



CHINA'S LNG WINTER OUTLOOK

China's gas consumption is set to continue growing for this upcoming winter as a recent upturn in economic activity will help domestic demand maintain momentum, but growth in LNG imports will be squeezed by other cheaper gas sources and levels are unlikely to return to the historical winter peak of 2021. Chinese gas demand has been in robust recovery since the spring

"Estimates for China's gas use this winter vary but under a normal winter temperature scenario, consumption could increase by 8.9% year-on-year in Q4."

with apparent consumption in the first eight months of 2023 up by 7.4% year-on-year to 259.81bn m³, according to the country's central economic planning agency. Demand for the full year had been predicted by senior energy officials in July to expand by 5.5-7.0% to 385-390bn m³. The consumption

rebound after last year's unprecedented decline of 1.2% has come amid improving prospects for China's economy, which beat market expectations to expand by a better-than-expected 4.9% in the third quarter (Q4) and lift growth for the first three quarters to 5.2%. Estimates for China's gas use this winter vary. Under a normal winter temperature scenario consumption could increase by 8.9% in Q4 to 106bn m³ compared with an estimated 87.5bn m³ in Q3, according to an outlook from Sinopec. Demand during the heating season - which traditionally runs for four months from mid-November to mid-March - under typical

winter temperatures will rise by 7.8% to about 191bn m³. In the case of significantly warmer winter temperatures, gas demand is expected to be about 104bn m³ in Q4, up 6.8% year-on-year, and by 5.5% to 187bn m³ for the heating season. The base-case for China's gas demand in the upcoming winter – defined as the six months from October to March – is an increase of 7% year-on-year to 214bn m³, supported by higher economic activity than last winter due to the lifting of COVID-19 restrictions and an anticipated fall in gas costs due to declining spot LNG prices, according to recent analysis from CNPC's Economics and Technology Research Institute (ETRI). The institute's analysis was completed before China surprised markets with its Q3 GDP growth. If the economic recovery holds firm, a scenario with higher economic growth close to the optimistic forecasts given at the start of this year could add 3.0bn m³ to the base case.

More demand across the board

Residential and commercial gas consumption for the coming winter is projected to increase to 57bn m³, a 6% rise from a year earlier as gas grids expand and commercial activities resume. Industry gas demand is estimated to see more modest growth

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of 4% year/year this winter amid the steady economic outlook both at home and abroad, with consumption on track to reach 81bn m³. The gas power and transport sectors, both of which experienced a 9% yr/yr drop last winter, are expected to resume growth this winter – a turnaround that can be attributed to lower gas costs and more economic activity than last winter. Gas burn in the Chinese power sector meanwhile

stands to expand by 4% over this winter from last year to reach 29bn m³. China is set to accelerate gas-fired power capacity construction in the coming three years, adding more than 10 GW every year. Lower fuel prices – which represent around two-thirds of operation costs – are also expected to boost gas consumption by power plants. For example, in the southern province of Guangdong, the country's biggest gas-fired power market, a gas price below \$16/mn Btu may keep power plants profitable under the current gas power benchmark tariff. But for gas power plants to be competitive with coal-fuelled plants, fuel prices should be lower than \$10/mn Btu. Gas burn in the power sector still depends on the availability and economics of other electricity sources, such as hydro and coal power. Transport sector demand is likely to see a 35% year-on-year jump this winter to 21bn m³ due to the lifting of COVID-19 travel restrictions and favourable economics compared with diesel-fueled vehicles. Sales of CNG/LNG-fuelled heavy-duty commercial vehicles more than tripled in the first half of 2023 as LNG retail prices fell lower than 70% of diesel prices, which is considered a price threshold for LNG-fuelled vehicles to be more economically competitive than diesel ones. But uncertainties loom as these two sectors are sensitive to fuel prices. Most gas demand by power plants and commercial vehicles is not prioritised by the government in the case of a gas shortage. Total gas supply, excluding gas storage withdrawals, for the coming winter is expected to be 8% higher yr/yr, reaching 209bn m³.

Domestic production will maintain steady yr/yr growth at 6% to reach 125bn m³ this winter as China's continuous push for energy supply security is set to drive robust growth of local gas production.

LNG import outlook brightens

LNG imports this winter are expected to rebound 12% to 38mn tonnes or the equivalent of 52bn m³, up from 34mn t last winter. China's LNG imports have roared back from pandemic levels for this year to date, expanding by 10.1% in the first nine months from a year ago to 51.13mn t – although volumes in September were down yr/yr for the first time since January, signalling that some softness remains. The LNG import rebound has been mostly driven by lower spot LNG prices and the lifting of pandemic restrictions, although it should be noted that volumes still have not recovered to 2021 levels because of a weak global economy and competition from other gas supply sources and alternative fuels. But there is still upside potential this winter in the case of faster-than-expected economic growth in Q4. State-owned importers PetroChina and CNOOC have a total of 5.6mn t/yr of LNG contracted with Chevron's 15.6mn t/yr Gorgon and 8.9mn t/yr Wheatstone projects, and Woodside Energy's 16.9mn t/yr North West Shelf facility. The threat of strikes at all three plants now appears to be in the rearview mirror after Chevron Australia and employees at its two plants reached an agreement on pay and conditions. The prospect of industrial action had the potential to disrupt Australian LNG flows to China, especially as some portfolio players also take LNG from the three plants to supply the country. Based on data for the past three years, China stood to lose 400,000 mt to 1.6mn t on average depending on the duration of strikes ranging from two weeks to two months. With the impasse now resolved, a key risk for China's LNG imports this winter has been removed.

