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LNG NEWS WEEKLY 06TH JANUARY'24

FLNG PRELUDE FIRING UP TO MEET WINDER DEMAND SURGE

World's largest LNG floater comes back online to catch remainder of winter demand pull. Energy major Shell has restarted its Prelude floating LNG production unit off northwest Australia after taking the unit offline in August. Reuters reported that the 3.6-million-tonnes-per-annum unit has already resumed operations and said the first cargo could be loaded shortly. It named the Shell-chartered, 174,000-cbm Orion Bohemia (built 2022) as one of the vessels close to the world's largest LNG floater. Prelude — which started exporting in June 2019 — has undergone numerous blackouts and shutdowns since its start-up in 2019. The unit was offline for 11 months in 2020 after an electrical trip led to a series of extensive investigations and repairs. A five-month shutdown period from December 2021 through until April 2022 followed due to an onboard fire. In mid-2022, strike action by workers on the giant floater forced Shell to temporarily halt production at Prelude. In June 2023, Shell integrated gas and upstream director Zoe Yujnovich said she was making it her "top priority" to address the supply and operational issues at Prelude. "We have a multi-year plan to improve Prelude's operational performance, including a planned turnaround later in the year, which will help reduce the vulnerabilities," she said. The director described Prelude's operational record as "challenging, blaming its complex design and remote location". At the time, Yujnovich said she was making a push

to improve the performance of existing assets as these are the lowest cost volumes available to the major as it moves to increase its LNG supply portfolio by one-third by 2030. source : www.tradewindsnews.com

SAMSUNG HEAVY TO PAY OUT $290M FOR LNG DUO

Could a refit job be SK Shipping's best option for idled LNG carriers in current market? South Korean shipbuilder Samsung Heavy Industries is to pay up KRW 378.1bn ($290m) in compensation to compatriot shipowner SK Shipping for two LNG carriers it built over five years ago that were fitted with the Korea Gas Corp-designed KC-1 cargo containment system. "We have decided to compensate the shipowner for $290m in damages for the decrease in value of the two LNG carriers delivered," SHI said on Monday. TradeWinds understands the figure is based on a valuation of around $180m per vessel when the two LNG carriers — the 174,100-cbm SK Serenity and SK Spica (both built 2018) — were delivered and their secondhand values today, which were set at about $45m each. But the shipbuilder blamed the "cold spot defects" that occurred on the KC-1 containment system of the SK Serenity on the system's designer Kogas. "As a result of the first trial ruling in a domestic lawsuit, the cold spot defects that occurred on the LNG carrier were entirely determined by the development of KC-1," SHI said. "We plan to recover compensation through a lawsuit against Korea Gas Corporation seeking compensation." The shipbuilder gave details of the arbitration it has been pursuing. It said the London Arbitration Tribunal found the defects in the cargo hold of the SK Serenity were not repaired "within a reasonable time period". But the tribunal ruled that SHI was not liable for SK Shipping's losses caused by the LNG carrier's failure to operate normally due to defects such as cold spots in the cargo hold. Instead, it found the shipowner's claim for damages — which claimed that the value of the ship decreased due to failure to complete repairs even after a reasonable repair period for LNG cargo hold defects — was partially acknowledged. The shipbuilder said that its $290m payout to SK Shipping has not yet been reflected in its financial statements. It said that if it wins its own legal action against Kogas for compensation in relation to the two ships before its fourth-quarter results are completed this may limit the effect of this payout. The case of the two LNG carriers has been rumbling on since their deliveries. They were the first full-size LNG carriers to be fitted with Kogas' KC-1 membrane-type system, which had been developed as a rival to French designer GTT's widely adopted Mark III system. The SK Serenity lifted two cargoes from the US before -ice was found on its hull, suggesting a possible cargo leak, and the ship was pulled from service. The SK Spica never loaded a shipment. In the interim, both vessels have idled at SHI's Geoje yard, with tracking data showing them making periodic short test trips away from the facility. In the background, the three parties involved — shipowner SK Shipping, builder SHI and charterer and designer Kogas — have been embroiled in legal action. An earlier ruling by the Seoul District Court ordered Kogas, whose spin-off arm KC LNG Tech designed the containment system, to pay KRW 1.154bn to SK Shipping and KRW 72.6bn to SHI to cover the losses incurred after the two companies filed claims against Kogas for design defects. Other reports said Kogas had racked up nearly $150m over the four years from 2018 to 2022 in payouts for repair work and costs to charter alternative tonnage. Those following the two vessels said SK Shipping will now have to decide whether to scrap the ships, sell

them on — possibly as conversion candidates or remove and replace their containment systems with alternatives. One commented that in today's market, where LNG newbuilding berths are not widely available until 2028 and the costs of vessels are sticking at around $260m, the refit option may prove the most attractive alternative. Aside from these two full-size LNG carriers, Korea has built three small-scale LNG carriers. Two of these are fitted with KC-1 and another with the next iteration of the system, KC-2. source : www.tradewindsnews.com

INDIA'S GAIL PENS 10-YEAR LNG DEAL WITH VITOL

Indian state-owned gas company Gail has signed a 10-year deal to buy 1mn tonnes/year of LNG from commodity trader Vitol, it said on January 5. Under the terms of the deal, Vitol will begin supplies in 2026 and draw from its global LNG portfolio to deliver LNG to Gail India on a pan-India basis. The agreement aims to play a crucial role in bridging India's demand and supply gap for natural gas. "This long-term LNG deal with Vitol by Gail will augment its large LNG portfolio and will contribute to bridging India's demand and supply gap of natural gas," Sandeep Kumar Gupta, managing director, Gail said. Gail currently holds a portfolio of about 14mn tonnes/year of LNG from various long and short-term contracts. In addition to its main supplier, Qatar, Gail also has long-term contracts with Gazprom and ExxonMobil (Gorgon LNG). The company also has two US LNG contracts: one is with Cheniere and one with Dominion. Both are indexed to the most liquid US gas hub, the Henry Hub. Vitol CEO, Russell Hardy said, "We are pleased to build on the existing relationship between Vitol and Gail and to conclude this long-term LNG supply deal together. India is a significant and growing LNG market and we are excited to bring LNG supply from our global LNG portfolio to meet this rising natural gas demand in India". Gail, with its extensive network of over 16,000 km of natural gas pipelines, commands a significant market share in gas transmission and holds a gas trading share of over 50% in India. Additionally, Gail is actively engaged in the city gas distribution sector. Vitol boasts a global LNG portfolio with long-term LNG supply sources spanning North America, Africa, the Middle East, and Asia, further supported by a global fleet of LNG vessels. source : www.naturalgasworld.com

ASIA'S LNG IMPORTS HIT RECORD, BUT SUPPLY SURGE KEEPS PRICE MUTED: RUSSELL

Asia's imports of liquefied natural gas (LNG) rose to a record in December, but spot prices remained subdued as shipments from top exporters Australia and the United States also hit all-time highs. Asia, the top buyer of the super-chilled fuel, saw imports reach 26.61 million metric tons in December, according to data compiled by commodity analysts Kpler. This was up from November's 23.35 million tons and also eclipsed the previous high of 26.15 million from January 2021, according to Kpler. The rebound in imports was driven largely by China, which reclaimed its title as the world's largest LNG buyer in 2023 from Japan. China's imports surged to 8.22 million tons in December, up from 6.97 million in November and the highest since January 2021, according to Kpler. Asia's other heavyweight importers also saw gains, with Japan landing 6.78 million tons,

up from November's 5.40 million and the most since January 2023, while South Korea's December imports were 5.10 million, up from 4.19 million in November and the highest since February 2021. The robust demand did little to spark a rally in prices, with the weekly spot index slipping to $11.70 per million British thermal units (mmBtu) in the seven days to Dec. 29, down from $11.90 previously and the lowest since August. The spot price dropped 58.2% over 2023 as demand for cargoes eased after a surge in 2022 led by Europe's efforts to replace Russian pipeline natural gas in the wake of Moscow's invasion of Ukraine in February 2022. Europe's LNG imports also rose in December, hitting 11.80 million tons, up from November's 10.81 million and the highest since April last year, according to Kpler. While demand increased in December, it had been soft in the preceding months as mild winter weather in both Asia and Europe, as well as plentiful inventories, limited demand for spot cargoes. The strength in demand for LNG in Asia in December was matched by strong export performances from the world's three biggest LNG suppliers. The United States, which overtook Australia as the world's biggest exporter of LNG in 2023, shipped out 8.56 million tons in December, up from 7.51 million in November and the highest monthly total on record, according to Kpler data.

