



MISC LINES UP FRESH ORDER FOR LNG CARRIER NEWBUILDS IN SOUTH KOREA

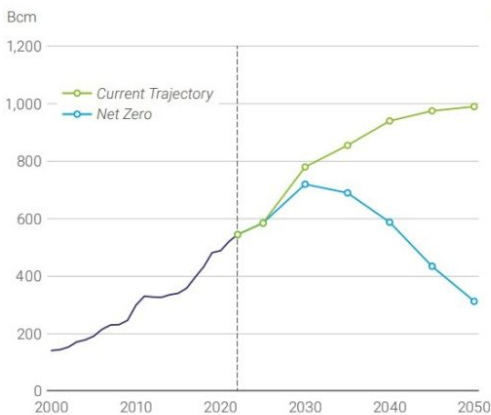
Owner signs letter of intent with Samsung Heavy Industries. Malaysian gas shipping giant MISC is poised to make a move on LNG carrier newbuilding's and has set aside berths for tonnage. TradeWinds understands that MISC has signed a letter of intent at Samsung Heavy Industries for two ships. Details remain sparse on the booking, which industry sources said could mark a return to LNG ordering for the interests of Petronas, rather than for project business. Asked about the order, an MISC spokesperson said: "MISC explores strategic opportunities that align with our long-term goals, as a normal course of business. "MISC will certainly communicate with relevant stakeholders if and when there is material development on the opportunities we explore." The shipowner has been a regular at shipyards for LNG tonnage over the years and has moved through different technical preferences on ship specifications. It has two LNG carrier newbuilding's ordered at Hanwha Ocean in South Korea, but these are part of Qatar Energy's huge 122-vessel newbuilding programme and are contracted against berths pre-reserved by the Qatari giant. In addition, MISC is a partner in a consortium that includes NYK, K Line and China LNG Shipping that is building a series of LNG carriers that will be chartered to Qatar Energy. MISC is listed on Clarkson's' Shipping Intelligence Network database as having 30 existing LNG carriers, including two that serve as floating storage units for a jetty-based import

terminal. Four of its LNG carriers are listed as idle, while a fifth — the 137,100-cbm Puteri Delima Satu (built 2002) — is listed as laid up. Kpler data shows the steam turbine vessel as in ballast off South Korea, where it appears to have been since the beginning of this year. Last October, MISC said it had signed an agreement with Petronas Gas subsidiary Pengerang LNG (Two) to convert the steamship into a floating storage unit to be deployed at the Petronas LNG Regasification Terminal Pengerang in Johor. It is due to be in operation by mid-2025. There is speculation that MISC's planned newbuilding's could be a sign that it is moving on fleet renewal. The company has also spoken in a results briefing about fleet growth to meet expected demand from liquefaction growth. The shipowner has been selling off some of its older tonnage. It offloaded two midsize steam turbine sister ships, the 65,000-cbm Portovenere (built 1997) and Lerici (built 1998), earlier this year to Turkey's Karpowership for \$9m each. Both appeared idle at the time of sale. In September 2023, MISC sold two unnamed vessels to Japanese shipowner Nissen Kaiun in a first sale-and-leaseback deal for the Malaysian owner in the LNG sector. Earlier in 2023, MISC offloaded its 137,489-cbm Puteri Intan Satu (renamed Trader III, built 2002) to Capital Gas for about \$35m. Petronas will probably be instrumental in any MISC fleet renewal moves. Petronas has been moving to grow its LNG carrier trading operations globally and will most likely be keen to gain access to larger, modern and more efficient tonnage than some of older, smaller steam turbine and diesel-electric vessels in the current MISC fleet. Source: www.tradewindsnews.com