More clarity on winter pipeline flows

Pipeline gas imports will also be a less of a wildcard for China's gas supply than in past years, after CNPC struck two key agreements with Gazprom and QazaqGaz, Kazakhstan's national gas company, on the sidelines of a high-profile forum for the Belt and Road Initiative held in Beijing in October. Gazprom announced on October 19 that it will export more gas than planned to China this year via the Power of Siberia (PoS) pipeline after the Russian company and CNPC signed an addendum to the sales and purchase agreement for PoS supplies for "an additional volume of Russian gas supplies to China until the end of 2023." Further details were not disclosed but Gazprom had originally planned to export 22bn m³ to China this year, up from 15.5bn m³ in 2022. Gazprom's exports to China for the year to date were up by 46.6% yr/yr, according to the announcement. The additional agreement came two days after CNPC and QazaqGaz signed a new gas supply contract, one of 30 commercial documents signed between the countries with a total value of \$16.54bn that included investment and trade agreements, technology transfers and new lines of credit. The deal will cover supplies from this year to 2026, according to QazaqGaz. China started receiving gas from Kazakhstan in 2017 under a five-year supply contract for 5bn m³/yr, which was then followed by a commitment to double supply to 10bn m³/yr in 2019. The original contract from 2017 was set to expire sometime this winter and it had been unclear if it would be renegotiated or renewed. The new contract will help ease Chinese

fears of a plunge in pipeline gas flows from Central Asia this winter. Uzbekistan did not send any gas to China in Q1 2023, while Kazakhstan's exports decreased to almost zero – both countries experienced surging domestic demand amid cold spells that drained gas supply. Turkmenistan – which accounts for the lion's share of China's piped gas imports – exported around 7.5bn m³ to China in Q1 this year, 7% lower than the 8.1bn m³ it sent in the same period of 2021. With supply locked in and economic prospects improving, the key uncertainty for Chinese gas demand this winter will be weather. Extreme temperatures in the upcoming winter could either add 12bn m³ or subtract 7bn m³ of gas consumption from CNPC ETRI's base-case demand of 214bn m³. There could be less weather variation in Q4 2023 than in Q1 2024. Gas demand in the final quarter could vary from 105bn m³ to 111bn m³, while the range is likely to be 101–115bn m³ in Q1 2024. Northern provinces with central heating are more sensitive to winter weather variations, given the share of gas demand for heating. Extremely cold weather could add an additional 1.8mn t of LNG demand this winter on top of the 38mn t in the base case. In the event of a warmer-than-normal winter, LNG demand would dip by 3.2mn t. China is set to experience El Niño in the coming winter, which might lead to warmer-than-usual weather, according to the National Climate Centre. source : www.naturalgasworld.com

MOL LNG-FUELED NEWBUILD STARTS COAL TRANSPORT FOR KYUSHU ELECTRIC

Japan's MOL has started shipping coal for compatriot Kyushu Electric Power (Kyuden) with a new LNG-powered Panamax-class bulk carrier. MOL said in a statement that the LNG-powered vessel named Reimei has started operations on November 14. Namura Shipbuilding's Imari yard built this 234.92 meters and 38 meters long vessel with gross tonnage of 95,792 tons. MOL operates Reimei and will transport coal from overseas to Kyuden's coal-fired power plants. The vessel departed from the Imari port on November 14 for shore-to-ship bunkering at the Tobata port in Fukuoka on November 15, where it will receive fuel directly from the onshore LNG shipping terminal, MOL said. In the future, ship-to-ship bunkering from an LNG bunkering vessel can also be adopted as a way for the vessel to receive fuel, the firm said. Kyuden concluded a long-term transport deal on December 25, 2019 with both MOL and NYK for LNG-powered carriers. Oshima Shipyard's Koyagi yard delivered the Panamax-class bulk carrier, Shoyo, to NYK on October 2. NYK claims this is the world's first LNG-powered Panamax-class bulk carrier. Ships having a deadweight tonnage of 70,000 to 99,999 dwt are categorized as Panamax-class bulkers. Source : <https://lngprime.com>

NEXTDECADE PLANS TO TAKE FID ON FOURTH RIO GRANDE LNG TRAIN IN H2 2024

US LNG firm NextDecade is planning to take a final investment decision to build the fourth liquefaction train at its Rio Grande LNG export project in Texas in the second half of 2024. NextDecade officially started building the first phase of its Rio Grande LNG export project in October. In July, NextDecade took the final investment decision on the first three trains and completed \$18.4 billion project financing. The firm also closed a joint venture agreement for the first phase which included about \$5.9 billion of financial commitments from Global Infrastructure Partners (GIP), GIC, Mubadala, and TotalEnergies. Phase 1, with nameplate liquefaction capacity of 17.6 mtpa, has 16.2 mtpa of long-term binding LNG sale and purchase agreements. These include deals with TotalEnergies, Shell, ENN, Engie, ExxonMobil, Guangdong Energy Group, China Gas Hongda Energy Trading, Galp, and also Itochu.

NextDecade awarded the \$12 billion EPC contract to Bechtel.

Prior to FID, NextDecade issued a limited notice to proceed to Bechtel last year to begin ramping up its personnel and initiate site preparation work at the Rio Grande LNG site. As of September 2023, the project completion percentage for Trains 1 and 2 of the Rio Grande LNG facility was about 8.1 percent, which is in line with the schedule under the EPC contract, NextDecade said in its third-quarter update on Monday. Within this project completion percentage, engineering was 35.7 percent complete, procurement was 14.1 percent complete, and construction was 0.2 percent complete. In addition, the company said that Bechtel has made “meaningful progress” on purchase orders for Train 3 and is focused on mobilizing labor and equipment and preparing temporary facilities at the site.

