## TOTALENERGIES NEARS LAUNCH OF LE HAVRE FSRU TERMINAL

The 2010-built FSRU Cape Ann will soon arrive in France's Le Havre to start serving the country's first FSRU-based LNG import terminal, according to TotalEnergies. TotalEnergies charters this 145,130-cbm vessel from Hoegh LNG, which has a 50 percent stake in Cape Ann and Japan's MOL, which owns a 48.5 percent stake. Tokyo LNG Tanker holds a 1.5 percent share in the unit. As previously reported, the FSRU departed China's Tianijn LNG import terminal in the northern port city Tianjin near Beijing on March 30. The vessel then sailed to a yard in Singapore and completed modifications and class renewal ahead of its job in France, Hoegh LNG said in its quarterly report. Cape Ann arrived in Algericas, Spain earlier this month and was on Thursday morning still located there, its AIS data shows. TotalEnergies LNG Services France (TELSF), a unit of TotalEnergies and operator of the Le Havre LNG terminal is progressing towards commissioning and start-up of the facility and the FSRU is scheduled to arrive in Le Havre by mid-September, a spokesperson for TotalEnergies told LNG Prime. "The project is on track to start operations in September 2023 and will contribute to the security of gas supply in France and in Europe," the spokesperson said. New binding open season launched. TotalEnergies ran a non-binding call of interest from January 16 to 30 for up to 2.5 Bcm per year of capacity for a period of five years and said that demand expressed during the market test had "significantly exceeded" available capacity. After that, TotalEnergies launched in March a binding open season

for capacities at the FSRU-based facility. The spokesperson said that a new binding open season started on August 28 to market available capacities from January 2024 to September 2028. Deadline to submit binding capacities request is early October, the spokesperson added. France currently hosts four onshore LNG terminals and these are Elengy's three LNG terminals and the Dunkirk LNG facility. The FSRU project in Le Havre will allow France to increase its regasification capacity by around 5 Bcm per year. TotalEnergies previously said it plans to reserve about 50 percent of this capacity. Besides the FSRU, Paris-based LNG engineering giant Technip Energies won a contract last year from TotalEnergies to provide a marine loading arm for the Le Havre facility. TotalEnergies will operate the FSRU and GRTgaz will operate the connecting pipeline to the gas transmission network. Source : www.lngprime.com

## SAMSUNG HEAVY HINTS AT RUSSIAN CONTRACT CANCELLATION

Market interest is also focused on three vessels for Russia at Hanwha Ocean. South Korean shipbuilder Samsung Heavy Industries is anticipating that its contract to build a further 10 Arc7 LNG carrier hulls and assist in ship construction at Russia's Zvezda Shipbuilding Complex for newbuildings to serve Novatek's Arctic LNG 2 project could be cancelled. Local reports in South Korea quoted SHI as saying work on the remaining 10 of the 15 ships covered by the original contract has been "frozen", although negotiations are said to be continuing. These said international sanctions against Russia in the wake of the country's invasion of Ukraine in February 2022 have complicated payments between the yard and the Russian contractor of the vessels. Sovcomflot signed up for the first of the 15 ships, with Smart LNG — a joint venture of Sovcomflot and Novatek — taking on the remaining 14. To date, five hulls have been built by SHI under the original contract. All five of these have now been delivered to Zvezda, which recently announced the launch of a third vessel. But TradeWinds has been told by sources following this project that while the first two ships are largely complete, there is still considerable outfitting to be done on the third and fourth ships which is complex as foreign contractors have withdrawn from the work due to international sanctions. A fifth ship is less advanced. Its cargo tanks are installed but it is missing its accommodation, propulsion and specialised ice bow. Aside from the Zvezda ships, there is also interest in another three Arc7 LNG carriers being built at Hanwha Ocean. Originally ordered by Sovcomflot, which later cancelled all three newbuildings under sanctions pressures, the yard is now completing the ships for its own account. But TradeWinds has learned that Sovcomflot and the yard — formerly Daewoo Shipbuilding & Marine Engineering — had gone to arbitration in Singapore over the three LNG carriers. At least one high-profile Russian shipping face is also known to have visited the yard's management in South Korea to discuss the vessels. Sovcomflot did not comment when asked about the arbitration process. In Russia, Zvezda is working to complete the three Arc7 hulls it has received from SHI. But in 2022, GTT — the key LNG cargo containment system designer for the ships — withdrew from the business due to sanctions and their delivery schedule was delayed. Zvezda took delivery of the first hull from SHI in October 2021. This vessel — the Aleksey Kosygin — for Sovcomflot is set to be the first LNG carrier completed by a Russian shipyard. It was

originally due for delivery in March this year, with a plan for the vessel to make its maiden voyage through the Northern Sea Route. A sister ship, the Pyotr Stolypin — the first in the series for Smart LNG — was also scheduled to follow this year. In August, Zvezda announced the launch of the third Arc7 at its yard — the Sergei Witte. The newbuildings are the next generation of Arc7 LNG carriers and follow the 15 South Korean-built ice-breaking LNG carriers that currently serve Novatek's Yamal LNG project. Novatek and its partners have recently indicated that the first train of the 19.8 million tonnes per annum Arctic LNG 2 project will start by the end of this year. The first gravity-based structure housing this liquefaction unit recently arrived on site on the Gydan Peninsula in the Russian Arctic. Source : www.tradewindsnews.com

## OWNERS SUBMIT BIDS FOR POLAND'S PLANNED FSRU

Berth space proving limited for those seeking regas tonnage for 2027 dates. Initial offers have been sent in by shipowners competing to win the job of providing a new floating storage and regasification unit to Poland. First bids went in on 25 August to Poland's gas transmission operator Gaz-System. Full commercial offers are due by 19 September. Those following the process closely said shipbuilders are struggling to come up with berth slots that fit the 2027 deadline specified by Gaz-System. The Polish company has asked for the FSRU to be delivered by August 2027 so that it can be put into commercial operation at the start of 2028. South Korean shipbuilders Hyundai Heavy Industries and Hanwha Ocean are believed to be offering berths for the business. TradeWinds reported earlier in August that yards were looking at a requirement for a 170,000-cbm to 180,000-cbm FSRU, which Gaz-System is planning to locate in Gdansk Bay in northern Poland. Gaz-System is also believed to have engaged with companies that have existing FSRU tonnage or LNG carrier conversion candidates that would make a suitable regas unit, as the operator looks to fulfil its requirement on schedule. Yard prices are holding firm for LNG carrier tonnage at over the $260m mark and yards will demand a hefty premium for an FSRU. In October, Excelerate Energy contracted a single 170,000-cbm unit at HHI, priced at around $337m. The company recently indicated in its results webcast that it is making the expansion of its fleet a "top priority". The saga of Poland's planned FSRU — like many regas projects — has been ongoing for several years. The plan was initially floated in 2016 as the country neared the end of long-term pipeline gas contracts with Russia and looked to diversify its supply. Poland — which has one existing land-based LNG import facility, the President Lech Kaczynski LNG Terminal in Swinoujscie — was quick off the blocks signing up to US LNG and eight chartered-in LNG carriers. The process for the FSRU finally started moving in 2019, with the aim of seeing a unit in operation by 2022. An open season procedure for the unit's regasification capacity in 2021 resulted in a binding offer for 100% of this being booked. In June, offers were requested on a Phase 2 expansion.Gaz-System has said the FSRU would have capacity to provide 6.1 billion cubic metres (bcm) of gas per annum, depending on the market growth and requirement from Poland and the wider region. Gaz-System is expanding its Swinoujscie terminal's capacity from 5.0 bcm to 8.3 bcm. Source : www.tradewindsnews.com

