cambodia, Singapore and Malaysia

Tampa port lands \$20m grant to expand container berth

In Jun'20, The US Department of Transportation has awarded a \$19.8m grant to Tampa Bay port to help expand its shipping container operations by 60%. The grant allows the port to move up a \$55m project to build a new 1,300-foot-long berth and a 30-acre container yard.

Svitzer wins two contracts to bolster African towage business

In Jun'20, Svitzer secured a five-year contract to provide harbour towage and pilot transfer services for Nacala Logistics in Mozambique. Additionally, the company secured a five-year extension of its current contract with Egyptian LNG assisting the onshore Idku LNG plant to operate four tugs, two mooring boats and one pilot vessel.

Kongsberg thrusters for fully electric tug

In May'20, New Zealand's Ports of Auckland Limited and Damen Shipyards Group partnered to develop a fully electric ship handling tug to conduct emissions-free operations by 2040. Kongsberg Maritime's azimuth thrusters have been selected to power a fully electric ship handling tug.

DP World joins with TradeLens to digitize global supply chains

In May'20, DP World integrated with TradeLens, a blockchain based digital container logistics platform developed by A.P. Moller – Maersk and IBM. The collaboration is expected to connect DP World's 82 marine and inland container terminals, as well as feeder companies and logistics divisions.



HMM unveils world's biggest container ship

In Apr'20, Hyundai Merchant Marine (HMM) announced plans to launch the biggest container ship in the world with a vessel capacity of 24,000 teu. The ship is expected to be delivered by September 2020 with optimised hull design to improve energy efficiency and reduce carbon emissions.

Solstad Offshore to dispose of 37 vessels on restructuring plan

In Apr'20, Solstad offshore announced its plan to dispose-off 37 older vessels as a part of restructuring plan, bringing down the group's fleet of vessels to 90. The fleet consists of a mix of PSVs, AHTS vessels and OCVs/CSVs. Additionally, the company planned to covert \$959m debt into equity in a bid to strengthen the group's balance sheet and liquidity.

Fairplay expands into new towage market

In Mar'20, Fairplay Towage has opened operations in the Canary Islands, Spain to provide towage, ship manoeuvring and berthing support services in the port of Las Palmas.

Swire Shipping strengthens Asia operations with new build vessel

In Mar'20, Swire Shipping has strengthened its operations in Asia with the deployment of a newly-build 2,400-teu vessel onto the Southeast Asia to Papua New Guinea and Solomon Islands route. The 2,400 teu feeder vessel is built at CSSC Huangpu Wenchong Shipbuilding that features three 45 metres uprated cranes, non-containerised cargo capability, pontoon weather tight hatch covers, and a hull form design for fuel efficiency.

India to invest US\$9 bn in new deepwater container port

In Feb'20, the Indian government announced plans to develop a large deep-water port on its western coast with an investment of more than \$9 bn. The port will be built at Vadhavan near Dahanu in the state of Maharashtra by a joint venture led by Jawaharlal Nehru Port Trust.

Evergreen Line launches new digital platform

In Feb'20, Evergreen Line launched GreenX, a new digital platform for customers to get instant quotes and book secured space with prioritised equipment supplied by the carrier. The platform is powered by BlueX Trade, a neutral freight tech supplier that builds ocean cargo networks to link the shipper community with Evergreen Line services.

Global M&A Partners

Highlighted Transactions

Quintana Well Pro | Thomas B. Murphy

Investment Group led by Thomas Murphy acquired 100% of Quintana Well Pro and Transportes Aguila in Argentina

USA Argentina | GLOBAL M&A PARTNERS

Fenix Partners
Advisor to the buyer



Quintana Well Pro is a leading operator in the drilling and well service market in Argentina. Transportes Aguila is a heavy equipment transportation and logistics company in Argentina. Fenix Partners acted as financial advisor to the buyer

UCS is a market leading offshore engineering specialist providing cold cutting, dredging and coating removal services. Zeus Capital acted as financial adviser to the shareholders of Underwater Cutting Solutions on its successful sale to Ashtead Technology

UCS | Ashtead Technology

UCS is a market leading offshore engineering specialist providing cold cutting, dredging and coating removal services

GLOBAL M&A PARTNERS

Zeus Capital
Advisor to the seller




Gries Wind AG | STIFTUNG ABENDROT
Die nachhaltige Pensionskasse

DIVESTITURE of a minority stake of Gries Wind AG to Stiftung Abendrot

GLOBAL M&A PARTNERS

Zetra International
Advisor to the seller



Stiftung Abendrot, a Swiss pension fund, acquired a 20% stake in Gries Wind AG from SwissWinds Development GmbH.

Sogestran Group has agreed to acquire a majority participation in De Poli Tankers Holding B.V., an integrated chemical tanker company based in, the Netherlands. De Poli Tankers acquired the European chemical tanker business from Team Tankers

SOGESTRAN GROUP | TEAM

de poli tankers holding

Sogestran Group provided fresh equity and acquired a majority stake in De Poli Tankers and De Poli Tankers acquired the European chemical tanker business from Team Tankers

jbr
Advisor to De Poli

Global M&A Partners – Maritime and Offshore Team

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Within the GMAP M&O Sector members work together to achieve premium results. Each transaction requires specific cooperation between members to combine in-depth knowledge with the specialist's network within the maritime and offshore sector.



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