AUSTRALIA, QATAR

Australia also had a record December, with Kpler data showing exports at 7.26 million tons, up from 6.61 million in November and eclipsing the previous monthly all-time high of 7.18 million from June 2022. Qatar also saw robust exports in December, with shipments of 7.11 million tons, up from 6.36 million in November and the most since the 7.40 million from January 2023. In effect, the rise in demand in December was matched by increasing supply. What this does is raise questions about the outlook for the spot price once the winter peak demand period passes. If supply remains steady, it points to prices having to decline in order to tempt more buyers into the market. A retreat in the spot price below $10 per mmBtu may lead to countries such as India, Pakistan and Bangladesh buying cargoes. India's LNG imports dropped to 1.86 million tons in December, from 1.99 million in November, although they were up from 1.32 million in December 2022. India is viewed as a price-sensitive buyer and it's worth noting that when the South Asia nation's imports were at their highest, in early and mid-2020, the spot price was languishing at record lows, slumping to $1.85 per mmBtu in early May of that year. source : www.naturalgasworld.com

GREECE'S FIRST FSRU TO RECEIVE COMMISSIONING LNG CARGO ON JANUARY 20

Greece's Gastrade expects to receive on January 20 the commissioning cargo at its FSRU-based LNG import terminal in Alexandroupolis. The firm launched a tender on October 31 for the supply of the commissioning cargo and relevant services. It extended the deadline for two times and the second deadline extension ended on December 15. "The commissioning cargo is anticipated to arrive on the 20th of January in which then commissioning will begin and will last for 6-7 weeks," Gastrade told LNG Prime in emailed comments on Wednesday. Gastrade did not say who won the tender for the commissioning cargo.

"If no major issues arise during commissioning, the project will reach commercial operations in the first week of March, as planned," the firm said. Gastrade's shareholders include founder Copelouzou, DESFA, DEPA, Bulgartransgaz, and GasLog.

Shareholder and Greek LNG shipping firm GasLog told Singapore's Keppel Offshore & Marine, now Seatrium, in February 2022 to proceed with the conversion of the 2010-built, GasLog Chelsea, to an FSRU. After that, the vessel entered the yard in February last year and the partners renamed it to Alexandroupolis. Seatrium's yard in Singapore completed the conversion work on the 153,600-cbm Alexandroupolis in November last year.

Hook-up completed

Greece's first FSRU arrived in Alexandroupolis from Singapore on December 17. "The FSRU, upon arriving to site on Sunday 17th of December, has been safely hooked up to its mooring system at its permanent mooring position," Gastrade said. "Mooring hook-up was completed on the 23rd of December 2023," the firm said. The first FSRU is located in the sea of Thrace at a distance of 17.6 km SW from the port of Alexandroupolis and 10 km from the nearest coast of Makri. Also, it will be connected to a high-pressure subsea and onshore gas transmission pipeline. Once operational, the pipeline will deliver natural gas to the Greek transmission system and onwards to the final consumers in Greece, Bulgaria, Romania, North Macedonia, Serbia and further to Moldova and Ukraine to the East and Hungary and Slovakia to the West, Gastrade said. The Alexandroupolis LNG terminal will have a capacity of 5.5 Bcm. With this project, Greece will get its first FSRU and the second LNG import facility, adding to DESFA's import terminal located on the island of Revithoussa. In addition to this unit, Gastrade is also planning to install a second FSRU offshore Alexandroupolis.

source : www.lngprime.com

CELSIUS TAKES DELIVERY OF NEW LNG CARRIER IN SOUTH KOREA

South Korea's Samsung Heavy Industries has delivered another 180,000-cbm LNG carrier to Denmark's Celsius Tankers, a unit of Celsius Shipping. Celsius Tech, a joint venture of Celsius Shipping and Hong Kong-based Fleet Management, announced on Thursday via social media the delivery of the LNG vessel, Celsius Glarus. The JV will manage this newbuild LNG carrier, such as Celsius Giza, which was named in October last year, and other Celsius vessels. This is the third vessel of ten Celsius has on order at Samsung Heavy and it features MAN ME-GA engine and GTT's Mark III Flex containment tech. The first newbuild, Celsius Geneva, was named in July 2023. Celsius will take delivery of the seven remaining newbuilds during 2024-2026.Clearlake Shipping, a subsidiary of energy trader Gunvor, has chartered Celsius Glarus, such as Celisus Geneva and Celsius Giza. Back in October 2021, the Danish firm signed long-term charter deals for four LNG carriers with Clearlake Shipping. In addition to these charters, Celsius Tankers, also signed long-term charter deals for four more newbuild LNG carriers with Clearlake Shipping. China Merchants Heavy Industry in Jiangsu will build these vessels and deliver them in 2026 and 2027. On top of this, Celsius also ordered in October two more LNG carriers at the Chinese shipbuilder and added

four more optional vessels. Following deliveries of all of these ships, the Danish firm will have 20 LNG carriers in its fleet. source : www.lngprime.com

PENINSULA COMPLETES ITS FIRST ALGERICAS LNG BUNKERING OP

Marine fuel supplier Peninsula has completed its first liquefied natural gas bunkering operation with the 12,500-cbm Levante LNG in the Spanish port of Algericas. During the operation, Levante LNG supplied Royal Caribbean's cruise ship Icon of the Seas, according to a statement by Peninsula issued on December 3. "Having already undertaken numerous LNG bunkering operations in other ports across the world, the addition of the port of Algeciras will help Peninsula to provide lower carbon solutions to the growing number of LNG-powered vessels joining the global fleet," the firm said. In November, Royal Caribbean International, a unit of Royal Caribbean, took delivery of its LNG-powered Icon of the Seas from Finland's Meyer Turku. Royal Caribbean International and Meyer Turku claim this is the world's largest cruise ship. Prior to this bunkering operation in Algericas, Peninsula started delivering LNG as fuel to vessels with Levante LNG in Gibraltar. The first delivery took place in Gibraltar on November 4 and Levante LNG supplied Royal Caribbean's cruise vessel Silver Nova. Scale Gas, a unit of Spain's Enagas, and Peninsula ordered this LNG bunkering ship in June 2021 at South Korea's Hyundai Mipo. Hyundai Mipo launched the LNG bunkering ship in February last year. Levante LNG arrived at its Mediterranean home at the end of September, while Peninsula also won an LNG bunkering operator license by the government of Gibraltar and the Gibraltar Port Authority. source : www.lngprime.com

LNG SHIPPING DISRUPTED; MOL ORDERS DUAL-FUEL CAPESIZES

Red Sea attacks provoke U-turn

Three LNG carriers so far have adjusted their routes to avoid passing by Yemen, according to Reuters, reporting on shiptracking data supplied by Kpler and LSEG Eikon. VesselsValue's tracking also shows an LNG carrier, Celsius Copenhagen, had passed through the Suez Canal on 13 December 2023 and was midway through the Red Sea before making a U-turn and doubling back on 15 December 2023.

LNG as a marine fuel

MOL is expanding its fleet with an additional five newbuilding dual-fuel Capesize dry bulk carriers, which can burn either LNG or conventional marine fuel oil. Two of the vessels will be ordered at Nihon Shipyard and be built by Imabari in Japan and three will be built by CSSC Qingdao Beihai Shipbuilding in China. The vessels are slated for delivery from 2026 to 2027.