## DSIC SEALS $700 MILLION LNG SHIPBUILDING DEAL WITH COSCO AND SINOPEC

China's Dalian Shipbuilding Industry (DSIC) has officially signed deals to build three LNG carriers for a joint venture consisting of units of Cosco Shipping Energy Transportation and Sinopec. LNG Prime reported on August 23, citing shipbuilding sources, that DSIC will build three 175,000-cbm LNG carriers for China Energy Shipping, the Hong Kong-based JV in which Sinopec's unit Kantons Investment holds a 49 percent stake and Shanghai Cosco Shipping LNG holds a 51 percent share. Cosco Shipping Energy Transportation said on Thursday that the JV entered into the shipbuilding contracts with DSIC and China Shipbuilding Trading via three units. The units are Venture LNG, Valor LNG, and Vision LNG. The deals are worth about $700 million or some $233.3 million per vessel. Cosco Shipping said the delivery of the vessels is expected to take place on or before March 31 2027, June 30, 2027, and April 30, 2028, respectively. Following delivery, the vessels will serve Sinopec under long-term charters deals to ship US LNG volumes Sinopec contracted from Venture Global LNG in November 2021, Sinopec previously said. Under the 20-year sales and purchase agreements, Venture Global will supply of a total of 4 million tonnes per annum of LNG from its Plaquemines LNG export facility in Louisiana to Sinopec.

***13 LNG carrier orders for DSIC***

DSIC won its first large LNG carrier order for two ships from CMES in March 2022 and after that CMES added six more vessels. Also, DSIC recently signed a deal to build two LNG carriers for a joint venture consisting of China Gas, Wah Kwong Maritime Transport, and CSSC Shipping. Including these three new vessels, DSIC has 13 large LNG carriers on order. Source : www.lngprime.com

## COOLCO'S LNG NEWBUILD DUO STILL AVAILABLE FOR CHARTER

LNG carrier operator CoolCo is still in talks with charterers to find work for two newbuild LNG carriers it purchased from its largest shareholder Eastern Pacific Shipping. CoolCo exercised its option with affiliates of EPS Ventures in June to acquire newbuild contracts for two 2-stroke LNG carriers scheduled to deliver in second half of 2024. South Korea's Hyundai Samho is building these 174,000-cbm ME-GA vessels and they feature GTT's Mark III Flex membrane cargo tank system, reliquification, air-lubrication, and shaft generators. CoolCo will pay $234 million for each of the LNG carriers. The LNG shipping firm said in its quarterly results report that the initial option exercise price was $56.9 million per vessel, resulting in a total of $113.8 million paid to EPS on July 3. CoolCo expects to fund the newbuilds, named Kool Tiger and Kool Panther, with a combination of cash on hand, including from the sale of the 2013-built LNG carrier, Golar Seal, and committed debt financing. The firm said it is in discussions with "multiple potential charterers" seeking work for the newbuilds, but it did not provide any further information.

***Results***

Besides these two newbuilds, CoolCo has seven TFDE LNG carriers it acquired from Golar LNG and the four LNG carriers it purchased from EPS. The company also manages nine LNG carriers and eight FSRUs in addition to owned fleet, according to its website. CoolCo achieved average time charter equivalent earnings (TCE) of $81,100 per day for the second quarter, compared to $83,700 per day in the prior quarter. The firm attributed the decrease mainly to a lower variable rate charter, linked to the spot market. Moreover, the LNG shipping firm generated total operating revenues of $90.3 million in the second quarter, compared to $98.6 million for the first quarter of 2023 ("Q1" or "Q1 2023"), CoolCo said the reduction is mainly related to the sale of Golar Seal in late March. The company reported a net income of $44.6 million in the second quarter, compared to $70.1 million in the prior quarter, and adjusted Ebitda of $59.9 million, compared to $67.8 million in the prior quarter. "Well-timed growth" CEO Richard Tyrrell said that the company achieved full utilization across the CoolCo fleet and secured "well-timed growth" through the exercise of its option of the two vessels with pricing "materially below current levels". "By exercising our option to acquire these vessels with scheduled delivery years well in advance of comparable newbuild orders, we are one of the few independent owners with availability in an early period of rapid expected growth in LNG supply," he said. "In conjunction with our three existing vessels that come into the charter market in 2023 and 2024, of which two are currently at rates well below prevailing levels, we have a clear path towards the realization of significant incremental value, cashflow, and continued dividend-paying capacity," Tyrrell said.

***Market seems "tightly coiled"***

Tyrrell also discussed the LNG shipping market and volatility in gas pricing. "With the approach of winter in the Northern Hemisphere, which is typically accompanied by a surge in LNG carrier demand related to both increased gas consumption and additional utilization for floating storage, trading arbitrage involving lengthy voyages to the Far East, and weather-related delays that soak up shipping capacity, the market seems tightly coiled," he said. Moreover, the recent "extreme volatility" in gas pricing demonstrates a continued emphasis on energy security, as importers continue to put a premium on the commodity and the shipping capacity required to ensure security of supply, Tyrrell said. "It remains to be seen how the coming winter will ultimately play out, but similar tightness of both cargoes and shipping capacity has historically presaged dramatic inflections in the spot charter market and provided firm support for both rates and charter durations in the more stable time charter market," he said. "As owners of modern LNG carriers that will be available for time charter employment through the medium term, we believe that our strategy of combining the certainty of long-term charter coverage with a measured amount of charter market exposure has the potential to shine in the quarters ahead," Tyrrell added. Source : www.lngprime.com

## SEASPAN TAKES DELIVERY OF LNG-FUELED ZIM MOUNT RAINIER

South Korean shipbuilder Samsung Heavy Industries has delivered the LNG-powered containership, ZIM Mount Rainier, to owner Seaspan and charterer ZIM. Seaspan announced this in a social media post on Wednesday saying this is the fifth vessel in its 15,000-teu LNG dual-fuel series. "The vessel is now safely afloat and berthed at KE Quay, Samsung Heavy Industries," Seaspan said. Prior to this containership, Seaspan took delivery of ZIM Mount Denali in June, the fourth vessel of the ten 15,000-teu vessels which will go on charter to ZIM. The two firms named the first vessel in this batch, ZIM Sammy Ofer, in February this year and ZIM Mount Everest and ZIM Mount Blanc in April. Back in 2021, Seaspan and ZIM signed a charter deal for ten 15,000-teu vessels that will serve the latter's Asia-US East Coast trade. Besides these ten ships, Seaspan and ZIM also signed charter deals for 15 7,000-teu LNG-powered container vessels. China's Jiangsu New Yangzi, a part of Yangzijiang Shipbuilding, is building these ships and in May launched the first vessel in this batch, ZIM Amber. Source : www.lngprime.com

## SEMPRA JOINS JAPANESE QUARTET TO SHIP LIQUEFIED E-METHANE FROM CAMERON LNG

US LNG exporter Sempra Infrastructure, a unit of Sempra, is joining forces with a Japanese consortium to look into the possibility of producing synthetic methane (e-methane) and liquefying it at its Cameron LNG plant. Japan's Tokyo Gas, Osaka Gas, Toho Gas, and Mitsubishi revealed plans last year to produce e-methane in Texas or Louisiana, liquefy it at Sempra's Cameron LNG facility, and transport it to Japan. E-methane is a synthetic gas produced from renewable hydrogen and carbon dioxide and can be transported via the existing gas infrastructure, including the LNG supply chain, according to the firms. Mitsubishi already owns a stake in the Cameron LNG plant controlled by Sempra Infrastructure, while other shareholders include Mitsui & Co., TotalEnergies, and NYK Line. The plant currently has three trains and a capacity of 12 mtpa but Sempra and its partners are working one the Cameron LNG Phase 2 export project which includes building the fourth train with a capacity of about 6.75 mtpa.