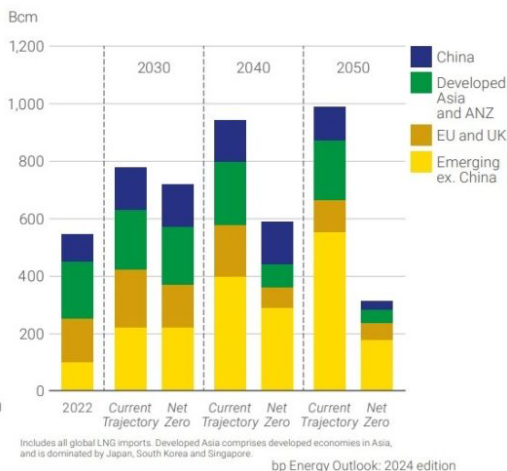
SPANISH OWNER WINS TOTAL ENERGIES BUNKER VESSEL

Energy major pencils in up to two more specialised ships at the Chinese yard. TotalEnergies has plumped for Spain's Grupo Ibaizabal to build at least one LNG bunker vessel for the company following a tender. Those following the process said it is expected to be of a similar size to the 18,600-cbm vessels previously ordered for use by its fuelling arm, TotalEnergies Marine Fuels, by Mitsui OSK Lines. Like them, the latest newbuilding will be ordered at Hudong-Zhonghua Shipbuilding (Group) in China and fitted with membrane-type cargo tanks. It is to be delivered by 2027 and chartered out to TotalEnergies for up to seven years. It is expected to be sited in the Port of Long Beach, California. TradeWinds understands that at least one optional LNGBV has been negotiated with the shipyard. TotalEnergies has been contacted about the upcoming order. Grupo Ibaizabal has not been among the more prominent names in LNG bunkering to date but does have experience in the sector since a first pilot operation in 2018. It controls the 600-cbm LNG and oil bunkering vessel Oizmendi (built 2009). The selection of Grupo Ibaizabal means German owner Bernhard Schulte missed out on the job after making it to the final two shortlisted companies fighting it out for the business. Rising demand Earlier, Dutch shipowner Anthony Veder, Avenir LNG and MOL had also been competing for the vessel. TotalEnergies' new marine and aviation fuelling senior vice president, Louise Tricoire, told TradeWinds in May that the company plans to site a new LNGBV on the US west coast by 2027 and a second at its recently approved Marsa LNG project in the Port of Sohar in Oman a year later. The company has access to three large LNGBVs and forecasts LNG bunker demand will rise to a nominal 22m tonnes per annum by the end of the decade — depending on which fuel ships

LNG traded volume



LNG imports by region

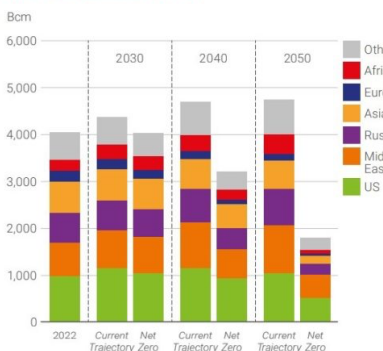


natural gas in these economies is largely met by imported LNG, BP said. By 2030, LNG demand is 40 percent and 30 percent above 2022 levels in current trajectory and net zero respectively. BP said the main difference between the two scenarios out to 2030 reflects contrasting trends in the EU and UK. In current trajectory, LNG demand in the EU and UK increases out to 2030 as they continue to adjust to the loss of Russian pipeline imports. In contrast, in net zero a greater shift to alternative energy sources combined with faster gains in energy efficiency means that by 2030, EU and UK LNG demand is below 2022 levels, although still above levels in 2021 prior to the war in Ukraine, BP said.

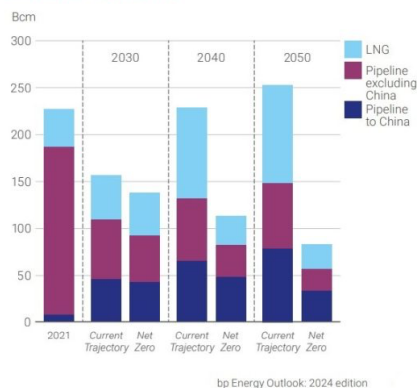
LNG demand after 2030

BP said the range of outcomes for LNG trade widens post-2030. In current trajectory, LNG demand increases by more than