Executive moves

Listed Belgian shipowner Exmar sets a strategic milestone as Carl-Antoine Saverys will be the new chief executive, taking over from Francis Mottrie who will stay on board as chief operating officer. Carl-Antoine Saverys will take over as chief

executive from 1 January 2024 after six years in deputy roles at Exmar's infrastructure department and the shipping department. Joining him at the executive top level are newly appointed chief financial officer Hadrien Bown and executive director infrastructure, Jonathan Raes, member of the executive committee since 2018. Francis Mottrie will assume a supporting role as chief operating officer from 1 January, alongside Jens Ismar, executive director shipping.

Gas handling systems

Technology group Wärtsilä will supply the cargo handling and LPG fuel supply systems for a new medium gas carrier vessel being built at Hyundai Mipo Dockyard for Turkish shipowner Pasco Gas. The 45,000-m^3 vessel was ordered as an option following an earlier newbuild contract signed in February 2023. Wärtsilä will also supply the cargo handling and fuel supply systems for four new 40,000-m^3 gas carrier vessels. The ships are being built at the CIMC SinoPacific Offshore & Engineering shipyard in China for Norwegian shipowner Avance Gas.

LNG power plant

Vietnam has awarded an investment licence to a consortium of Tokyo Gas, Kyuden International and Truong Thanh Group to build a US$2Bn LNG-fired power plant in its northern province of Thai Binh.

JERA and Pertamina MoU

A memorandum of understanding has been signed between JERA from Japan and PT Pertamina to announce their collaboration on information sharing. The goal is to enhance the value of the fuel value chain and create business opportunities for investing in LNG, hydrogen and ammonia infrastructure. The collaboration will cover areas such as LNG, hydrogen and ammonia transport, LNG receiving terminal operation and maintenance, capacity building through benchmarking, training and exchange programmes aimed at improving the operational efficiency of LNG handling. Additionally, the parties will explore potential new businesses related to carbon capture, utilisation and storage. source : www.rivieramm.com

POLISH LNG IMPORTS CONTINUE TO RISE

Poland's LNG imports via the Swinoujscie terminal rose almost 6 percent in 2023 compared to the year before, boosted by shipments from the US, according to Orlen. The Swinoujscie LNG terminal received 62 cargoes or about 4.66 million tonnes of LNG in 2023, Orlen said in a statement. This compares to 58 LNG carriers or 4.4 million tonnes of LNG in 2022, which marked a record and a rise of 57 percent year-on-year. The growth of LNG imports in 2022 was possible due to the expansion of Gaz System's facility in Swinoujscie, where PKN Orlen booked a regasification capacity of 6.2 bcm per year. This is some 1.2 bcm more than before. Thanks to further investments, the capacity will increase to 8.3 bcm of gas per year in 2024 and Orlen booked all of these volumes as well. In November 2022, PKN Orlen completed its merger with Poland's dominant gas firm, PGNiG, which is in charge for all of the LNG supplies coming to the Swinoujscie facility. The Swinoujscie LNG terminal received its first commercial cargo in June 2016. Prior to that it also received two commissioning LNG cargoes. Orlen received

the 250th cargo at the LNG terminal in September this year, and the 268th cargo on December 28. The 216,200-cbm Q-Flex LNG carrier, Al Sahla, delivered the last cargo under a long-term contract with QatarEnergy LNG, previously known as Qatargas, Orlen said.

US volumes

US liquefaction and export terminals remain the biggest suppliers of LNG to Poland. Orlen has contracts with Cheniere and Venture Global LNG. However, the latter has still not declared commercial operations at its Calcasieu Pass facility. The Polish firm said that 41 ships arrived in 2023 from the US to Swinoujscie as part of long-term and spot purchases. Qatar was the second-largest supplier with 19 shipments, while one shipment each arrived from Trinidad and Tobago and Equatorial Guinea. In 2022, 36 deliveries came from the US, and 18 ships arrived from Qatar.

Chartered LNG carriers, expansion

Besides boosting LNG supplies, Orlen is developing its fleet of chartered LNG carriers. In October 2023, Norway's Knutsen and Poland's Orlen named two newbuild LNG carriers at Hyundai Samho's yard in Mokpo, South Korea. The carriers in question are Saint Barbara and Ignacy Lukasiewicz. Prior to that, South Korea's Hyundai Heavy Industries delivered two LNG carriers to Knutsen that are serving Orlen under charter deals. The LNG carriers are Lech Kaczynski and Grazyna Gesicka.

According to Orlen, these two LNG carriers delivered 8 LNG cargoes to Poland in 2023 with a total volume of over 0.5 million tonnes. In the future, Polish LNG imports will continue to rise and Poland is expected to get its second facility and the first FSRU-based terminal in 2028.

In August, Orlen booked 6.1 bcm per year of regasification capacity at Gaz-System's planned FSRU-based LNG import facility in Gdansk. Oslo-based BW LNG, a unit of Singapore's BW, and Japan's MOL have been shortlisted by Gaz-System to provide Poland's first FSRU as part of the Gdansk LNG import project. source : www.rivieramm.com

YODA BUYS STAKE IN CAPITAL PRODUCT PARTNERS

Cyprus-based Yoda has purchased a stake from Evangelos Marinakis-led Capital Maritime & Trading in New York-listed LNG carrier owner Capital Product Partners. Yoda, which invests in real state, technology, and healthcare, said in a statement on December 27 that the company's board approved the entry into a unit purchase agreement with Capital Maritime to buy 10 million common units representing limited partnership interests in CPLP. The deal is worth $160 million or $16 per common unit. "The transaction constitutes a transaction at arm's length and is part of the company's business plan to further invest and expand its activities in the shipping sector, as CPLP is an international shipping company engaged in the seaborne transportation of natural gas," Yoda said. More specifically, CPLP is one of the "leading" US-listed owners of two-stroke LNG carriers with 8 currently operational and another ten under orders to be delivered within the next 3 years, it said. CPLP is "well positioned to take advantage of the strong fundamentals" of the LNG industry with six open LNG carriers delivering between 2026-2027

and rights of first refusal on a unique fleet of LCO2 and ammonia carriers, Yoda said. According to a separate filling by CPLP, Capital Maritime now owns 29.8 million shares or 54.2 percent of the shares in the company, while Miltiadis E. Marinakis, son of Evangelos Marinakis, holds 2.1 percent in the firm. This means that that Yoda will hold an 18.1 percent stake in CPLP as Capital Maritime previously held a 72.3 percent stake in the firm. Yoda now becomes the second-largest shareholder in CPLP.

LNG fleet

CPLP recently completed the previously announced umbrella agreement to buy 11 LNG carriers from its sponsor Capital Maritime for a total acquisition price of $3.13 billion. In November, CPLP entered into the deal with Capital Maritime and its general partner Capital GP. Besides the deal, CPLP will change its name to Capital New Energy Carriers L.P. to reflect focus on LNG carriers and energy transition shipping. Earlier this year, CPLP took delivery of its seventh LNG carrier in South Korea, Asterix I, which it also purchased from Capital Maritime. Such as the first six LNG carriers which joined CPLP in 2021, Capital Gas, also owned by Evangelos Marinakis, manages the new LNG carrier as well. Capital Gas took delivery in November of the 174,000-cbm ME-GA LNG carrier, Amore Mio I, chartered by QatarEnergy. This is the first vessel out of 11 of these LNG carriers CPLP will buy under the new deal. The other LNG carriers are Axios II (chartered by Bonny Gas transport), Assos (chartered by Tokyo LNG Tanker), Apostolos (chartered by Jera), Aktoras (chartered by BGT), Archimidis, Agamemnon, Alcaios I, Antaios I, Athlos, and Archon, according to CPLP. source : www.lngprime.com