***World's first supply chain of liquefied e-methane***

Sempra Infrastructure said in a statement on Wednesday it has signed a deal with the four firms to participate in the evaluation of a proposed project to produce e-natural gas (e-methane), a form of carbon recycling, in the US Gulf Coast. If the project is successful, it could be the first link of an international supply chain of liquefied e-methane, it said. Japan's Marubeni and Osaka Gas and Peru LNG, the operator of the 4.45 mtpa liquefaction plant at Pampa Melchorita, are also moving forward with their plans to produce synthetic methane in Peru. Tokyo Gas, Osaka Gas, Toho Gas, and Mitsubishi have been conducting preliminary feasibility work on the US project since 2022. With the addition of Sempra Infrastructure, the companies "seek to advance the energy transition through the global market of liquefied e-natural gas," the statement said. The targeted e-methane production volume is 130,000 tonnes per year. That volume would be liquefied via Mitsubishi's tolling capacity at the Cameron

LNG terminal in Southwest Louisiana and exported to Japan. Also, the proposed project would include the production or procurement of green hydrogen, as well as the construction of facilities to produce the e-natural gas. The US Department of Energy and Japan's Ministry of Economy, Trade and Industry are currently implementing a memorandum of cooperation in the field of carbon capture, utilization and storage, conversion and recycling, and carbon dioxide removal. "This proposed project would meet many of the objectives in the memorandum, and could complement it, should the policy frameworks recognize e-natural gas as a carbon-neutral fuel," the statement said. Successful development of the proposed project is contingent upon completing the required commercial agreements, securing and/or maintaining all necessary permits, obtaining financing, and reaching a final investment decision, among other factors and considerations, it said. Source : www.lngprime.com

## OMAN LNG PENS SUPPLY DEALS WITH OQ TRADING, SHELL

State-owned producer Oman LNG has signed deals to supply liquefied natural gas to OQ Trading and Shell. Oman LNG announced the signing of the two binding term sheets on Wednesday. Under the term sheet, Oman's state-owned firm OQ Trading will receive about 750,000 million tonnes annually for a period of fours years, starting in 2026, it said. OQ Trading recently signed a deal with Bangladesh's state-owned company Petrobangla to supply the latter with LNG. Under the SPA signed on June 19, OQT, previously known as Oman Trading International, will supply 0.25-1.5 million tonnes per year of LNG to Bangladesh over 10 years, starting in 2026.

***Shell says to become Oman LNG's largest buyer post 2024***

As per the second deal, Oman LNG will supply Shell International Trading Middle East, a unit of LNG giant Shell, with 800,000 million tonnes of LNG annually over a period of 10 years, starting in 2025. Shell has been a shareholder in Oman LNG with a 30 percent stake since its inception. Oman LNG announced in January it has signed a 10-year deal with Shell for 0.8 million tonnes of LNG per year. According to a LinkedIn post by **Walid Hadi**, Shell's head in Oman, this term sheet follows the first deal in January for additional volumes from Oman LNG. With these two deals, Shell will become Oman LNG's largest off-taker post 2024, he said. "Today marks an important milestone in the history of Oman LNG with the successful completion of the renewal of its contract post 2024. This was achieved in less than 12 months since the kickoff of its global marketing campaign," Hadi said.

***Oman LNG deals***

Oman LNG signed at least ten contracts since December last year. Prior to these two contracts, Oman LNG signed a deal this month with German gas importer Securing Energy for Europe (SEFE) and a deal earlier this year with China's Unipec, a unit of state-owned energy giant Sinopec. Oman LNG, in which the government of Oman holds 51 percent, also signed term sheets with Turkey's Botas and its shareholders TotalEnergies and PTT. Also, Oman LNG signed key term sheets in December to supply LNG to Japan's Jera, Mitsui, and Itochu. The firm operates three LNG trains in Qalhat with a nameplate capacity of

10.4 mtpa sourcing gas from the central Oman gas field complex. Due to debottlenecking, the company's complex now has a production capacity of around 11.4 mtpa. Source : www.lngprime.com

## SAVERYS IN SECOND ATTEMPT TO TAKE EXMAR PRIVATE

Saverex, the holding company of the family of Nicolas Saverys, is continuing with its efforts to take Exmar private after failing short in its initial bid last month. The firm officially launched the offer in June to buy all shares and stock options in Exmar which are not already directly or indirectly in the possession of Saverex or its affiliates. It offered a price of 12.10 euros per share, minus the dividend of 1 euro per share, resulting in a price of 11.10 euros per share ($12 per share). Following the completion of the initial accepted period in July, Saverex has 44,234,979 shares in Exmar, representing 74.35 percent of the outstanding shares in Exmar. Taking into account the shares in Exmar held by Nicolas Saverys and by Exmar, this represents 77.76 percent of the outstanding shares. Saverex decided to voluntarily reopen the bid without conditions from August 28 to September 15, it said in a statement last week. Shareholders who have not yet accepted the bid will thus be able to accept the bid during this second acceptance period, it said. However, Saverex decided to keep the same price as in the initial bid.

Since the announcement of the results of the initial acceptance period, the Exmar share has traded "slightly above" the bid price, it said. "Saverex is of the opinion that this increase of the share price may be caused by market speculation regarding a potential increase of the bid price," the firm said. The firm believes that the bid price of 11.10 euros per share "adequately reflects the fair value of Exmar, as confirmed in the prospectus and by selling shareholders in the first acceptance period."

Exmar operates a fleet of LPG carriers and owns the 26,000-cbm barge-based FSRU Eemshaven LNG, which serves Gasunie's facility in Eemshaven. Last year, Exmar sold its Tango FLNG to Eni and entered into a deal for the 2002-built steam turbine LNG carrier, Excalibur. Source : www.lngprime.com

## MALAYSIA'S PETRONAS LOGS LOWER LNG SALES, PROFIT IN Q2

Malaysian energy giant Petronas reported a drop in its quarterly liquefied natural gas (LNG) sales, while its profit decreased by 29 percent compared to the April-June period last year. The company's LNG sales dropped by 10 percent to 7.60 million tonnes during April-June compared to 8.44 million tonnes in the same quarter last year. LNG sales were down compared to the previous quarter's 8.88 million tonnes. During the January-June period, LNG sales dropped by 0.84 million tonnes to 16.48 million tonnes. Petronas said in its results report that gross LNG sales volume decreased mainly due to lower plant production.

***200 Bintulu LNG cargoes***

During the first half, Petronas delivered 200 LNG cargoes from the giant 30 mtpa Bintulu LNG export facility in Sarawak.