“Numerous discussions” with potential buyers of LNG

Including trains 4 and 5, the Rio Grande LNG facility would have a capacity of 27 mtpa. NextDecade has started the front-end engineering and design (FEED) and EPC contract processes with Bechtel for Train 4 and expects to finalize the EPC contract in the first half of 2024, it said in the update. The company said it is progressing “numerous discussions” with potential buyers of LNG to provide commercial support for Train 4 and is targeting a positive FID of Train 4 in the second half of 2024, and subsequently Train 5 and related infrastructure. In connection with consummating the Phase 1 equity joint venture, the company’s equity partners each have options to invest in Train 4 and Train 5 equity, which would provide about 60 percent of the estimated equity funding required for each of the trains. Inclusive of these options, NextDecade currently expects to fund 40 percent of the equity commitments for each of Train 4 and Train 5. The company also expects to have an initial economic interest of 40 percent in each of Train 4 and Train 5, increasing to 60 percent after its equity partners achieve certain returns on their investments in each of the respective trains.

NextDecade “confident” on Rio Grande expansion

TotalEnergies has LNG purchase options of 1.5 mtpa for each of Train 4 and Train 5. If TotalEnergies exercises its LNG purchase options, NextDecade currently estimates that an additional approximately 3 mtpa must be contracted on a long-term basis for each of Train 4 and Train 5 prior to making a positive FID for the respective train. “Construction of Train 4 and Train 5 should be advantaged due to the common facilities and full site preparation included in the Phase 1 EPC contracts, as well as potential labor optimization with a timely Train 4 FID,” **Matt Schatzman**, NextDecade’s chairman and CEO, said. “We continue to experience a strong LNG market and contracting dynamics, and we are confident in our ability to progress toward FID of our expansion capacity,” Schatzman said. Source : <https://lngprime.com>

MOL’S HUGE LNG CARRIER FLEET CONTINUES TO GROW

MOL’s huge fleet of liquefied natural gas carriers continues to expand and the Japanese shipping giant currently has more than 30 LNG vessels on order. The company’s CEO, Takeshi Hashimoto, and CFO, Hisashi Umemura, discussed MOL’s LNG business during a recent presentation on the company’s business performance for the second quarter of fiscal 2023. According to the presentation, MOL had 97 LNG carriers in its fleet as of September 30 this year, three more vessels compared to the prior quarter. MOL expects that it will have 99 LNG carriers in its fleet by the end of March next year. This includes LNG carriers owned and/or operated by joint venture companies. Besides LNG carriers, the liquefied gas carrier fleet also includes 2 LNG bunkering vessels, 1 LNG powership, 4 FSUs/FSRUs, 16 ammonia/LPG ships, and 6 ethane carriers. Umemura said during the presentation that the company’s LNG carrier business performed better than expected reflecting entry into new contracts, while the FSRU business generated profit mostly in line with the forecast due to the start of the FSRU-based LNG import terminal in Hong Kong. Hong Kong’s first FSRU-based LNG import facility, owned by a joint venture of CLP Power and HK Electric, started commercial operations in July. MOL’s 263,000-cbm FSRU Bauhinia Spirit serves the offshore terminal under a charter deal. Umemura said that the company’s LNG carrier and FSRU business will continue to generate “stable” profits due to start of new projects. “We have ordered more than 30 LNG vessels based on the growth and the need for LNG transportation due to the increasing demand for LNG in Europe and other regions,” he said. These vessels are expected to contribute to “stable” profit growth in fiscal 2024 and onwards, Umemura said. MOL’s finance chief did not provide any additional details regarding the ordered LNG carriers. A presentation by the company released earlier this year shows that MOL had 33 LNG carriers on order as of the end of March and a total of 127 LNG vessels in its fleet. MOL said in the presentation that is the biggest LNG carrier fleet in the world looking at the number of vessels. NYK has the second-largest fleet, followed by Nakilat, K-Line, Maran Gas, and Teekay, the presentation showed.

South Korea and China

VesselsValue data shows that MOL has at least 34 LNG carriers on order in South Korea and China and scheduled for delivery between 2023 and 2027. MOL previously ordered vessels at China’s Hudong-Zhonghua under the giant QatarEnergy giant

shipbuilding program as well as vessels for charter to China's ENN and for charter to China's CNOOC. The Japanese firm has in total 16 LNG carriers on order at Hudong-Zhonghua, the data shows. Moreover, MOL has at least 3 LNG carriers on order at South Korea's Samsung Heavy Industries and 15 LNG carriers on order at Hanwha Ocean, previously known as DEME, according to the data. Shipbuilding sources previously said that MOL has ordered five LNG carriers this year at Samsung Heavy, including the latest order in October.

MOL booked two LNG carriers at Hanwha Ocean this year.

Last month, MOL signed a new deal to charter one LNG carrier to compatriot LNG trading and power firm Jera. This is the sixth LNG carrier charter contract for the two firms and follows a deal announced in June this year. In June, UK's Ineos also chartered two LNG carriers from MOL to ship its contracted US LNG supplies to Germany. LNG-powered vessels In addition to its growing fleet of LNG carriers, MOL plans to have 90 LNG-fueled vessels and methanol-powered ships in its fleet by 2030 as it looks to phase out heavy fuel oil and decarbonize its operations. A spokeswoman for MOL told LNG Prime that the company currently has 27 oceangoing vessels and 6 coastal vessels powered by LNG in its fleet. This includes vessels on order. In September, MOL ordered two more LNG-powered car carriers at compatriot Nihon Shipyard. MOL has six LNG-powered car carriers with a capacity of 7,000 units on order at Nihon. Besides these vessels, MOL also has four LNG-powered car carriers with the same capacity on order at Shin Kurushima Dockyard. Source : www.lngprime.com