Natural gas production by region



Russian natural gas exports



beyond that already under construction is required, it said. BP said this widening range of outcomes adds to the uncertainty associated with investments in LNG facilities, which typically have an economic life of 15-20 years. The growth of LNG demand after 2030 in current trajectory is driven entirely by continuing strong growth in emerging economies (excluding China), with India accounting for a third of this increase. BP said the overall growth in global LNG trade is tempered by falling demand in Europe as the region transitions away from natural gas, and in China where growth in pipeline supplies from Russia reduces

outlook post-2030 becomes increasingly dependent on the pace of the transition, especially in Europe and Asia, which rely on LNG imports to meet their incremental natural gas demand. LNG demand grows “robustly” in the first part of the outlook, driven by increasing demand in emerging economies including China, as the increasing use of

25 percent over the subsequent 20 years. This demand growth requires 300 Bcma of additional liquefaction capacity to come online post-2030, according to BP. In contrast, the gains in LNG demand out to 2030 in net zero are reversed over the following decade, and by 2050 global trade in LNG is around 40 percent below its 2022 level, implying that no additional liquefaction capacity

the need for LNG imports. LNG demand in emerging economies in net zero also continues to grow during the 2030s before peaking towards the end of the decade, but this growth is more than offset by sharp falls across the main demand centers in Europe and developed Asian economies, as the use of gas in these economies is crowded out by increasing electrification and a shift towards lower carbon energy sources, BP said. [source:www.lngprime.com](https://www.lngprime.com)

CNOOC'S NEW LNG BUNKERING VESSEL WRAPS UP FIRST OP

CNOOC's new LNG bunkering vessel, Hai Yang Shi You 302, has completed its first operation in China's Ningbo-Zhoushan port. According to a statement by CNOOC, China's first river-sea LNG bunkering vessel completed its maiden bunkering operation at the Meishan port area of the Ningbo-Zhoushan port on July 1. During the operation, the 12,000-cbm Hai Yang Shi You 302 delivered LNG to Matson Navigation's LNG-powered containership, Daniel K. Inouye. In April this year, China's Nantong CIMC Sinopacific Offshore & Engineering delivered this LNG bunkering vessel to CNOOC. CCS-classed Hai Yang Shi You 302 is 132.9 meters long and 22 meters wide and has a draft of 11.8 meters. The vessel features an electric power system and two type C tanks each with a capacity of some 6,000 cbm, and can work on rivers and seas. It is part of the strategy for the "gasification of the Yangtze River". CNOOC now has two operational LNG bunkering vessels. In January this year, CNOOC completed another bunkering operation with the 30,000-cbm, Hai Yang Shi You 301, to Matson's Daniel K. Inouye in Ningbo. CNOOC claims this is the world's largest LNG bunkering vessel and it completed the first operation with this vessel in January last year. In November 2022, CSSC's Guangzhou Shipyard International (GSI) converted this 184.7 meters long LNG carrier with Wartsila DF engines and TGE Marine type C tanks to enable it to perform ship-to-ship LNG bunkering operations. The converted vessel has a capacity to deliver up to 1650 cbm of LNG per hour during an STS operation, while Hai Yang Shi You 302 can deliver up to 2,000 cbm of LNG per hour. [source:www.lngprime.com](https://www.lngprime.com)

DYNAGAS LNG CARRIER RESCUES TWO PEOPLE IN FLORIDA STRAITS

A newbuild LNG carrier, owned by Dynagas and chartered by Cheniere, recently rescued two persons in the Florida Straits. Greek LNG carrier owner Dynagas said in a social media post on Wednesday the rescue operation was carried out by the 200,000-cbm LNG carrier, Clean Vitality, while transiting the Straits of Florida on July 3. The strait is located between the Florida Keys and Cuba. "The crew received a distress call on VHF from a pleasure craft seven nautical miles away and initiated a rescue operation, resulting in the successful rescue of two survivors," Dynagas said. "Our crew provided them with necessary care, clothing, water, and food until the USCG cutter approached the vessel where they safely disembarked," the company said. Dynagas did not provide further information. According to its AIS data provided by Vessels Value, Clean Destiny is loaded with a cargo from Cheniere's Sabine Pass LNG plant Louisiana. The vessel was located on Thursday offshore Brazil and it appears to be heading to Asia to deliver its cargo.