The firm also completed 2760 virtual pipeline system and LNG bunkering deliveries to remotely located customers and to the marine industry, it said. The Bintulu plant, which has shipped more than 12,000 LNG cargoes since it started operations back

in 1983, consists of nine trains and supplies key demand centers such as Japan, South Korea, China, and Taiwan. The LNG complex includes MLNG Satu, MLNG Dua, MLNG Tiga, and the most recent Train 9 which started commercial operations in 2017.

***FLNG***

Besides the onshore facilities, Petronas continues to expand its FLNG business and has awarded the engineering, procurement, construction, commissioning (EPCC) contract for the nearshore floating LNG project in Sabah. Japan's LNG engineer JGC and South Korea's Samsung Heavy will build the third floating LNG producer for Petronas and the unit will have capacity of 2 million tonnes of LNG per year. It is scheduled for completion in 2027. Upon completion, the nearshore LNG plant will increase Petronas' LNG production from floating LNG facilities from 2.7 mtpa to 4.7 mtpa. Currently, Petronas operates two floating LNG facilities, namely the 1.2 mtpa PFLNG Satu, as well as the 1.5 mtpa PFLNG Dua, both located offshore Sabah. Petronas said it had delivered 19 LNG cargoes from these two floating LNG producers during the January-June period.

***Profit drops on lower prices***

Petronas reported profit of 16.4 billion ringgit ($3.53 billion) for the second quarter, compared to 23 billion ringgit in the year before. In the January-June period, profit dropped from 46.4 billion ringgit in 2022 to 40.2 billion ringgit this year. Revenue dropped by 13.4 percent to 79.9 billion ringgit in the second quarter due to lower average realized prices for all products, Petronas said. In the January-June period, revenue stood at 170.3 billion ringgit, compared to 170.4 billion ringgit last year. Petronas said that oil and gas prices "remain volatile, influenced by persistent economic headwinds and energy security concerns." "Amidst these challenges, Petronas remains resolute in delivering energy responsibly in support of its growth and sustainability agenda, both in Malaysia and internationally," the firm said. Source : www.lngprime.com

## CIMC SOE FLOATS OUT CNOOC'S LNG BUNKERING VESSEL

China's Nantong CIMC Sinopacific Offshore & Engineering has launched CNOOC's 12,000-cbm liquefied natural gas (LNG) bunkering vessel. According to a statement by CIMC SOE, the shipbuilder floated out the vessel with a working name S1066 on August 29. CIMC SOE is building this vessel for a unit of CNOOC Energy Development and it will be named Hai Yang Shi You 302. It held a keel-laying ceremony for this vessel on June 30. The unit of CIMC Enric won this contract worth about 441 million yuan ($61 million) in December 2021. The CCS-classed 132.9 meters long and 22 meters wide vessel will have a draft of 11.8 meters and will feature two type C tanks each with a capacity of some 6,000 cbm, CIMC SOE said. After completion in 2024, it will mainly fuel coastal LNG-powered ships, inland river refueling stations, and undertake LNG transfers along the giant Yangtze river, it previously said.

***Fratelli Cosulich's vessel***

Besides this LNG bunkering ship, CIMC SOE is working to deliver the first LNG bunkering vessel to Italian shipping group Fratelli Cosulich next month. The 5,300-dwt dual-fueled LNG bunkering vessel, Alice Cosulich, completed its sea trials earlier this month. CIMC SOE said in the statement that the vessel has entered the dry dock again for further paint work ahead of its delivery to the owner. The shipbuilder completed the float out of CNOOC's LNG bunkering vessels and the docking of this ship at the same time, for the first time in its history, it said. This is the first of two sister vessels CIMC SOE is building for Fratelli Cosulich and it launched the ship in March. Following delivery, Alice Cosulich will serve a charter deal Fratelli Cosulich signed with Dutch LNG supplier Titan. This 113 meters long vessel with a capacity of 8,200 cbm of LNG and 500 cbm of MGO is expected to start operating in Europe in the fourth quarter of this year. Source : www.lngprime.com

## HYUNDAI SAMHO SAYS H-LINE'S NEW LNG BULKER FEATURES "AI ENGINEER"

South Korea's shipbuilder Hyundai Samho, a part of HD Hyundai, said that H-Line Shipping's new LNG-powered bulk carrier is equipped with an AI-based engine automation solution. According to Hyundai Samho, this 180,000-dwt LNG dual-fuel bulker is the world's first ship equipped with an "AI engineer." The shipbuilder did not provide the name of the vessel. AIS data provided by VesselsValue shows that HL Nambu 2 recently left the yard in Mokpo. The engine automation solution co-developed and installed by HD Hyundai and H-Line comprises the integrated condition monitoring solution (HiCBM) and the integrated safety control solution (HiCAMS), Hyundai Samho said. These solutions diagnose the real-time condition of key ship equipment and intelligently detect emergencies and unexpected situations, such as fires. Also, they function as AI crew members, replacing human engineers and deck crew during operations, Hyundai Samho said.

***Working with ABS***

Hyundai Samho said that ships currently in operation can apply both of the systems. Also, classification society ABS verified the safety and reliability of the two systems during the commissioning period. In September last year, ABS granted approvals in principle to both of the systems. Building on shared efforts to expand the development of autonomous navigation technology into critical vessel machinery and safety systems, ABS and HD Hyundai signed a deal earlier this year to work on autonomous projects, including an LNG fuel gas supply system (FGSS). The scope of the memorandum builds on the previous strategic framework agreement that the companies signed in 2022. Under that agreement, ABS worked with HD Hyundai subsidiaries, Avikus as well as HD Korea Shipbuilding and Offshore Engineering. There were several achievements including the demonstration of technology developed by Avikus, enabling SK Shipping's 2021-built 180,000-cbm LNG carrier, Prism Courage, to sail in autonomous mode, under direct supervision, for roughly half of its voyage across the Pacific Ocean. Source : www.lngprime.com

## SHELL WELCOMES AET'S LNG-POWERED VLCC TO ITS CHARTERED FLEET

LNG giant Shell has taken delivery of the first of three LNG-powered very large crude carriers it has chartered from Malaysia's AET, a unit of MISC. Back in 2021, Shell signed deals to charter in total ten LNG-powered VLCCs from AET, Advantage Tankers, and International Seaways. South Korea's Hanwha Ocean, previously known as DSME, is building all of these vessels and recently delivered the first of three 300,000-dwt tankers to AET. AET said in a statement on Monday that the Malaysian-flagged Eagle Vellore was named at a ceremony at the MMHE Pasir Gudang yard in Malaysia. The LNG dual-fuel tanker now starts a seven-year charter deal with Shell Tankers (Singapore), a unit of Shell. Eagle Vellore's two sister vessels are currently under construction by Hanwha Ocean in Geoje, South Korea and due to be delivered later this year on long-term charter to Shell. Also, MISC's unit Eaglestar is the appointed ship manager of LR-classed Eagle Vellore and its two sister vessels. **Stacie Pitt,** senior VP for crude trading at Shell, said in the statement that the delivery of the Eagle Vellore is an "important" addition to Shell's fleet of crude tankers. She said that fleet composition is an "essential lever" to tackle the decarbonization challenge, requiring increased investment in dual-fuel capable vessels and efficiency measures. "LNG benefits from mature technology and a growing bunkering network which have helped cement its position as the leading alternative fuel today, with bio and synthetic LNG offering a long-term pathway to decarbonization," Pitt said. "While we continue to invest in LNG, with over half of Shell's crude tanker fleet set to be dual-fuel LNG by the end of the year, we are also developing zero-emissions fuel options to support future decarbonization of the shipping sector," she added. Source : www.lngprime.com