CHINA'S WISON OFFSHORE & MARINE BECOMES WISON NEW ENERGIES

China's FLNG builder Wison Offshore & Marine has changed its name to Wison New Energies. Wison said in a statement that the new name "better represents its unwavering commitment to providing low carbon technologies and solutions that the world needs." The name change reflects Wison's core vision about energy challenges and how to address them, it said. "Wison New Energies emerges as a leading solution-provider for a green and vibrant world, bridging the glimmer of hope seen today with the technologies and solutions that will define the future," Wison said. Wison won a contract from Italy's Eni in December 2022 to build a 380 meters long 2.4 mtpa FLNG and officially started work on the project in January last year. It will be able to store over 180,000 cubic meters of LNG. The FLNG will serve Eni's Congo project which will reach an overall LNG production capacity of 3 million tons per year, or about 4.5 billion cubic meters/year, from 2025. Eni recently introduced the first gas into its Tango floating LNG (FLNG) facility moored in Congolese waters. The floating LNG producer, delivered in 2017 by Wison, has a liquefaction capacity of about 1 billion cubic meters per year of gas, or 0.6 mtpa, and a storage capacity of 16,100 cbm. Besides this project, Wison is also working on other FLNG projects, including with Nigeria's NNPC, Indonesia's Genting Oil & Gas, and Delfin Midstream, the US developer of a floating LNG export project in the Gulf of Mexico. source : www.lngprime.com

SEMPRA'S CAMERON LNG PLANT SHIPS 700TH CARGO

US LNG exporter Sempra has shipped the 700th cargo of liquefied natural gas from its Cameron LNG export plant in Louisiana since 2019. Cameron LNG, the LNG terminal operator controlled by Sempra's unit Sempra Infrastructure, announced the completion of loading of its 700th LNG cargo in a social media post last week. The cargo was exported onboard the 2018-built 174,000-cbm LNG carrier, Marvel Falcon. "The Marvel Falcon represents the 189th export cargo loaded this year as we continue to set records on daily LNG production throughout December," Cameron LNG said. According to its AIS data provided by VesselsValue, the LNG carrier, owned by NYK Line and chartered by Mitsui, departed Cameron LNG on December 10 and delivered the shipment on December 27 to Germany's FSRU-based LNG import terminal in Brunsbüttel. The Cameron LNG plant has three liquefaction trains with a total capacity of about 12 million tonnes per year of LNG or about 1.7 billion cubic feet per day (Bcfd). Cameron LNG's first train started commercial operations in August 2019, followed by the launch of operations at the second train in March 2020, and the third train in August 2020. The plant shipped its 100th cargo of LNG in August 2020. Besides Sempra Infrastructure, other partners in Cameron LNG include affiliates of TotalEnergies, Mitsui & Co, and Japan LNG Investment, a company held by Mitsubishi Corp and NYK. In addition to these three trains, Sempra and its partners are working to expand the facility with the fourth train with a capacity of about 6.75 mtpa. The partners selected Bechtel to build the Cameron Phase 2. Justin Bird, CEO of Sempra infrastructure, said in August 2023 that the partners plan to take FID on the expansion project in 2024. source：www.lngprime.com

SPOT LNG SHIPPING RATES, EUROPEAN PRICES FALL FURTHER THIS WEEK

Spot charter rates for the global liquefied natural gas (LNG) carrier fleet continued their downward trend this week, while European and Asian prices also decreased compared to the previous week. Last week, both the Spark30S Atlantic and the Spark25S Pacific dropped below $100,000 per day. "LNG freight rates have fallen for the fourth consecutive week, with a 6 percent week-on-week decrease for Atlantic rates and a 5 percent w-o-w decrease for Pacific rates," **Qasim Afghan**, Spark's commercial analyst told LNG Prime on Friday.

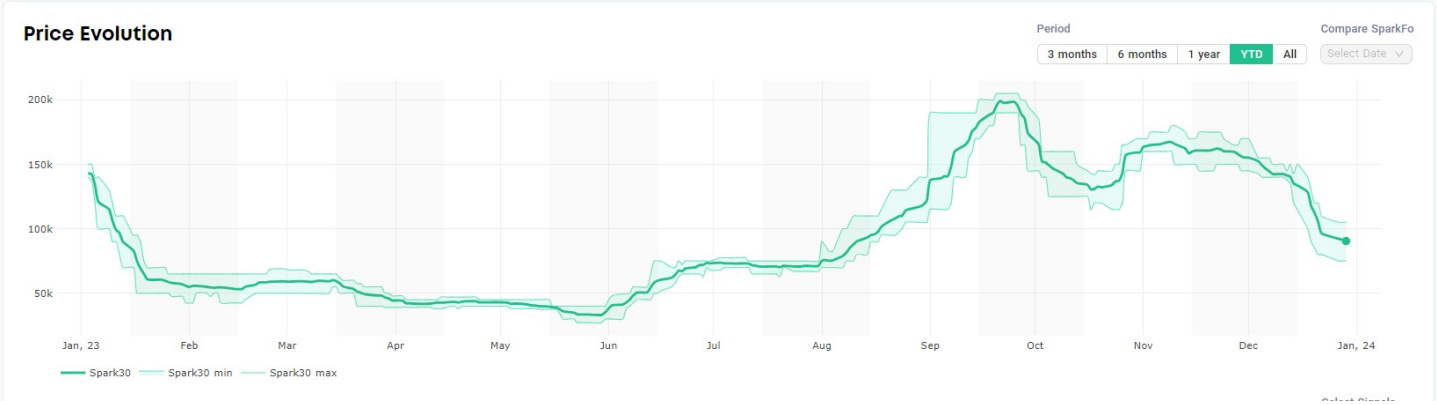


Image: Spark

Afghan said that the Atlantic rate decreased by $6,000 to $90,500 per day, whilst the Pacific rate decreased by $4,000 to $72,500 per day. This is the lowest Spark25S Pacific year-end rate for the last four years, according to Afghan.

Rates continue to decline despite delays at the Panama Canal, and constraints at the Suez Canal due to attacks in the Red Sea. Kpler said last week that at least eight LNG vessels re-routed away from the Red Sea towards the Cape of Good Hope amid ongoing security risks in the Bab el-Mandeb Strait.

European, Asian LNG prices

In Europe, the SparkNWE DES LNG front month also declined from the last week. The NWE DES LNG for January delivery was assessed last week at $10.206/MMBtu and at a $0.810/MMBtu discount to the TTF. "The SparkNWE DES LNG price for January delivery is assessed at $9.925/MMBtu and at a $0.850/MMBtu discount to the TTF," Afghan said on Friday.

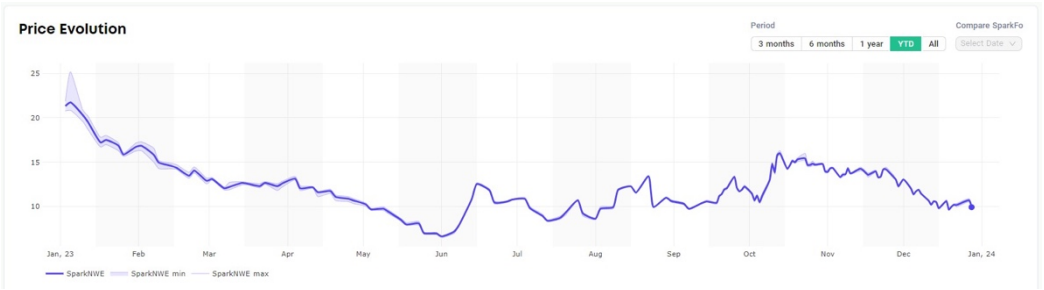


Image: Spark

He said this is a $0.282/MMBtu decrease in DES LNG price, and the discount to the TTF widened by $0.04/MMBtu, when compared to last week's January prices. Platts, part of S&P Global Commodity Insights, said in a report this week that Europe's delivered imports of LNG in December were at 10.36 million mt as of December 27, or around 94 percent of the November level, which was the highest since May. The US is supplier of 53 percent of the total, with some 13 percent coming from Russia and 8 percent from Algeria. Qatar also contributed around 8 percent of the supply. Platts said demand remains muted as inventories across Europe remain comfortable. Data by Gas Infrastructure Europe (GIE) shows that gas storages in the EU were 86.98 percent full on December 28 and 93.94 percent in the UK. According to Platts data, JKM, the price for LNG cargoes delivered to Northeast Asia, also dropped from the last week. JKM for February settled at $11.935/MMBtu on Thursday. State-run Japan Organization for Metals and Energy Security (JOGMEC) said in a report earlier this week that Asian spot LNG prices continued to decline due to low demand and ample supply. This month, JOGMEC did not publish both the contract-based and the arrival-based monthly spot LNG price for November as there were less than two companies that imported spot LNG. source : www.lngprime.com