Ocean Yield enters LNG shipping

Ocean Yield said in a separate statement it had agreed to purchase infrastructure fund CVC DIF’s share in Geogas LNG, providing an indirect economic interest of up to 34 percent in France LNG Shipping. This marks the company’s first transaction in the LNG segment. Ocean Yield also did not reveal financial details of the deal. Back in 2021, the Oslo-listed firm also took a stake in one LNG-powered containership. Ocean Yield’s fleet consisted of 64 vessels at the end of the first quarter this year, including wholly and partly owned vessels and also vessels under construction, its quarterly result shows. The company said six FLS LNG carriers are currently on the water with an average age of three years, with further two being delivered in 2024 and 2025. Four additional newbuilds are expected to be novated to FLS at or around closing of the transaction and will be delivered in 2027, Ocean Yield said. All vessels are employed on long-term charters to “tier-one investment grade-rated European energy companies”, with an average contract duration of 10 years, or 14 years including extension options, it said. Based on an indirect economic interest of 34 percent, the transaction will add about \$840 million to Ocean Yield’s Ebitda backlog, it said.

FLS LNG carriers

The 174,000-cbm LNG carriers owned by FLS include the 2020-built, Elisa Larus, and the 2022-built, Elisa Aquila, both chartered by units of French state-owned utility EDF. EDF will also take on charter two LNG newbuilds scheduled for delivery in 2025. On the other hand, French energy giant TotalEnergies took on charter four 2021-built vessels and these include LNG Adventure, LNG Endeavour, LNG Endurance, and LNG Enterprise. source:www.lngprime.com

SHELL IN FOR 10% ON ADNOC'S RUWAI'S LNG PROJECT

Abu Dhabi project will consist of two 4.8M tonnes per annum (mta) LNG liquefaction trains with a total capacity of 9.6 mta. Shell



has inked a deal with Abu Dhabi National Oil Co (ADNOC) that will see the British-based oil and gas major take a 10% stake in ADNOC’s Ruwais LNG project, which is expected to more than double ADNOC’s LNG production capacity, from 6 mta to around 15 mta. Shell, through its Shell International Trading Middle East subsidiary, has also signed an offtake agreement for 1 mta of the LNG from the

project, totalling around a 10th of the project’s expected output. According to Shell, the Ruwais LNG facility is set to have an

embarking on a shared journey of growth, trust and mutual success with our new partner. With the global focus on maritime decarbonisation, Seatrimum is well-positioned to provide our esteemed customers with a broad range of energy-saving retrofits.” The Angelicoussis Group is the latest major owner to sign an FCC with the Singaporean shipyard. Hyundai recently signed a long-term strategic partnership with Seatrimum for the repairs and upgrades of its LNG carriers. The first vessel to head to Seatrimum’s Admiralty yard under the agreement was Hyundai Utopia which is currently undergoing a refit. Greece-based Angelicoussis Group owns one of the largest privately owned fleets, with 141 ships operating under companies Maran Gas, Maran Tankers and Maran Dry. source:www.rivieramm.com

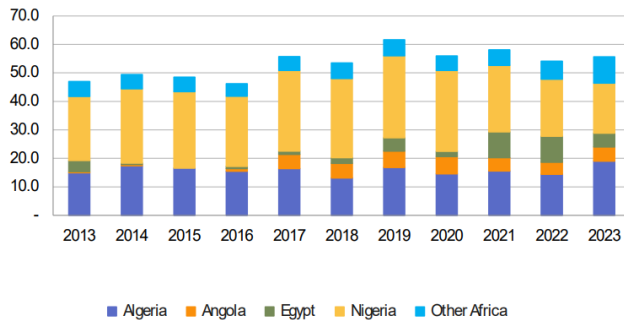
GOLAR LNG LANDS 20-YEAR FLNG DEPLOYMENT DEAL IN ARGENTINA