HD HYUNDAI HEAVY SECURES ORDER TO BUILD LNG CARRIER DUO

South Korean shipbuilder HD Hyundai Heavy Industries has won a contract to build two liquefied natural gas (LNG) carriers worth about \$530 million. HD Korea Shipbuilding & Offshore Engineering said on Tuesday that its unit HD Hyundai Heavy Industries will build the two 174,000-cbm LNG tankers for an owner in Africa. Hyundai Heavy will deliver the vessels by February 2028. The order has a price tag of 698.1 billion won (\$530 million) or about \$265 million per vessel, which is the highest price for a single 174,000-cbm LNG carrier for the shipbuilder. KSOE did not reveal any additional information regarding the new order. Hyundai Heavy won two LNG carriers from Greece's Evalend Shipping in August, marking the latter's entry into the LNG sector. These vessels were also priced at about \$530 million but the price in won (679 billion won) was lower. Shipbuilding sources told LNG Prime that Evalend ordered these two new LNG carriers at Hyundai Heavy as well. This year, KSOE and its units have received orders for a total of 147 ships worth \$20.89 billion, including 39 LNG carriers. The group has previously reached its annual target of \$15.7 billion. State-owned LNG giant QatarEnergy recently signed a deal for 17 LNG carriers with Hyundai Heavy as part of the second phase of its giant shipbuilding tender. Hyundai Heavy will deliver these 299 meters long and 46.4 meters wide vessels sequentially by September 2029. source : www.lngprime.com

which will supply the giant Shell-led LNG Canada export plant near Kitimat. The floating LNG facility will also be located near the LNG Canada plant and will be powered by renewable electricity from BC Hydro.

FID may move into early 2024

The JV said this new agreement builds further momentum for the project and follows receipt of all major regulatory approvals and the signing of memorandums of understanding for long-term liquefaction services with “investment grade counterparties” for the project’s total LNG capacity. Pembina recently said that the partners may move their planned final investment decision on the Cedar LNG export project from the fourth quarter of this year to early 2024. Target FID continues to be by the end of 2023, however, given the complexity and sequencing of aligning the multiple work streams, which are required to facilitate project financing, FID may move into early 2024, Cedar LNG confirmed in the new statement. “This exclusive relationship with SHI and Black & Veatch to lock in shipyard capacity for the construction of the Cedar LNG FLNG vessel is a major step forward for our project,” Doug Arnell, Cedar LNG CEO, said. “Through this agreement we are accessing world class expertise in the construction and delivery of floating LNG production vessels, which, together with renewable power from the BC Hydro grid, will result in an environmentally leading, state-of-the-art facility for Cedar LNG, with one of the lowest carbon footprints in the world,” Arnell said. source : www.lngprime.com

CMA CGM SWITCHES METHANOL CONTAINERSHIP ORDER TO LNG FUEL

French shipping giant CMA CGM has decided to switch a recent order it placed in China for eight methanol-powered containerships to LNG fuel, according to shipbuilding sources. China’s Shanghai Waigaoqiao Shipbuilding, part of CSSC, announced on September 27 that it has signed a contract with an European owner to build eight containerships with a capacity of 9,200 teu. The shipbuilder did not mention CMA CGM in the statement. SWS claimed this is the world’s largest order for methanol-powered vessels. It said that these medium-sized containerships with a length of 299.9 meters and a width of 45.6 meters will feature methanol dual-fuel propulsion, the first time for SWS to enter the methanol dual-fuel market. CSSC Holdings said in a separate stock exchange filing that the order is worth about \$1 billion with the deliveries starting in 2027. However, it seems that CMA CGM changed its mind regarding the order and has opted to use LNG fuel instead of methanol for these vessels, shipbuilding sources told LNG Prime on Wednesday. It remains unclear whether CMA CGM and SWS have already amended the order or the new deal will be signed soon. The sources said that one of the main reasons behind this decision could be that there is no availability of “green methanol” and a high price of the fuel produced either from biomass or captured carbon and hydrogen from renewable power. CMA CGM instead decided to proceed with LNG fuel for these vessels, such is the case with the majority of its newbuild containerships.

The firm, one of the world's largest backers of LNG as fuel, previously said that LNG is the "best solution" currently available to reduce the environmental impact of shipping. In addition, the group's large fleet of LNG-powered ships can already run on biomethane and synthetic methane (e-methane), thereby reducing greenhouse gas emissions even more, it said. CMA CGM said in its recent third-quarter report it has already invested more than \$17 billion in a fleet of nearly 120 LNG- and methanol-powered ships scheduled for delivery by 2027.

LNG-powered vessels for La Meridionale

Besides this move, CMA CGM's ropax unit La Meridionale unveiled the desing of two LNG-powered vessels which will be able to accommodate 1,000 passengers. Earlier this year, CMA CGM finalized its acquisition of compatriot La Meridionale saying that it plans to order two LNG-powered vessels to work between Corsica and Marseille. The French-flagged vessels will be 180 meters long, 30.8 meters wide, and will have 264 cabins. La Meridionale said it will take delivery of these two LNG-powered vessels in the first quarter of 2027. source : www.lngprime.com

BW LNG, MOL SHORTLISTED TO PROVIDE POLAND'S FIRST FSRU

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 floating storage and regasification unit (FSRU) as part of the Gdansk LNG import project. Poland's Gaz-System said in a statement on Tuesday it has signed term sheets with the two shipowners following the completion of the first part of its FSRU tender procedure. Yngvil Åsheim, BW LNG CEO, and Toshinobu Shinoda, managing director of MOL (Europe Africa) signed the term sheets with Gaz-System. According to Gaz-System, the agreements regulate the most important terms of the future charterparty, such as the vessel delivery date, the obligations of the parties, the consequences of delayed delivery, and the charter period. Moreover, the provisions of the term sheet do not constitute binding obligations for the parties but set out the 'roadmap' for further negotiations of the charterparty and their essential content will be reflected in the final charter agreement, it said. Gaz-System plans to conclude the deal with one of the two firms for a period of 15 years. The firm did not say when it expects to sign the final charter deal. MOL has a huge fleet of 97 LNG carriers, and more than 30 on order, and also owns the world's largest FSRU, Bauhinia Spirit. BW LNG has 28 LNG carriers in its fleet, including four on order, and four FSRUs. Last year, BW LNG sold its 2015-built FSRU BW Singapore for \$400 million to Italy's Snam and this vessel will serve the planned Ravenna terminal.