## EPS WRAPS UP ITS FIRST US LNG BUNKERING OP

Singapore's Eastern Pacific Shipping has joined forces with LNG giant Shell to complete its first LNG bunkering operation in the US. The ship-to-ship operation took place at the Galveston offshore anchorage on August 24, according to a social media post by Idan Ofer's EPS. During the operation, the 158,000-dwt Suezmax tanker, Starway, received 3,330 cubic meters of of LNG from the Shell-chartered 20,000-cbm bunkering vessel, Avenir Achievement, EPS said. EPS noted that Starway currently trades in the spot market. "Given the volatility in LNG pricing, bunkering for spot vessels showcases EPS' commitment towards decarbonization," the firm said. China's Guangzhou Shipyard International (GSI) delivered this Suezmax tanker to EPS in September last year. The vessel is about 274 meters long and 48 meters wide and features MAN ME-GI engines, and two type C LNG tanks. Following delivery, Starway received LNG fuel from the Petronas-chartered 7,500-cbm, Avenir Advantage, in Malaysia, marking the 50th LNG bunkering operation for EPS. To date, EPS has performed over 115 LNG bunkering operations. EPS has already taken delivery of 45 dual-fuel vessels including LNG, LPG, and ethane, with more being built.

Source : www.lngprime.com

## QATARENERGY AND EXXONMOBIL UPDATE ON GOLDEN PASS LNG WORK

QatarEnergy and ExxonMobil continue to make progress in building their giant Golden Pass LNG export plant on the US Gulf Coast near Sabine Pass, Texas. State-owned QatarEnergy owns a 70 percent stake in the Golden Pass project with a capacity of more than 18 mpta and will offtake 70 percent of the capacity, while US energy firm ExxonMobil has a 30 percent share. A joint venture of Chiyoda, McDermott, and Zachry is building the tree Golden Pass trains next to the existing LNG import terminal. Golden Pass LNG Terminal and Golden Pass Pipeline said in the newest construction report filed with the US FERC that Golden Pass is continuing to carry out Phase I and Phase II activities, such as storm water protection, levee construction, stockpiling of material, and piling.

***First LNG supplies in 2024***

Golden Pass and its contractors progressed installation of piping and steel in process and utilities areas, continued walls and piping installation for the ground flares, while concrete foundation pours continued in Train 2 and Train 3. In addition, Golden Pass progressed setting various vessels on respective foundations and progressed brownfield tie-ins. The firm also continued LNG tank tops modifications and progressed cable tray installations and cable pulling activities, and continued pipe pneumatic/hydrostatic testing program. As per the pipeline expansion project, Golden Pass continued civil and construction activities supporting milepost (MP)01 Compressor Station, Sabine Spur, Natural Gas Pipeline (NGPL) Interconnect improvements, and associated facilities. The US FERC said in an inspection report earlier this month that the anticipated in-service timing for the first train is the second half of 2024, with the second and the third train following after. FERC staff visited the Golden Pass LNG site on August 8. Source : www.lngprime.com

## GUNVOR REPORTS LOWER PROFIT, LNG VOLUMES

Geneva-based energy and LNG trader Gunvor reported a lower net profit and LNG volumes in the first half of this year. The firm led by Torbjörn Törnqvist generated a net profit of $803 million during the January-June period, the company's second highest first half profit and down by 37.7 percent compared to $841 million in the same period last year. Gunvor reported a record net profit of $2.36 billion in 2022. Revenue in the first half was $61 billion, down from $89 billion in the same period last year. Gunvor attributed the the decrease mainly due to lower volumes and softer commodity prices with Brent crude oil and TTF natural gas down 24 percent and 56 percent, respectively, compared to the last year. Total volumes traded in the first half of this year reached 85 million metric tonnes (MmT), 14 percent percent lower than 99 MmT in the same period last year, mostly due to lower natural gas and LNG volumes handled, but already trending higher than in the second half of the last year, Gunvor said. "The share of transitional energy in volumes traded decreased to 33 percent in H1 2023 due to the lower volumes of natural gas and LNG (FY 2022: 39 percent)," the trader said. The group said it intends to increase volumes

in 2023 relative to the temporal low-point in 2022 through business growth. "This will likely accelerate toward the back-end of the year as it takes time to source profitable new business in a fairly balanced market that is awash with liquidity," it said.

***LNG business***

Gunvor did not provide details regarding LNG volumes in the first half of this year. This was also the case with 2020, 2021, and 2022. According to the company's website, Gunvor delivered 4 million tonnes in 2016, 7 million tonnes in 2017, 11 million tonnes in 2018, and 16 million tonnes in 2019. Gunvor said the energy business "remained strong with the LNG desk benefitting further from the recent exceptional price environment, market dislocations and Gunvor's in-house LNG shipping capabilities, while oil and oil products trading continued its solid performance albeit lower than 2022 due to reduced price volatility." The firm said that LNG trading continued its "strong" performance thanks to its profitable book of long-term contracts that, together with Gunvor's fleet of LNG vessels, offered "good" arbitrage opportunities. US LNG firm Tellurian, the developer of the Driftwood LNG export project in Louisiana, recently said that its LNG supply deal with Gunvor was terminated. Priot to that, US shale gas producer Chesapeake Energy signed a heads of agreement with Gunvor to supply the latter with liquefied natural gas from a liquefaction plant in the US. As per vessels, Clearlake Shipping, a subsidiary of Gunvor, signed a charter deal in July for four more newbuild LNG carriers with Denmark's Celsius Tankers, a unit of Celsius Shipping. This deal boosts the total to nine 180,000-cbm LNG carriers that Celsius chartered to Gunvor's unit following a deal for four vessels announced in October 2021. Source : www.lngprime.com

## SFL'S LNG-POWERED PCTC WRAPS UP SEA TRIALS IN CHINA

SFL Corporation's LNG dual-fuel pure car and truck carrier, Emden, has completed its sea trials in China, according to Guangzhou Shipyard International (GSI). CSSC's GSI said in a brief statement that the vessel with a capacity of 7,000 units has completed its sea trials on August 24. The shipbuilder says this is the first LNG-powered PCTC it has ever built and the first such vessel constructed in South China. John Fredriksen-controlled SFL ordered in total four LNG-powered PCTCs with a capacity of 7,000 units at GSI. SFL said in its recent quarterly report it expects to take delivery of car carriers Emden and Wolfsburg in the fourth quarter of this year and the first quarter of the next year. Following delivery, these vessels will go on a long-term charter to German giant Volkswagen Group. In addition, the other two vessels, Thor Highway and Odin Highway, will work for Japan's K Line under charter deals, starting in 2024. The LNG dual-fuel ship have a length of 200 meters, a width of 38 meters, and a design draft of 8.6 meters. Each vessel will be powered by MAN ME-GI two-stroke main engine and feature two 1.675-cbm LNG storage tanks provided by MAN Cryo, a unit of Germany's MAN Energy Solutions. Source : www.lngprime.com

## HUDONG-ZHONGHUA : CSSC SHIPPING LNG TANKER COMPLETES GAS TRIALS

China's Hudong-Zhonghua said that CSSC Shipping's liquefied natural gas (LNG) carrier, Wen Cheng, has completed its gas trials. The LNG tanker completed the trials in only five days and returned to the yard on August 11. With this, Hudong-Zhonghua broke its record for the shortest gas trial voyage of a large-scale LNG vessel. Prior to this, the LNG carrier completed its sea trials in less then two days, also breaking a record. The shipbuilder did not say when it expects to deliver the vessel.