KUMUL SECURES FUNDING TO BUY PNG LNG STAKE FROM SANTOS

Papua New Guinea's national oil and gas company Kumul Petroleum has secured funding to buy a 2.6 percent stake in the PNG LNG project from Australian LNG player Santos. In September last year, Santos received a binding offer from Kumul to buy a 5 percent stake in the PNG LNG project. Santos agreed in December to extend the exclusivity period for the sale until April 30, 2023, and extended the exclusivity period again in May until August 31, 2023. The two firms executed a binding sale agreement for a 2.5 percent stake on August 31 and Santos said the deal is conditional on the approval of the PNG competition regulator. The total purchase price comprises cash of $576 million and the assumption of about $160 million of project finance debt. Besides this, Santos has agreed to grant Kumul a call option to acquire a further 2.4 percent participating interest in PNG LNG for a cash purchase price of $524 million, plus a proportionate share of project finance debt. According to a statement by Santos issued on Friday, the PNG independent Consumer and Competition Commission (ICCC) approved the transaction, while Kumul also secured funding for the purchase. Kumul has paid about $250 million into escrow with Santos as part payment of the purchase price, the latter said. Additionally, Kumul has executed binding funding arrangements for the remainder of the consideration, which will be available for drawdown by January 31, 2024, Santos said. Santos currently has a 42.5 percent stake in the 6.9 mtpa LNG export plant in Caution Bay following the Oil Search merger, while Kumul has a 16.8 percent stake. ExxonMobil holds a 33.2 percent operating interest in PNG LNG. source : www.lngprime.com

CHART BAGS NEW LNG CONTRACTS

US-based Chart Industries has booked multiple liquefied natural gas (LNG) orders for its equipment. Chart said in a statement issued on December 28 that the orders include a large LNG project, small-scale LNG, floating LNG, and repair and service work. The firm said it would provide is IPSMR liquefaction technology for two modular trains of a multi-train international big LNG project. Chart said this project is not related to the international big LNG IPSMR project that was referenced in its third-quarter results which is expected to be added to backlog about one year from now. The firm did not provide any additional details regarding the new project. Chart previously said in its third-quarter report that it has booked two big LNG orders during the first nine months of this year. The firm did not receive any big LNG orders in the third quarter. It won orders worth $2.78 billion in 2022, including three big LNG orders (greater than 5 mtpa) worth a total of $620.7 million. These orders included $135.5 million for the first phase of Venture Global LNG's Plaquemines LNG export plant and $137.2 for the second stage of the same project. In addition, the firm booked orders for its IPMSR process and equipment activities worth $348 million for the expansion project at Cheniere's Corpus Christi LNG export plant in Texas.

Mid-scale, small-scale, floating LNG

Besides the large LNG project, Chart recently received an order for its IPSMR liquefaction technology for a mid-scale plant in Asia Pacific, it said on Thursday. The company also booked an order for North American small-scale LNG nitrogen cycle

technology and associated equipment, and various LNG infrastructure related orders, including tanks, fueling stations in Europe, and Morocco's first LNG regasification units. In addition, Chart won repair and service work at a Middle East LNG project, it said. "As anticipated, we continue to see strong market and award activity across the four pillars of our LNG strategy, including big LNG, small-scale and floating LNG, infrastructure, and service and repair," Chart's CEO and president, **Jill Evanko**, said in the statement. "Not only do our recent orders cover all four LNG categories, but they include commercial synergy wins with both Chart and Howden content. Further, our LNG commercial pipeline remains strong as we see a clear shift in customers' preference for our modular solution which drives multiple awards across many years as projects are developed," Evanko said. source : www.lngprime.com

INDIA'S PETRONET LNG MOVES FORWARD WITH GOPALPUR FSRU PLANS

India's Petronet LNG is moving forward with its plans to install a floating storage and regasification unit (FSRU) in Gopalpur, Odisha. The LNG importer said in a statement on Wednesday it has executed binding deals with Gopalpur Ports for its first LNG terminal on India's east coast. Petronet and Gopalpur Ports signed sub-concession agreement, sub-lease deed, and port service agreement for the first phase of the 4 mpta FSRU-based terminal, with provision for converting to a 5 mtpa land-based terminal at the port. India's largest LNG importer said the terminal would bring "augmentation in overall regasification capacity in the country thereby contributing towards gas-based economy." Petronet did not provide any additional information. In November last year, the company approved the FSRU-based import facility and one month after that it signed a term sheet with Gopalpur Ports. According to Petronet, the first phase of the project would cost about 23.06 billion rupees ($278 million). Also, these costs include the construction of the jetty and the pipeline but not the FSRU charter. The firm previously said that it expects to complete the Gopalpur project in three years. Petronet is currently expanding its 17.5 mtpa Dahej LNG terminal with about 5 mtpa of new capacity and it expects to complete this expansion in 2025. The terminal was operating at almost 100 percent capacity in October, according to Petronet. The company also operates the 5 mtpa Kochi LNG terminal, but this facility currently operates at about 20 percent capacity due to lack of pipeline connection. source : www.lngprime.com

WILLIAMS TARGETS US LNG EXPORT MARKET WITH $1.95 BILLION GAS STORAGE DEAL

US natural gas pipeline operator Williams is buying a portfolio of natural gas storage assets across Louisiana and Mississippi for $1.95 billion to serve growing demand driven by LNG exports and power generation. Under the deal with a an affiliate of Hartree Partners, Williams will acquire six underground natural gas storage facilities with total capacity of 115 billion cubic feet (Bcf). The deal also includes 230 miles of gas transmission pipeline and 30 pipeline interconnects to "attractive" markets, including LNG markets, and connections to Transco, the nation's largest natural gas transmission pipeline, according to

Williams. The six natural gas storage facilities include four salt domes with combined capacity of 92 Bcf and two depleted reservoirs with combined capacity of 23 Bcf. Moreover, fhe facilities have injection capacity of 5 Bcf/d and withdrawal capacity of 7.9 Bcf/d, among the highest of any natural gas storage platform in the US, Williams said. Two of the facilities, Pine Prairie and Southern Pines, are directly connected with Transco and are "well positioned" for expansions. Williams said the acquisition price "represents an approximate 10x estimated 2024 Ebitda multiple." The firm expects to close the transaction in January 2024, following satisfaction of customary closing conditions.