Launch in 2028

Gaz-System recently finalized two deals related to the development of its FSRU-based LNG import project in Gdansk Bay. The agreements with the Port of Gdansk Authority and the Maritime Office in Gdynia followed letter of intents signed back in 2020. Gaz-System said the finalization of these deals is "key for the project schedule" of the first FSRU-based terminal in

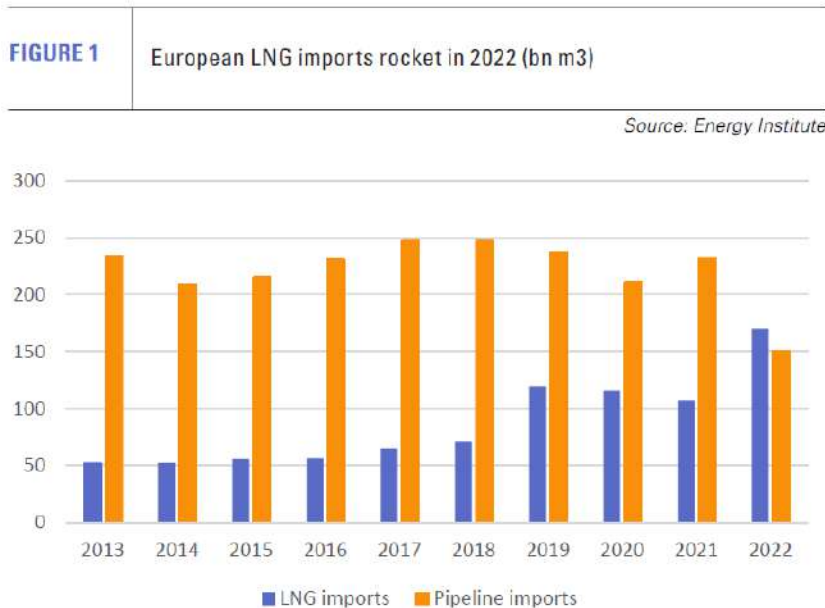
fail to realise it is all very well throwing millions and millions and millions of dollars at technology that is not there... yet. It will work in the future". She concluded, "We must have LNG as a transitional fuel to get to green fuels". source : www.rivieramm.com

EUROPE READY FOR WINTER 2023/24

With Europeans in October basking through an unexpectedly extended summer, they might be worried by a changing climate, but in the short term, this is what Europe needs – a delayed start to the winter heating season with the prospect of a warmer-than-average winter to come. El Niño appears to be playing a major part in the warmer weather. According to the US Climate Prediction Center (CPC), in August, sea surface temperatures were above average across the equatorial Pacific Ocean. Tropical atmospheric anomalies are also consistent with El Niño, and the CPC in mid-September predicted that the phenomenon would continue through the northern hemisphere winter with a greater than 95% chance through January–March 2024. This suggests warmer than average temperatures in the US, keeping US gas consumption low. This is good news for Europe, which continues to rely heavily on imports of US LNG to make up for its lost imports of Russian pipeline gas. In the second quarter of 2023, the US supplied 46.4% of EU LNG imports, according to Eurostat. In Europe, the effect of El Niño is milder, wetter weather at the beginning of winter and colder, dry weather towards the end. There are, of course, no guarantees – the best that can be said is that the development of a strong El Niño increases the probability of certain weather outcomes.

European gas stocks in good shape

Europe should welcome the warm weather because of the impact it has on winter heating demand and the reduced call on



limited gas stocks. These are in good shape, but their capacity is finite. Helped by a high level of carried over stocks from last winter, owing in large part to much increased LNG imports (see figure 1), EU gas inventories hit 90% of capacity ten weeks early on August 16. Continued conservation efforts and curtailed demand have meant gas prices have been more moderate, compared with 2022 (still high based on long-term averages), allowing restocking to take place fairly easily.

Moreover, with European inventory levels close to tank top, the pace of the region’s LNG imports has moderated, allowing more space for other countries, notably in Asia, to rebuild their own stocks ahead of winter. Flat forward prices for LNG in Europe have meant LNG cargoes floating off Europe’s shores, in the hope of high winter prices, have moved elsewhere. This, in turn, has freed up LNG carriers, taking the heat out of the charter market.

Effective response has built confidence ahead of winter 2023/24

This is an extraordinary outcome, considering that Russian gas pipeline imports to the EU have been substantially lower in 2023 than even last year. Imports via Nord Stream I have been nil, of course, as it is out of operation, but last year it was

“There are, of course, no guarantees – the best that can be said is that the development of a strong El Niño increases the probability of certain weather outcomes.”

running at full capacity until week 23. Imports via Poland along the Yamal pipeline, are also nil, compared with some small volumes to week 18 last year. Ukraine transits have bumped along at low levels, again much less than in the first half of last year. TurkStream has been outperforming 2022, but only

from around week 24. Europe’s other pipeline gas suppliers have been able to step up their game, but the strains may be beginning to show. Norwegian gas imports jumped last year and this was sustained until week 33 of 2023, when volumes slumped. The extension of planned maintenance works and some unplanned outages both for gas processing plants and on producing fields now suggest the recovery in import volumes will be weaker than expected. Algeria gas exports to Europe have not performed so well, even if they hold longer-term potential. Exports were lower in 2022 than in 2021 and this year have also struggled to exceed 2021 levels, although they have done so more consistently from around week 30. A shift in direction – more gas to Italy and less to Spain on average – has also been helpful as Spain has excess LNG import capacity while Italy does not. Meanwhile, imports from Azerbaijan jumped higher in 2022 and have been maintained pretty much at the same level this year, bringing much needed extra gas into southeastern Europe and Italy. European LNG imports, meanwhile, have stayed at elevated levels, having last year leaped a massive 70%. In doing so, they have proved essential to averting disaster.