This is the third of four LNG carriers CSSC Shipping, the financial leasing unit of China State Shipbuilding Corporation, has on order at Hudong-Zhonghua. The shipbuilder already built two 174,000-cbm LNG carriers for CSSC Shipping as part of a contract signed in December 2019, while the two firms signed a shipbuilding contract for the third LNG carrier in July 2021.

The fourth vessel is also part of the original 2+1+1 contract signed in 2019. It follows sister vessels Mu Lan, which serves PetroChina, as well as Gui Ying, which works for trader Gunvor. Hudong-Zhonghua said in the statement it is currently working on five large LNG carriers at the same time. The shipbuilder said it is boosting construction speed in order to realize the goal of doubling the production capacity of LNG carriers. Besides LNG carriers, Hudong-Zhonghua is also building four containerships, including CMA CGM's 13,000-teu LNG-powered containerships. Source : www.lngprime.com

## EU 2040 EMISSIONS TARGETS: WHAT COULD THEY MEAN FOR LNG?

Europe's LNG imports jumped massively last year, reaching 170.2bn m3, up from 107.5bn m3 in 2021, according to data from the Energy Institute's Statistical Review of World Energy 2023. The upward leap is all the more significant considering that Europe's LNG imports had already increased substantially in 2019-2021. In this period, they averaged 114.4bn m3/yr, in comparison with 64.1bn m3 in the preceding three years. Coal and nuclear phase-outs more than outweighed the demand hit of COVID-19, which was much more pronounced in the liquid fuels sector. This year, despite buoyant stocks at the end of the heating season, Europe is expected to continue importing LNG at high levels, using its newly-expanded regasification capacity to offset the huge loss of Russian gas imports by pipeline caused by sanctions and the war in Ukraine. However, Europe's gas buyers face a profound dilemma with regard to the trajectory of gas demand. The EU has turned to an accelerated energy transition as a means of resolving both its dependence on Russian gas and fossil fuels in general. The ambivalence and uncertainty this has created has been demonstrated by the relative lack of long-term agreements for new LNG supply entered into by European buyers, as opposed to Asian buyers and portfolio players. Investment needed to increase the global supply of LNG has not been forthcoming from the hottest market in town, one which, in the absence of the energy transition, would be expected to be driving forward new investment at a substantial rate.

***2040 target suggests the caution is well founded.***

Under the 2021 European Climate Law a new body was founded to provide independent scientific advice to the EU institutions and member states on climate science. It was also tasked specifically with providing an interim target for the region's GHG emissions reductions for 2040. The organisation, the European Scientific Advisory Board on Climate Change (ESABCC), delivered its first conclusions in June and, if the EU's 2030 emissions target looks challenging, the period 2030-2040 will require an even greater step up in ambition.

**TABLE 1** Emissions profile over time for scenarios with 88-95% reductions by 2040 *Source: ESABCC*

| GHG emissions reduction by 2030 (% below 1990) | GHG emissions reduction below 1990 levels (%) | | | | Cumulative GHG emissions (Gt CO2e) | | |
|---|---|---|---|---|---|---|---|
| | 2030 | 2035 | 2040 | 2050 | 2020-2029 | 2030-2050 | 2020-2050 |
| 55-60% | 56-60% | 71-80% | 88-95% | 99-105% | 29 to 30 | 10 to 16 | 41 to 44 |
| Above 60% | 60-75% | 77-87% | 90-95% | 99-104% | 24 to 29 | 8 to 15 | 32 to 44 |

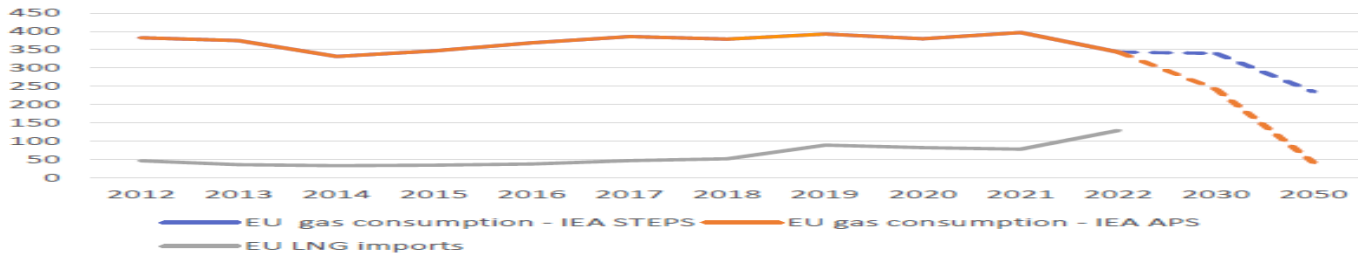
ESACBB recommends that the EU's GHG emissions budget should stay within a limit of 11-14 Gt CO2e between 2030 and 2050 to ensure the EU's contribution to climate change mitigation is on a 1.5°C pathway with no or only a limited overshoot. To do so, emissions reductions of between 90-95% by 2040 are necessary relative to 1990 *(see table 1)*. This compares with the current target of at least 55% by 2030. The report says this target enables achievement of the recommended 2040 target and carbon neutrality by 2050, but if the 2030 target was increased up to 70% or more "it would considerably decrease the EU's cumulative emissions until 2050, and thus the fairness of the EU's contribution to global mitigation." The implication is not only that the 2040 target must be high, but that a case for tightening the existing 2030 target also exists.

***Different pathways all reduce gas use***

There are, of course, different routes along the decarbonisation pathway. The report identifies three 'iconic pathways,' which represent the main groupings from 36 scenarios analysed *(see figure 1)*. These are:

**FIGURE 1** EU gas consumption - different scenarios (bn m3)

*Source: 2012-2022 Energy Institute, 2030 and 2050 projections IEA*



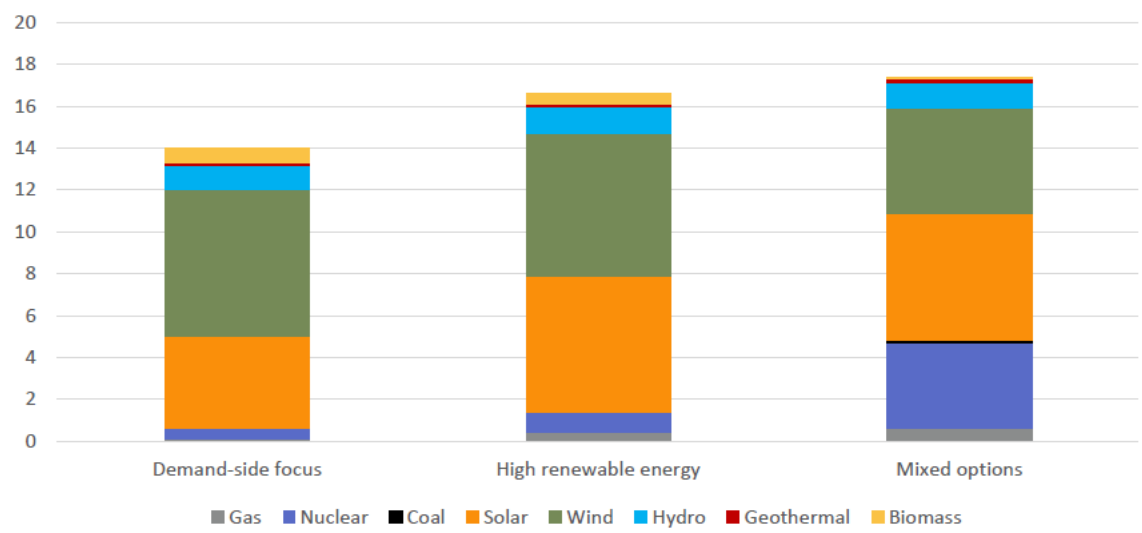

- A demand-side focus pathway, which features the lowest level of final energy demand in 2040;