Tor Olav Trøim’s Golar LNG has entered an agreement with Pan American Energy for the 20-year deployment of a floating liquefied natural gas (FLNG) vessel in Argentina. The project aims to utilise Golar’s FLNG Hilli, with a nameplate capacity of 2.45M tonnes per annum (mta), providing an equivalent net tariff of US\$2.6/mmBtu based on 90% capacity utilisation, with an additional commodity-linked pricing element. Golar has the flexibility to consider a swap alternative for another suitable Golar FLNG unit. As part of the agreements, Golar LNG will hold a 10% stake in Southern Energy SA, a joint venture with Pan American Energy, responsible for purchasing domestic natural gas, operations, and sale and marketing of LNG volumes from Argentina. The FLNG specialist believes the project will monetise Argentina’s gas, tapping into the vast resources from the Vaca Muerta shale formation in the Neuquina Basin, the world’s second-largest shale gas resources. The project is expected to start exporting LNG by 2027, which will establish Argentina as a significant exporter of natural gas. This initiative is envisaged to be the first phase of a potential multi-vessel project it is anticipated other large natural gas producers in Argentina will join. Golar LNG chief executive Karl Fredrik Staubo said, “We are excited to enter a partnership with Pan American Energy, one of the leading energy companies in Latin America. The project will provide an international outlet for Argentina’s vast and attractive natural gas reserves, creating value to Argentina and its gas stakeholders. The project expands Golar’s global footprint, with further growth potential.” Golar owns the world’s largest fleet of FLNG units by annual liquefaction capacity. Pan American holds interests across the whole hydrocarbon value chain across Latin America, producing 250,000 boed, with more than 2,300M boe of net 2P reserves, and an energy transition agenda that involves renewable power, LNG, lithium and biofuels. source:www.rivieramm.com

US LNG OUTPUT DIPS IN JUNE ON SHORTER MONTH, PLANT MAINTENANCE

U.S exports of liquefied natural gas (LNG) fell slightly in June to 7.11 million metric tons (MT) from 7.60 MT in May, as several plants embarked on maintenance activity, preliminary data from LSEG showed. U.S exporters boosted exports to Asia, where prices were higher, putting shipments of the super-chilled gas to that continent at parity with Europe. The U.S. is the world’s

FIGURE 1 African LNG exports (bn m3) Source: IGU, NGW

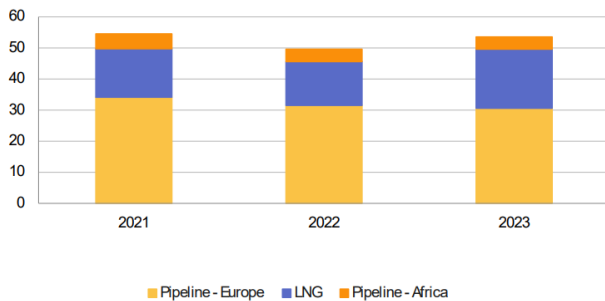


And it is even harder to do so in countries with no former LNG experience, and which carry high levels of investment risk. Investing in North America, or buying into a portion of Qatar’s expansion plans, was always going to be a more certain path to increased LNG production in the mid-2020s, and the scale of those opportunities has, to a large extent, crowded out more risky propositions

Short-term response

The short-term response had to come from existing producers. However, contending with strong demand growth amid