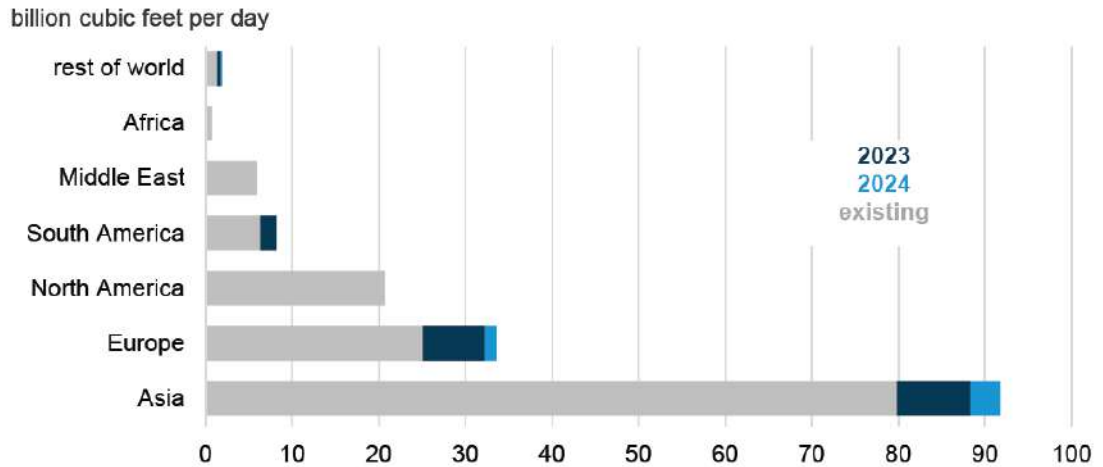
Market glut?

Some commentators are now talking of a market glut based on the strong position of Europe heading into winter and the prospect of weak winter heating demand. Up until now, market bears have usually kept this forecast for 2026–2030, when major new sources of LNG supply will come online in Qatar and North America. However, talk of glut looks premature. Spot LNG prices are still comfortably above \$10/mn Btu, which reflects the latent LNG demand which comes into the market as prices soften.

FIGURE 2

Global LNG import capacity by region (as of July 2023)

Source: EIA



Moreover, the LNG market’s expansion on the demand side is not confined to the rapid expansion of European regasification capacity (see figure 2) in response to the Ukraine crisis. Part of the bearish narrative has been that LNG scarcity and price volatility during the European energy crisis has caused potential LNG market entrants to back off and instead place their faith in alternatives such as renewables. However, as the US Energy Information Administration (EIA) noted in August, three new importers entered the LNG market this year, two of which, the Philippines and Vietnam, are in Asia. By the end of 2024, Antigua, Australia, Cyprus and Nicaragua should all join the club, while several other countries are also in the advanced stages of preparing for LNG imports. Over the last ten years, regasification capacity globally has grown by 49% to reach 140.0bn ft³/d (1.2 trillion m³/yr, 863mn t/yr) across 48 countries. By the end of 2024, the EIA estimates there will be 55 countries importing LNG with a combined regasification capacity of 163bn ft³/d. This growth is being led by Asia not Europe. Asia will account for 52% of the new import capacity, compared with Europe’s 38%.

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LNG provides essential security of supply

The Ukraine crisis and spike in LNG prices may have delayed import expansion plans, but they have not been derailed. Europe's response on the one hand has been effective, aided by some large slices of luck with the weather, supporting the view that the crisis is temporary. In addition, the LNG's industry's response in terms of new capacity has been substantial, even if it takes a long time to bring new projects into production. As a result, the utility of LNG as the primary source of gas flexibility to resolve the European energy crisis is now being given more weight than concerns over exposure to a volatile international market for importers. A response has been seen in terms of Asian buyers, in particular, shifting to long-term contracts rather than spot purchases as a means of reducing their exposure to price volatility. However, the broad-based nature of the expansion of regasification capacity suggests more a period of market normalisation and, who knows, perhaps relative tranquillity, than a glut. source : www.naturalgasworld.com

SINOPEC PUTS WORLD'S LARGEST LNG STORAGE TANK INTO SERVICE

China Petroleum & Chemical Corp. (Sinopec) put China's first, and also the world's largest, LNG storage tank of 270 000 m3 into service on 2 November 2023 at its Qingdao LNG Receiving Terminal. The tank will add 165 million m3 of storage capacity to meet the gas demand of 2.16 million households for five months during the winter heating season, which will enhance and guarantee the natural gas supply in North China. The mega LNG storage tank, independently designed, developed, and built by Sinopec, has a diameter of 100.6 m and a height of 55 m, a key project of Sinopec Qingdao LNG Receiving Terminal's phase III construction. The 270 000 m3 tank adopted 17 patented technologies with independent intellectual property, the main structure was completed in only 18 months, and it is in full service within 27 months. In the construction process, Sinopec has localised the applications of over 20 core equipment that significantly reduced procurement costs and boosted the localisation level of the tank to 95%, the highest in China. On the same day, Sinopec's Tianjin LNG Receiving Terminal completed the phase II construction with three 220 000 m3 storage tanks coming into full service, adding over 400 million m3 of natural gas storing capacity to bring the total storage capacity of Tianjin terminal to 1.08 billion m3, the largest in China. Sinopec's two LNG terminals in Qingdao and Tianjin, with seven and nine storage tanks respectively, have a total of 1.68 billion m3 of storage capacity, further guaranteeing the supply of resources in the winter season. Sinopec has continued to expand the natural gas storage capacity following a strategic plan covering the full scope of production, supply, storage, and sales, the group now has about 5 billion m3 of LNG storage capacity. Sinopec has built 12 natural gas storage depots including the Zhongyuan cluster, Jintan, Wen 96, and Jiangnan Yanxue, while it is also expanding the LNG receiving terminals in Tianjin and Qingdao. source : www.lngindustry.com

ADNOC PLANS TO BOOST DAS ISLAND LNG CAPACITY BY 0.9 MTPA

Adnoc Gas, the gas and LNG unit of UAE's energy giant Adnoc, plans to add about 0.9 mtpa of production capacity at its Das Island liquefaction plant by debottlenecking the terminal's three liquefaction trains. The liquefaction and export terminal on Das Island in the Persian Gulf currently has a capacity of 6 million tons per annum (mtpa). Adnoc owns a 70 percent stake in the operator of the facility, Adnoc LNG, while Mitsui holds 15 percent, BP owns 10 percent, and TotalEnergies holds 5 percent.