Gulf Coast LNG demand

"This premier natural gas storage platform on the Gulf Coast fits squarely within our strategy to own and operate the best assets connected to the best markets to serve growing demand driven by LNG exports and power generation," Williams president and CEO, **Alan Armstrong**, said. He said these assets "better position Williams' natural gas storage operations to serve Gulf Coast LNG demand and growing electrification loads from data centers along the Transco corridor." "Since 2010, US demand for natural gas has grown by 56 percent while gas storage capacity has only increased 12 percent," Armstrong said, adding that the company expects the increasing demand for "high deliverability storage to drive significant earnings growth across these assets." Last year, US LNG firm Sempra Infrastructure, a unit of Sempra, entered into a heads of agreement with Williams for the offtake of LNG from two projects. The deal contemplates negotiation and finalization of two 20-year long-term sale and purchase agreements for about three million tonnes per annum of LNG. Sempra Infrastructure said the supplies would come from the Port Arthur LNG project in Jefferson County, Texas, and the Cameron LNG Phase 2 project under development in Hackberry, Louisiana. The agreement also contemplates the negotiation of a separate natural gas sales agreement for about 0.5 billion cubic feet per day (Bcfd) to be delivered in the Gillis, Louisiana area, as feed gas supply for the LNG projects. source : www.lngprime.com

ENI'S CONGO FLNG GETS FIRST GAS SUPPLIES

Italy's Eni has introduced the first gas into its Tango floating LNG (FLNG) facility moored in Congolese waters. Eni said in a statement on Thursday that gas introduction had been achieved in record time- only twelve months after the final investment decision. Following completion of the commissioning phase, Tango FLNG would produce its first LNG cargo by the first quarter of 2024, placing the Republic of Congo, also known as Congo-Brazzaville, on the list of LNG-producing countries, it said. In August last year, Eni signed a deal to buy the 144 meters long Tango FLNG from Belgium's Exmar. The floating LNG producer, delivered in 2017 by China's Wison, has a liquefaction capacity of about 1 billion cubic meters per year of gas, or 0.6 mtpa, and a storage capacity of 16,100 cbm. In October, officials from Eni, Exmar, Congo's SNPC, and Drydocks World gathered to celebrate the sail away of the FLNG and also the Excalibur FSU from Dubai to Congo. The unit arrived in Angola in November onboard Seaway 7's heavy-lift vessel, Seaway Swan, and was subsequently towed to its location offshore Pointe Noire, Congo.

Exmar serves as the engineering, procurement and conversion (EPC) contractor for this project, and has designed the mooring system and performed the refurbishments on both vessels at the Drydocks World yard. Also, Exmar provides the FSU on a long-term charter and will be responsible for all terminal operations on the Congo LNG project. ENI said that the FLNG is moored alongside the Excalibur FSU using an innovative configuration called "split mooring," implemented here for the first time in a floating LNG terminal.

Two FLNGs

The Congo LNG project leverages Marine XII gas resources and existing production facilities in a new, phased approach that will allow to reach about 4.5 bcm per year of gas liquefaction capacity at plateau, as well as zero routine gas flaring, Eni said. A second FLNG vessel with a capacity of about 3.5 bcm per year of gas, or 2.4 mtpa, is under construction in China and is expected to begin production in 2025. Wison Offshore & Marine won a contract from Eni in December last year to build the 380 meters long FLNG and officially started work on the project on January 17, 2023. The unit will be able to store over 180,000 cubic meters of LNG. Eni said the Congo LNG project will help Congo meet its energy needs while seizing the opportunity to exploit surplus gas through LNG production. The entire volume of LNG produced will be marketed by Eni. source : www.lngprime.com

NFE IN BRAZILIAN LNG-TO-POWER MOVE

US LNG player New Fortress Energy said it had signed a definitive deal with Ceiba Energy to acquire a 1.6 GW capacity reserve contract, positioning NFE as a "leading" LNG-to-power company in Brazil. NFE said in a statement it would acquire the Portocem power purchase agreement in exchange for newly issued NFE redeemable series A convertible preferred stock and the assumption of certain liabilities from a subsidiary of Ceiba Energy. Ceiba Energy, backed by US-based investment firm Denham Capital, won a bid in December 2021 for a 15-year PPA to build, own, and operate a new 1.6 GW power plant in Brazil. The company's Portocem LNG-to-power project, which includes an FSRU, won 30 percent of the total demand offered by Brazil's power regulator Aneel and the Ministry of Energy. "Following customary closing conditions including regulatory approval for the transfer of the PPA in Brazil, the PPA will contribute firm capacity payments of $280 million per annum through its 15-year contract life," NFE said in the statement. NFE expects the transaction to close in March 2024, with project cash flows expected to begin no later than July 2026.

Barcarena and TGS

NFE said it plans to leverage its existing infrastructure in Brazil and transfer the PPA to new power assets connected to NFE's existing Brazilian LNG terminals – Barcarena and Terminal Gas Sul (TGS). The 160,000-cbm, Energos Celsius, which will serve NFE's FSRU-based LNG import terminal in Barcarena, has recently left Seatrium's yard in Singapore and is on its way to Brazil. Besides the Barcarena facility, NFE said in November that its LNG import terminal in Santa Catarina, Brazil will start commercial operations in January 2024. NFE has executed a definitive deal to charter the 138,250-cbm FSRU Energos Winter

from Brazil's state-owned energy firm Petrobras starting in December 2023. According to NFE, the compaby intends to utilize its existing infrastructure in place in Barcarena to strategically expand its power complex by 1.2 GW, with an expected commercial operations date (COD) for the expansion in 2026. NFE's original 630 MW development in Barcarena "remains on schedule" for COD in the third quarter of 2025, it said. The firm plans to transfer the remaining 0.4 GW of the PPA to another power generation asset that connects to its TGS terminal. By using its existing asset base, NFE expects to "reduce costs and generate incremental throughput and earnings at its terminals," it said. With the acquisition of the PPA, NFE adds "significant" downstream power infrastructure to its asset base, enabling further utilization of its existing terminal infrastructure in Barcarena and TGS. The TGS terminal is uniquely positioned to continue to alleviate natural gas supply issues for more than 3 GW of existing industrial and power generation customers who currently experience limitations on supply in the region, the firm said.

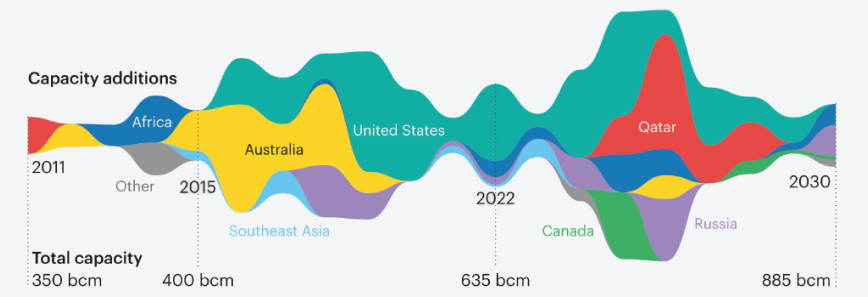
source : www.lngprime.com

A WAVE OF NEW LNG IS ABOUT TO HIT THE MARKETS

A headline in International Energy Authority (IEA)'s *Global Energy Outlook 2023*, released at the end of October, was: "A wave of new LNG export projects is set to overturn gas markets." The IEA says that more than 250bn m3/yr of new liquefaction capacity is set to come online by 2030, about 40% of today's global LNG supply, with the US and Qatar accounting for 60% of this *(see figure 1)*. The largest increases will come between 2025 and 2027.

Most of this is destined for Asia. China alone has contracted for an additional 85bn m3 of LNG since 2022. As the IEA points out, "in recent years, gas markets have been dominated by fears about security and price spikes after Russia cut supplies to Europe. Market balances remain precarious in the immediate future but that changes from the middle of the decade." Once online, this strong increase in LNG production capacity will ease gas supply concerns and prices. It is expected to make natural gas a buyers' market. A period of LNG tightness is about to give way to abundant supplies led by the US and Qatar *(see figure 2)*, completely reversing market dynamics. The two countries are best-placed to deliver the next wave of LNG growth through competitive pricing. As Fatih Birol, executive director IEA, said "A wave of new LNG export projects is set to remodel gas markets."