- A high-renewable energy pathway, which focuses on plausible emissions reductions in the short term and features the largest share of non-biomass renewable electricity generation in 2040; and
- A mixed options pathway, which provides the lowest net cumulative emissions in 2030-2050, the greatest deployment of carbon removals and the largest increase in nuclear generation. However, common to all scenarios is that the power sector reaches near-to-zero emissions by 2040 and that it will be based predominantly on non-biomass renewables - wind, solar and hydro - the share of which ranges from 70-91% of electricity generation. In 30 out of the 36 scenarios, the share is higher than 85%. Power generation will be "almost completely free from unbated gas-fired generation by 2040, and from coal by 2030," the report says. All pathways also include large reductions in methane emissions from waste and from energy use, the latter's reduction being in a range of 70-90%, owing to lower fossil fuel consumption. Of the iconic pathways, the share of gas in fuel and electricity generation in 2040 is largest under the mixed options pathway, but still only amounts to about 0.5 exajoules (EJ), equivalent to about 16.7bn m3, a massive reduction from the 12.36 EJ (343.4bn m3) of gas consumed in the EU in 2022, itself down from 14.29 EJ in 2021. Unsurprisingly, the scenarios with the highest use of gas are those with the largest amount of Carbon Capture and Storage (CCS), but even in the high CCS scenarios, natural gas use is residual in 2040. Over all of the 36 scenarios, the share of gas in electricity generation is 6% or less by 2040. In some, gas' share of electricity generation falls to 1% or below by 2030.

***Gas demand trajectories***

The trajectories of gas demand vary considerably *(see figure 2)*.

FIGURE 2 | EU fuel and electricity generation in 2040 by source 'iconic pathways' (EJ) | Source: ESABCC




Under the demand-side focus pathway, gas-fired generation falls steadily until 2035 when it stabilises at 0.3 EJ, just over 2% of generation. On the high renewable energy pathway, gas-fired generation declines continuously after 2025 to 0.1% of generation by 2050. Under the mixed options pathway, gas-fired generation drops sharply by 2030, but then increases

thereafter as a result of CCS. Other sectors also see huge drops in gas demand. For example, across the scenarios, final energy demand in the residential and commercial sectors is supplied 53-71% by electricity, 7-19% by heat, 0-11% bioenergy and 0-27% by fossil fuels, most of which (5-20%) is natural gas. The remainder of fossil fuel use comes from oil with coal consumption ended. The various scenarios envisage up to a 26% reduction in nitrogen fertiliser use between 2020 and 2030 and up to 34% by 2040. Similarly in industry and transport, decarbonisation options do not include significant gas use even if abated.

***LNG import impact***

The impact of such a radical decline in natural gas consumption would be huge in terms of imports. The report estimates that oil imports will fall by 50-100% compared with today, while gas imports drop by anywhere between 35-100%.

In most of the scenarios, the report says, imports of natural gas are largely eliminated by 2040. Given the sunk cost on the various international pipelines that supply Europe, residual gas imports are likely to by pipeline, suggesting LNG imports into Europe will fall dramatically in the 2030s, just after the market experiences a large uplift in supply from projects in Qatar and North America.

***Recommendations are not law ... yet***

ESABCC's recommendations are based on limiting the rise in global temperatures to 1.5°C above pre-industrial levels, an ambition which, from any perspective, is exceptionally challenging. Its recommendations are not law, but they will form the scientific backdrop to the recommendations for GHG emissions for 2040 which the European Commission will put before the European Parliament and member states at some point. Setting the bar so high significantly limits the European Commission's room for manoeuvre and the Commission is, in any case, committed to a science-based approach to climate change. The European Parliament will almost certainly adopt the ESABCC's position and member states uncertain at the costs, both political and financial, will find it difficult to oppose. Even if the target, or something close to it, is adopted, there is no guarantee it will be achieved. EU gas demand under the International Energy Agency's STEPs scenario - which is based on prevailing policy settings - falls to 340bn m3 in 2030 and 235bn m3 in 2050. Under its Announced Pledges Scenario (APS), which envisages an early peak in global natural gas demand, EU gas consumption falls to 242bn m3 in 2030 and to 45bn m3 in 2050, at which point domestic EU gas production is just 2bn m3. Both are a far cry from the virtual elimination of EU gas imports by 2040. Even if the reduction of gas use by 2050 in the APS scenario is large, the timing is very different. And there are significant doubts about how fast new renewable energy capacity can be scaled up, particularly with regard to wind power and hydrogen production. However, the EU will almost certainly adopt ambitious GHG targets for 2040. This will further dampen the confidence of gas buyers in the region, and reinforce LNG developers' perception that the recent leap in European LNG demand is a time-limited bubble, albeit one with a very uncertain deflation path. Source : www.naturalgasworld.com

## COSCO SHIPPING ENERGY ORDERS THREE LNG CARRIERS

Cosco Shipping Energy Transportation Corporation has signed shipbuilding contracts with Dalian Shipbuilding Heavy Industry and China Shipbuilding Industry Trade for the construction of three 175,000 m3 LNG carriers, it said on September 1. The total contract value is approximately $700mn. The vessels are scheduled to be delivered in 2027 and 2028. Cosco Shipping Energy has also signed charter parties with China Petroleum and Chemical Corporation (Sinopec) for the long-term lease of the vessels. The construction of the three LNG carriers is part of Cosco Shipping Energy's strategy to expand its LNG fleet and market share, the company said. The company is also actively involved in the development of LNG infrastructure, such as LNG terminals and regasification facilities. Source : www.naturalgasworld.com

## FLOATING LNG IS BACK IN VOGUE

Lower costs and increased demand for quick-to-market LNG supply has made floating LNG an attractive proposition again Investor interest in FLNG is back. 8.5 mmtpa of FLNG capacity was sanctioned last year. Currently, 12.5 mmtpa is under construction and by 2026 almost 25 mmtpa of floating supply will be operational. And the story isn't finished yet. International oil companies (IOCs), upstream producers and midstream specialists are all moving projects towards FID. But FLNG has its challenges. A simple, fast-to-market solution is every developer's dream. This can be achieved with FLNG, but not in every situation. The requirement for gas processing or difficult metocean conditions can quickly add complexity and increase costs. Our latest *Global FLNG overview* leverages Wood Mackenzie's unrivalled LNG, upstream and economic expertise to provide a detailed breakdown of the key drivers behind FLNG's resurgence.Fill out the form to get access to a complimentary extract and read on for an introduction.