The facility started exporting LNG back in 1977.

State-owned Adnoc launched Adnoc Gas on January 1 as it looks to further expand its international presence. Adnoc Gas recently signed a deal to supply LNG to Jera Global Markets, a joint venture between majority shareholder Jera and EDF, and it also signed a deal with a unit of state-owned PetroChina. The total value of LNG supply agreements signed by Adnoc Gas since its listing in March this year is between \$9.4 billion and \$12 billion, the firm previously said. Adnoc Gas revealed in its third-quarter report that it plans to boost production capacity at the Das Island plant by 0.9 mtpa. The firm slightly increased the planned capacity boost as it said in the first-quarter report that it expects to add 0.8 mtpa of capacity. According to Adnoc Gas, the "LNG 2.0" project includes electrification of LNG trains to reduce greenhouse gas (GHG) emissions, debottlenecking LNG trains, and ethane extraction and export. Besides 0.9 mtpa of LNG, it will add 1.2 mtpa of ethane and 1.1 mtpa of C3+, it said. Adnoc Gas expects to complete the project in 2028. This is the case with its second LNG terminal in Al Ruwais as well. Adnoc recently said it is "advancing towards" a final investment decision to build the LNG terminal. Earlier this year, Adnoc announced it will build its second LNG terminal in Al Ruwais. The firm previously planned to construct the facility in Fujairah. Adnoc Gas recently also awarded US energy services firm Baker Hughes a contract for the planned LNG export terminal. Located in Al Ruwais Industrial City, the project features two 4.8 mtpa LNG trains operating on renewable and nuclear energy, which will make it the MENA region's first LNG project to be powered by "clean energy", according to Adnoc. source :

www.lngprime.com

HOEGH LNG FSRU STARTS CHARTER WITH AUSTRALIA AIE

Hoegh LNG's 2019-built FSRU Hoegh Galleon has started its long-term charter contract with Squadron Energy's Australian Industrial Energy (AIE). Last year, Hoegh LNG and AIE confirmed the long-term FSRU charter deal for the latter's Port Kembla import terminal in New South Wales. The FSRU contract has a term of 15 years with early termination options for AIE after year 5 and 10. However, the Port Kembla terminal has not been completed yet and Squadron Energy expects to launch the facility in winter 2025/2026, according to its website. The vessel will probably work as an LNG carrier in the meantime and AIE may subcharter the unit. Hoegh said in its third-quarter results report on Thursday that the 170,000-cbm Hoegh Galleon ended its short-term time charter contract in the LNG carrier market at the end of September. "From the beginning of the

fourth quarter, the vessel commenced its long-term contract with AIE,” Hoegh said. The FSRU player did not provide any additional information.

FSRU fleet

Hoegh’s fleet comprises ten FSRUs and three LNG carriers. The entire fleet is either operating under or committed to long-term contracts with “strong” counterparties, except the purchased LNG carrier Hoegh Gandria which is currently employed on a one-year LNG carrier contract ending in March 2024, Hoegh said. The average remaining contract length per vessel was 7 years at the end of September 2023, it said. According to Hoegh, the fleet overall has delivered a “stable” operating performance in the third quarter, although Hoegh Galleon was idle for 10 days at the end of September, before starting its long-term contract with AIE.

German contract

In the third quarter, the 170,000-cbm FSRU Hoegh Gannet continued its commissioning work in Germany. The commissioning was successfully completed in November, when the FSRU started commercial regas operations, it said. Hoegh said the FSRU earned regular charter hire from its charterer during the commissioning period. German energy firm RWE, which developed the Elbehafen LNG project with Hoegh LNG, Brunsbüttel Ports, and other partners on behalf of the German government, said in May that the FSRU-based terminal started operations. State-owned LNG terminal operator Deutsche Energy Terminal recently allocated 60 regasification slots at two of its FSRU-based terminals in Germany, including this facility.

France and Brazil

Besides this FSRU, Hoegh noted that the 2010-built 145,130-cbm FSRU, Cape Ann, which is employed on a long-term charter with French energy giant TotalEnergies, was repositioned to Le Havre in France in September. At the end of October, Cape Ann finalized its commissioning and started to deliver natural gas to the grid as France’s first FSRU, Hoegh said. The FSRU also recently received its first LNG carrier in Le Havre. In addition to these units, Hoegh Giant started its long-term contract with TSRP/Compass in Brazil from beginning of the third quarter. Hoegh said in February it planned to send its 170,000-cbm FSRU Hoegh Giant in the second quarter of this year to Brazil to start the previously signed contract with a unit of Brazilian energy company Cosan. Back in December 2021, Hoegh concluded the 10-year FSRU charter with Terminal de Regaseificacao de GNL de Sao Paulo (TRSP), a unit of Cosan’s Compass Gas & Energia, to serve the latter’s project in the Port of Santos with a regasification capacity of 14 million cbm/day.

New FSRU projects

Hoegh said that the demand for FSRUs is expected to “remain strong.” While Hoegh has secured long-term contracts for its entire fleet of FSRUs, the business development team is in “active dialogue with several potential new projects looking for FSRU capacity,” the firm said. The acquisition of the LNG carrier Hoegh Gandria earlier this year provides flexibility to pursue FSRU conversion opportunities, Hoegh noted.