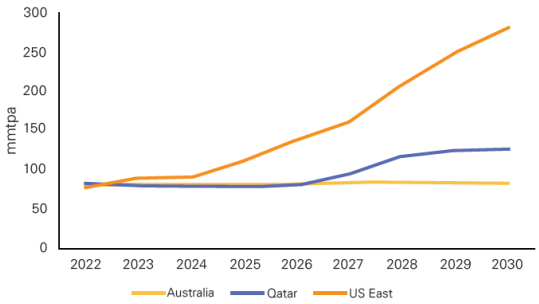
FIGURE 1 | New LNG projects to 2030 | Source: IEA



LNG on a roll

In terms of new LNG liquefaction capacity additions, 2023 was a particularly low year. But this is about to change, starting next year. And between 2025 to 2027 new LNG additions will be on a roll. This exceptionally strong growth is expected to rebalance the global gas markets. But until then prices are expected to remain high, as will price volatility. Other projects, especially in the US, are close to reaching final investment decisions (FIDs) and will add to this post-2026. Three new projects have already been approved, the second phase of Venture Global LNG's Plaquemines plant in Louisiana, with about 10mn mt/yr capacity, Sempra Energy's Port Arthur plant in Texas, with about 13.5mn mt/yr capacity, and NextDecade/TotalEnergies' Phase 1 of the Rio Grande LNG project in Brownsville Texas, with 17.6mn mt/yr capacity. There are several more US LNG export projects hoping to secure go-aheads this year and next. Wood Mackenzie expects at least another 60mn mt/yr capacity to take FID by the end of 2024, with the majority on the US Gulf Coast. However, there is a risk that cost inflation and higher interest rates may yet slow the pace of future LNG FIDs. But that will not affect the massive growth resulting from already sanctioned projects.

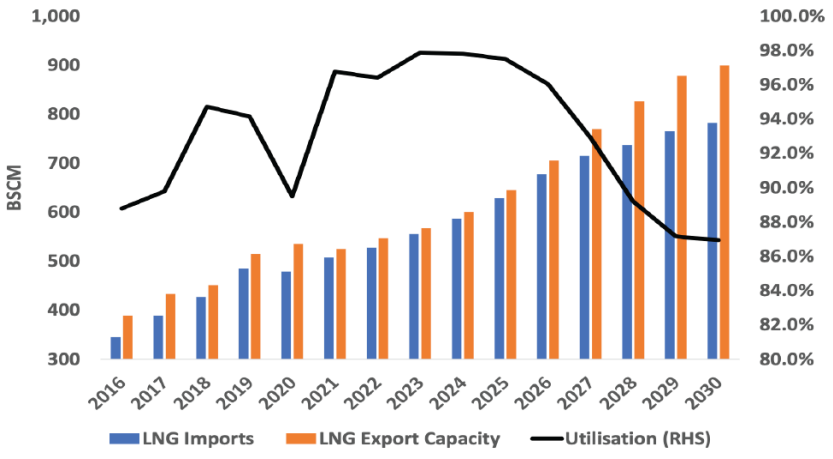
FIGURE 2 | Liquefaction capacity of US, Qatar and Australia to 2030 | Source: Wood Mackenzie LNG Tool



Potential risks

However, as a result of the rapid increase in LNG supply the market risks becoming saturated, with supply exceeding demand towards the end of the decade *(see figure 3)*. That will lead to reduced utilisation of LNG export plants – defined as total LNG imports divided by available LNG export capacity– impacting prices.The Oxford Institute of Energy Studies (OIES) projects utilisation to start declining by 2026 and dropping to about 87% by 2030 – a level even lower than during COVID-19 in 2020, when TTF prices dropped below $3/mn Btu. Based on this modelling, OIES projects LNG prices to fall somewhere in the range $5-8/mn Btu in both Europe and Asia by 2030. Clearly there could be increasing uncertainty after 2026. Depending on how low prices go, they could put some LNG projects on shaky ground. However, if a supply glut and low utilisation of LNG export

FIGURE 3 | Global LNG supply, demand and utilisation to 2030 | Source: IEA, OIES Projections, NexantECA World Gas Model



capacity lead to lower prices, these may trigger more gas demand. In addition, as BP points out in its *Energy Outlook 2023*, even if "LNG trade increases robustly in the near-term, the range of uncertainty widens post 2030, with continuing demand for LNG in emerging markets as they grow and industrialise, offset by falling import demand in developed markets as they transition to lower carbon energy sources." Prospects post-2030 will depend on the speed of energy transition. The rapid increase in renewable energy is expected to make greater inroads into coal and gas utilisation, increasing uncertainty about the future of fossil fuels. BP's New Momentum scenario in *Energy Outlook 2023* shows gas demand increasing by 20% by 2050, but potentially declining by 40% under its Accelerated scenario – an uncertainty range of 60%. Already in Europe renewables – wind and solar – have become the largest source of power generation, ahead of gas. European gas demand dropped by 14.5% year/year in the first three quarters of 2023. And it may drop further if Europe sticks to its REPowerEU policy to reduce gas consumption by 30% by 2030 and carry on pivoting away from gas all the way to net-zero emissions by 2050. This gradual move from gas to renewables is also seen to be happening in the Middle East and North Africa. As OIES points out, "a key uncertainty for gas is in the trilemma between coal versus gas versus renewables." Investment in coal continues in some Asia-Pacific countries, and, "if gas is seen as unaffordable, it may face an uphill struggle not to be crowded out by coal and renewables." But North Asia, Japan, Korea and Taiwan "are phasing coal out and gas will remain an important part of their energy mix, depending on how rapid renewables growth is." There is also a risk that a revived nuclear power sector could make inroads into gas utilisation later this decade, at a time of a likely LNG supply glut, increasing pressure on LNG projects. Japan is in the process of increasing nuclear power share to 20%+ by 2030 from less than 7% in 2022. France is also proposing to build six new nuclear reactors by 2035.

Stringer regulations

The EU agreed in mid-November a new law to limit methane emissions that will hit oil and gas imports, including LNG.

"Between 2025 to 2027 new LNG additions will be on a roll."

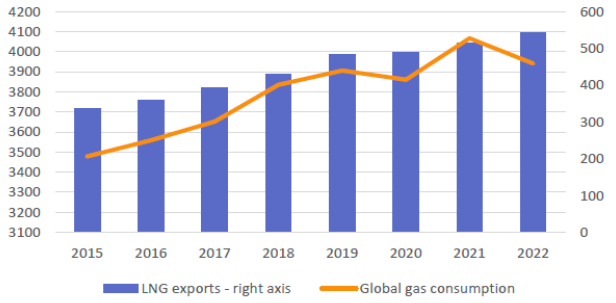
The new regulation requires fossil fuel producers to measure, report and verify methane emissions, as well as put in place mitigation measures to avoid such emissions by regularly checking for and fixing methane leaks. The result of this is that from 2030 onwards producers and traders importing fossil fuels into Europe, including LNG, will have to adhere to the EU's methane emission limits. Financial penalties will apply to importers that buy from suppliers that do not comply with the limits. This will put pressure on suppliers of fossil fuels to the EU to clamp down on methane leaks. These rules will hit all gas suppliers, including in the US and Algeria. According to the European Council, the part of the regulation affecting imports will be implemented in three phases. "The first phase will focus on data collection and the creation of a methane emitters global monitoring tool and a super emitter rapid reaction mechanism. In the second and third phases, equivalent monitoring, reporting and verification measures should be applied by exporters to the EU

by January 1, 2027, and maximum methane intensity values by 2030. The competent authorities of each member state will have the power to impose administrative penalties if these provisions are not respected." At least in the EU these new regulations will force the LNG industry to reduce its emissions. It is likely that after COP28 in Dubai there will be a refocus on lowering methane and CO2 emissions, increasing demand for low-emission LNG. source：www.naturalgasworld.com

LNG DEMAND DEPTH IS SUBSTANTIAL, BUT HARD TO UNLOCK

FIGURE 1 LNG demand has survived COVID and war (bn m3)

Source: Energy Institute



According to a new report by the International Energy Forum (IEF), ten new importers are expected to join the international LNG market in the next two years, helping to drive a 25% expansion in global LNG trade to 500mn t/yr by 2028. Over the period 2019-2022, LNG trade grew by 16% from 337mn t/yr to a record 390mn t/yr (*see figure 1*), owing, in particular, to the surge in European demand as a result of the war in Ukraine and loss of pipeline imports from Russia. Russian pipeline exports to the EU fell dramatically in 2022 by 55% from 141bn m3 to 64bn m3, and by a further 64% to just 40 bn m3 this year, the IEF says.