**Why is FLNG back in favour ?**

FLNG has a chequered history. Projects suffered from considerable delays and cost overruns. The concept has also been plagued by poor reliability. And facilities have been forced to move locations. These factors should make investors cautious. So, what's changed?

**Reliability has improved :** After a stuttering start, FLNG is proving to be a reliable commercialisation option. The utilisation of FLNG facilities in Cameroon and Malaysia have been strong over the last year, with the units producing at close to or above 100% capacity.

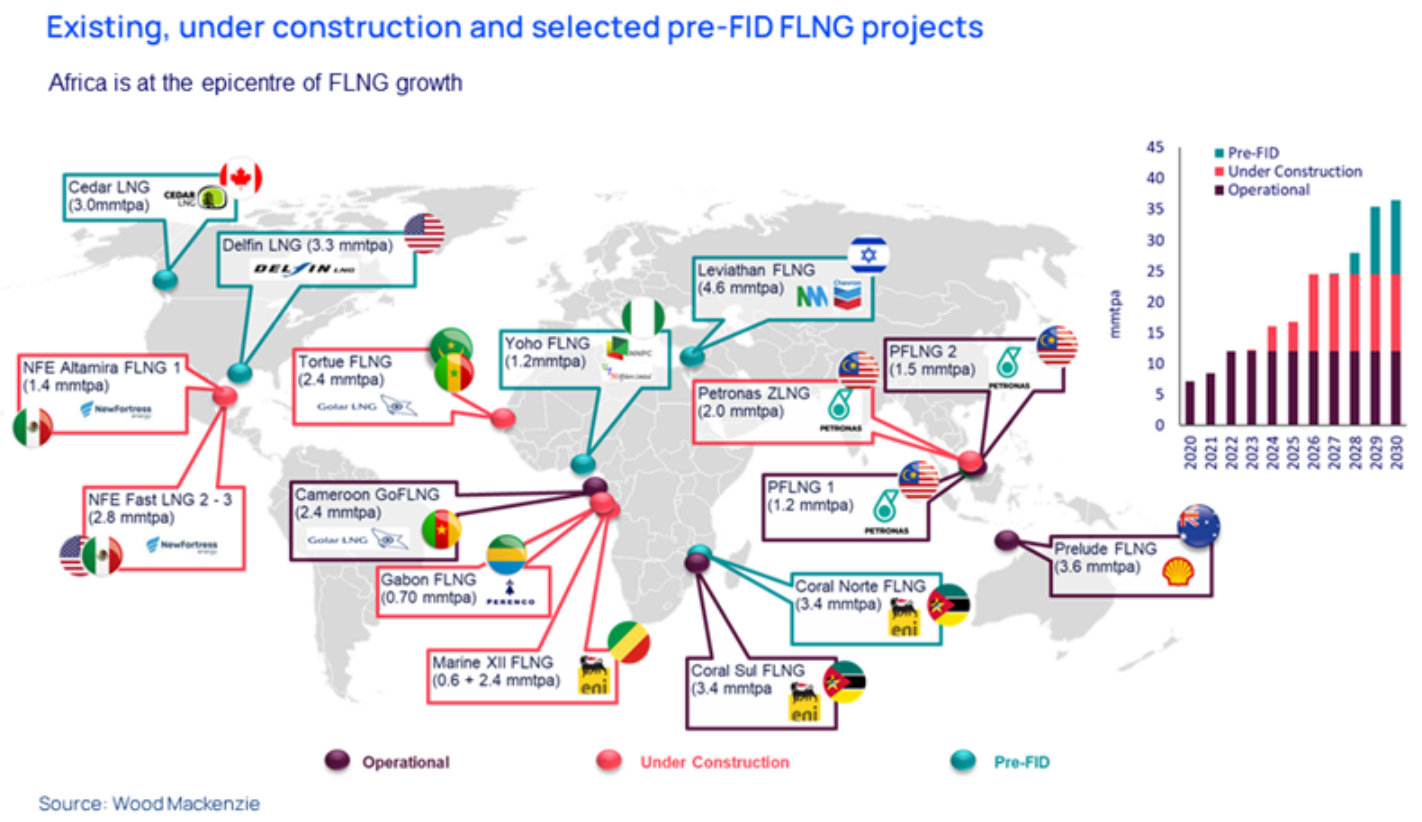
**Construction schedules are being met :** Coral FLNG, which shipped its first cargo in November 2022, was successfully delivered on time and on budget. Similarly, the under-construction Gimi FLNG has experienced minimal delays and is expected on site in offshore Mauritania/Senegal next year.

**New fast-to-market LNG supply is more valuable than ever :** Europe has rapidly shifted away from piped Russian gas towards the global LNG market, intensifying competition for the limited supply that's available. There is limited near-term supply growth. And with onshore LNG taking an average of four years to develop, demand is strong for new projects that can be brought online quickly.

**FLNG is cost-competitive :** The generally lower capital costs associated with FLNG are attractive to investors. With standardised designs, indicative costs for the FLNG unit can be derived. Golar's conversion designs, such as the MkII Gimi for Tortue Phase 1, can be as low as US$550/tonne, while SHI's and WOM's newbuild orders for ZLNG and Marine XII are both around US$750/tonne. This compares favourably to onshore LNG plant capex, which is currently around US$900/tonne for US Gulf Coast projects.

**Increased accessibility :** The initial, challenging experiences of FLNG project development have generated strong demand for a simplified approach. Shipbuilders like Wison and Samsung now offer standardised newbuild FLNG designs, available for a range of production and storage capacities. Golar offers three standard FLNG designs, two conversions and one newbuild option. New Fortress Energy is developing the liquefaction modules for its Fast LNG designs with a fixed capacity that can be scaled up.

**Where will FLNG growth come from?**



Africa has been at the epicentre of FLNG momentum. In recent years, resource-rich markets have faced challenges developing gas for export, including from armed insurgency and infrastructure sabotage. FLNG is removed from these above-ground risks. It also provides African producers with an alternative to supplying the domestic market. Within the last year, experienced FLNG developers Eni and Perenco sanctioned a two-phase floating development in Congo and a barge-based project in Gabon, respectively. But new entrants, such as UTM offshore and NNPC, are also considering FLNG to develop Nigeria's stranded offshore volumes. In East Africa, FLNG continues to be linked as a potential development option for the Rovuma partners. Outside of Africa, NewMed Energy and Chevron have confirmed Leviathan FLNG's design concept and are targeting an FID on the Israeli project in 2024. Recent large gas discoveries by the Majors in Cyprus could also lend themselves to FLNG. In North America, Delfin LNG and Cedar LNG have both made considerable commercial progress over the last 12 months, while New Fortress Energy has now sanctioned three of its Fast LNG fixed platform units. FLNG is not without risks. That said, we estimate that up to 20 mmtpa of new FLNG capacity will be sanctioned over the next two years. This will primarily be developed in markets where there are concerns of cost blowouts, scheduling delays and security risks. Source : https://www.woodmac.com/news/opinion/floating-lng-back-in-vogue/?utm_campaign=gas-lng-global-2023&utm_medium=email&utm_source=campaign-email



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