FIGURE 2 Algerian gas exports (bn m3) Source: IGU, NGW



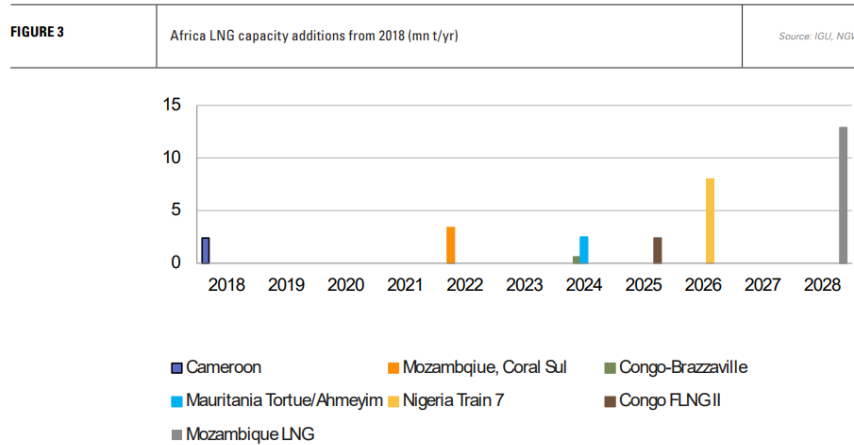
limited upstream investment, Algerian gas exports were lower in 2023 and 2022 than in 2021 (see figure 2). While LNG exports jumped in 2023, they have come at the expense of lower pipeline exports to Europe and, to a lesser degree, to African customers. Similarly, while Egypt managed to boost LNG exports in 2021 and 2022, increased domestic demand and declining output from the giant Zohr field saw them almost half in 2023. The country this year has returned to LNG

imports via Jordan to meet domestic demand and maintain power supplies. In sub-Saharan Africa, the performance of existing producers has been lacklustre. Angola LNG exported at a lower level each year in the period 2021-2023 than it did from 2017-2021. Nigerian LNG production has fallen each year since 2017, dropping from 28.8bn m3 to just 17.5bn m3 in 2023. Nigeria LNG’s (NLNG) behind-schedule Train 7, which saw a final investment decision in 2019, was reported to be only 60% complete in February and start-up looks unlikely until 2026. Whether it will then work at full capacity, or take feedstock from the existing trains, is an open question, given that NLNG appears increasingly unable to source sufficient feedstock gas. NLNG’s problem has long been not new capacity but increasing the reliability of its feedstock supplies.

The green fields of East Africa

Large-scale greenfield projects have also fared poorly (see figure 3). Crisis in Europe did nothing to remove the challenges

posed by LNG development in East Africa, and with Europe unable to guarantee long-term demand, East African LNG development is, in any case, more about Asia than Europe. TotalEnergies said earlier in the year that it hoped to restart construction by mid-2024 on its \$20bn Mozambique LNG project, which has been stalled since April 2021. It said that it had talked through contracts with suppliers and was re-engaging with financial



institutions. US major ExxonMobil, meanwhile, has said it could take a decision on its now 18mn-t/yr Rovuma LNG project in Mozambique by the end of 2025. However, a surge in militant attacks this year in the Cabo Delgado province, in which both projects are located, shows that the security situation remains volatile. Crisis24 reports that the militant threat remains elevated and that the first attack in over a year took place in neighbouring Nampula province in April, a worrying sign. Meanwhile, Tanzania’s LNG prospects brightened considerably last year with the signing of an agreement between the government and project leaders Equinor and Shell in May. However, the government has since reported to have proposed changes, leading to delays in finalising the agreement and pushing back a final investment decision. At an estimated \$42bn, the Tanzania LNG project represents a massive investment. Its prospects improved when Samia Suluhu Hassan assumed the presidency on the death of president John Magufuli in March 2021. New presidential elections are due to take place by October next year. It remains uncertain how fair they will be and what support opposition parties may garner. Hassan has reversed some of the repressive policies of Magufuli. However, the changes to the LNG investment agreement were made by deputy prime minister and energy minister Doto Biteko, a Magufuli ally, who Hassan recently brought back into the cabinet in an attempt to win back the support of Magufuli loyalists ahead of the election. With Biteko apparently revisiting Magufuli’s hardline resource nationalism, investors in Tanzania LNG may well decide to see how the electoral dust settles before moving ahead. East Africa’s greenfield LNG developments increasingly look like creatures of the 2030s rather than the 2020s.

‘Other Africa’

LNG exports from newer producers rose from 5.1bn m3 in 2020 to 9.2bn m3 in 2023. However, this was primarily due to the start-up of Eni’s offshore FLNG Corul Sul project in Mozambique in 2022, the timing of which was fortuitous, but reflected an investment decision prior to the European gas crisis. In Mauritania, Tortue/Ahmedyim LNG will start up this year, but again this