Demand forecasts highly uncertain for marginal markets

However, one of the most uncertain impacts of the Ukraine war and reconfiguration of international LNG trade flows has been the effect on future demand. High prices and a lack of availability have put many LNG import projects on hold, particularly in new and price-sensitive markets. While the IEF report identifies numerous new market entrants as growth drivers in the near term, it also notes that a lack of affordable LNG has increased the risk of delay or cancellation for proposed LNG import projects in Asia and Africa. This, it says, "has increased uncertainty for long-term demand in the regions that the global LNG industry had been counting on for robust growth." On the import side, the report identifies 22mn t/yr of new regasification capacity, mainly in Asia and Africa from new market entrants. For Africa, Senegal, Ghana, Benin, Morocco, Sierra Leone and South Africa could all become LNG importers within the next three-four years, the report says.

Africa remains a highly uncertain LNG import market

Senegal – itself set to become an LNG exporter from early next year – is an example of the uncertainties governing many of these markets. It has a small Floating Storage and Regasification Unit (FSRU), developed and operated by a joint venture between Karpowership and Mitsui OSK Lines. It is designed to feed gas into a 236-MW Karpower power plant vessel. However, an inaugural cargo destined for the facility in May was rerouted to Brazil at the last minute. Senegalese's emergent LNG use is also at risk from growing political instability in the run-up to presidential elections in February. West Africa has seen a surge in political coups since 2021, leading to fears of 'democratic regression' across the region. Ghana has faced similar delays and uncertainty. It's 1.7mn t/yr LNG import terminal was originally supposed to come online in 2016, but commercial operations are not now expected until 2025. The government has built up substantial debts with Independent Power Producers (IPPs) and the sector's ability to absorb imported LNG economically at present looks doubtful. Ghana's Tema LNG terminal project, in theory, was to act as an LNG storage hub, potentially facilitating LNG supplies to Burkina Faso, Liberia and Sierra Leone. Benin, which has a project for 0.5mn t/yr import capacity, had targeted start-up in 2021, but there has been little news since, and some observers label the project as 'shelved'. Equally, Sierra Leone's pursuit of the Freetown LNG terminal project appears to have made little headway. Even in South Africa, Sub-Saharan Africa's largest economy, long-planned LNG import plans have struggled to come to fruition. Current plans seem to hang on two vessels owned by Karpower being converted to FSRUs. The ships would be used to regasify LNG to supply floating gas-fired generation. Karpower won bids to supply two powerships with a total generation capacity of 770 MW under South Africa's Risk Mitigation IPP Procurement Programme (RMIPPPP) in 2021. However, the company has since faced a series of legal challenges and the RMIPPPP has also suffered delays. While Morocco has entered the LNG market, primarily to replace the loss of pipeline supplies from Algeria, LNG demand south of the Sahara Desert remains a very uncertain prospect. Even if the group of African countries identified by IEF do start to import LNG in the next three to four years, volumes are unlikely to be large and these markets will be price sensitive and carry significant credit risk.

"LNG demand south of the Sahara Desert remains a very uncertain prospect ... volumes are unlikely to be large; these markets will be price sensitive and carry significant credit risk."

Asia offers better prospects

IEF expects the Southeast Asian market to more than double to 40mn t/yr by 2030 as countries like the Philippines, Vietnam, Cambodia and Thailand increase imports. In addition, Singapore is expected to add a second import terminal which will act as a hub to store, reload and break-bulk LNG, the report says, aiding the fuel's uptake across the region. The drivers behind these countries' rising import prospects are a combination of declining or peaking domestic gas production, a desire to reduce their dependence on coal, and high rates of energy demand growth. LNG prospects in Southeast Asia have been buoyed by the start of imports into both the Philippines and Vietnam this year, while Thai demand for LNG is on a strong upward trajectory. However, Cambodia and Myanmar are much more uncertain. Since starting the import of LNG in ISO containers in 2020, little has been heard about the development of phases 2 and 3 of Cambodia's LNG project, which promised a floating regasification terminal, gas pipeline and trucking network. Similarly, relatively small-scale LNG operations in Myanmar – as in Cambodia, developed and supported by China – appear to have been scaled back in the aftermath of the country's 2021 coup. Local media in July reported the closure of two LNG-fed Chinese-developed power plants in western Myanmar and the closure of a third this year, owing to a lack of LNG. An offensive by rebel groups opposed to the ruling junta in recent months has further undermined confidence in the country's investment climate. Political analysts say the uprising could not have taken place without the tacit approval of Beijing. However, the plans overall suggest there is significant latent demand for LNG in both Asia and Africa, which would be much more likely to emerge in an environment of lower prices and more plentiful supply. Arguably, a prospective period of global market surplus in the late 2020s -- the result primarily of LNG export capacity expansion in the US and Qatar and a peaking of European LNG consumption -- would provide impetus to currently stalled plans for new LNG import markets.

Latent demand in China and Europe

A key part of the 'looming surplus' narrative is a decline in European LNG demand as it accelerates the construction of more renewable energy capacity. However, as recent commentary from the Oxford Institute for Energy Studies (OIES) suggests, European gas demand might also bounce back, if prices become more attractive. This would likely sustain the rise in LNG imports, as a return to Russian pipeline gas looks highly unlikely.According to the OIES, European gas demand was down 10% year on year in the first ten months of 2023, but gas use in the industrial sector and small businesses started to recover in the third quarter. This recovery is likely to be capped in the short term by the poor outlook for the European economy, the report says, but it does suggest permanent demand

"The Golden Age of Gas may have passed, but that doesn't mean that LNG use has peaked – on the contrary, forecasts suggest continued market expansion well into the 2030s."

destruction may have been limited. OIES says over half of the demand drop this year was accounted for in the first quarter, reflecting mild weather reducing electricity demand, limited industrial recovery and higher availability of renewable energy resources. For next year, it says: "there are many moving pieces to the puzzle, but continued lower use of gas in power is expected to be counterbalanced by higher gas use in other sectors and could drive gas demand marginally up over the year." Similarly, in China, price moderation has been a key factor in returning the country to demand growth for LNG. Gas imports have increased each month since March, and from January to September, they were 8% higher than in 2022. Reports now suggest Chinese gas demand could grow this year by as much as 8% overall. State-owned oil company CNOOC forecast in September that the country's LNG imports could rise by 10.9% year on year in 2023.

Demand suppressed not destroyed

The possibility of demand destruction as opposed to demand suppression as a result of the high prices induced by the war in Ukraine is arguably fairly weak. The alternatives to gas in the short term are typically other higher carbon fossil fuels, rather than electrification. Decisions to limit production runs or use other fuels are likely to be reversed, if economic conditions brighten and prices fall. Industry is waiting out the period of high prices rather than retooling because the non-fossil fuel-based options are not yet sufficiently well developed or economically viable. The loss of gas demand as a result of the energy transition remains somewhat further off, in the 2030s. Moreover, the rate of renewable energy construction remains significantly off target in all areas, except the deployment of solar power, while the required investment in grid expansion, on which much increased electrification increasingly depends, lags even further. This suggests gas demand will bounce back in the major economies already using LNG, and that new markets will eventually be created, particularly if the second half of the 2020s does produce a glut of LNG and low prices. The Golden Age of Gas may have passed, but that doesn't mean that LNG use has peaked – on the contrary, forecasts suggest continued market expansion well into the 2030s. source：www.naturalgasworld.com

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