The group reported a total income of \$131 million and an Ebitda of \$89.4 million for the third quarter of 2023, compared to \$126.8 million and \$78.7 million for the preceding quarter. The increase in Ebitda of \$10.7 million during the third quarter was primarily due to the full employment of Hoegh Giant and Hoegh Gandria which resulted in higher time charter revenues, it said. source : www.lngprime.com

GASLOG INKS \$2.8 BILLION FINANCING DEAL, SECURES NEW CHARTER CONTRACTS

Greek LNG shipping firm GasLog has signed a new five-year sustainability-linked credit facility in the amount of \$2.8 billion. The firm also secured new charter deals for its LNG carriers. The Peter Livanos-led company, which earlier this year completed its merger with GasLog Partners, revealed these deals in its third-quarter report issued on Thursday. According to GasLog, the senior secured revolving credit facility includes decarbonization and social key performance targets as a component of the facility pricing.

This financing involves 14 international banks.

The facility refinances all outstanding debt of \$2.1 billion secured by 23 LNG carriers across both GasLog and GasLog Partners, it said. Moreover, the 23 LNG carriers (12 GasLog vessels and 11 GasLog Partners vessels) included in the facility are comprised of ten dual-fuel two-stroke engine propulsion (X-DF) LNG carriers, ten TFDE LNG carriers, and three steam LNG carriers. The facility has a five-year tenor, includes two one-year extension options and simplifies GasLog's debt structure, providing incremental available liquidity to the company while reducing interest cost and debt service requirements, the firm said. GasLog said the transaction was completed on November 13, with the company drawing down an amount of \$2.1 billion and \$672 million remaining available for general corporate purposes.

New charter deals

Beside this financing deal, GasLog secured new charter deals for its LNG carriers. During the third quarter, GasLog Partners signed a multi-year time charter agreement for the steam LNG carrier, Methane Rita Andrea, with an "Asian LNG buyer". The charter for the 2006-built 145,000-cbm LNG carrier will expire in March 2026, according to GasLog. Post-quarter end, GasLog extended by five years the time charter agreement of the TFDE LNG carrier, GasLog Singapore, with New Fortress Energy Transport Partners. This charter now will last until June 2030. Earlier this year GasLog and NFE extended the charter deal for the 2010-built 155,000-cbm, GasLog Singapore, for about two years. In addition to this LNG carrier, GasLog Partners signed a multi-year time charter agreement for the TFDE LNG carrier GasLog Santiago, with a "major energy exploration company", it said. The 2013-built 155,000-cbm vessel is now chartered to Trafigura Maritime Logistic and the charter expires in December this year. Source : www.lngprime.com

JAPAN'S LNG IMPORTS UP 6% IN OCTOBER

Japanese LNG imports in October were up 6.4% year/year, at 5.41mn tonnes, according to provisional data released by Japan's finance ministry on November 16. The cost of Japanese LNG imports last month decreased by 37.6% year/year, to 495.5bn yen (\$3.3bn). In 2022, Japan surpassed China to reclaim its position as the world's largest LNG importer. Its LNG imports for the year stood at 71.99mn tonnes, down 3.1% year/year. source : www.naturalgasworld.com

SINOKOR STEAMSHIP 'PUSHED' FOR SALE LIKE 'HOTTEST THING ON PLANET'

South Korean owner is set to take delivery of first new-build in 2024. A 20-year-old steam turbine-driven LNG carrier owned by South Korean shipowner Sinokor Merchant Marine is being offered for sale in a secondhand market that has become more subdued for this sector in the second half of 2023. Brokers said the 138,000-cbm Singapore Energy (ex-British Innovator, built 2003) is being widely quoted as available for sale. One described the vessel as being "pushed like it was the hottest thing on the planet". Another put a price on the vessel as around or upwards from the \$35m mark, depending on business opportunities for the ship. Sinokor, which traditionally has not commented on its commercial business, bought the then-British Innovator in early 2018 as the ship and a sister vessel neared the end of their long-term charters to energy major BP. At the time, the company was said to have paid in the low to mid-\$40m for the LNG carrier in a deal under which it also separately bought the 138,000-cbm British Merchant (built 2002) at a similar price. However, the British Merchant sale did not go through until a year later. The ships — which were among the first LNG carrier export newbuildings for Samsung Heavy Industries and underwent a series of repairs associated with their Mark III membrane cargo-containment systems — marked a move to younger secondhand tonnage for Sinokor. The Singapore Energy was traded by Sinokor but has also been quoted as an "on-off sales candidate" for the shipowner over the past few years. Brokers commented that the level of activity around secondhand LNG carrier sales has dropped in the latter months of 2023.

Surge in transactions

A busy 2022 saw 22 LNG carriers recorded as sold and at least nine vessels changed hands in the first half of 2023. Sinokor has been a recent buyer, paying about \$68m for TotalEnergies and NYK Line's 154,472-cbm LNG Alliance (ex-Gaselys, built 2007) mid-year with a charterback to the French energy major for about 15 months. One broker explained that some project work where some of these older ships might be deployed as storage units or floating storage and regasification units has slowed. But he added that there is also a "wariness" in the market and that the slowdown in action is largely sentiment-driven. In 2024, Sinokor is set to move into a new LNG carrier era with the anticipated delivery of the first of four 174,000-cbm two-stroke newbuildings — the Pacific Success — from Samsung Heavy Industries at the end of the first quarter. These ships were originally contracted in February 2019 at a reported price of \$193m each. The first vessel was originally due for delivery in 2021.

Sinokor initially paid the deposit on the first ship but in the past 18 months, brokers said this initial newbuilding was also circulated for sale in 2022 at a strong price of \$270m. Those who follow Sinokor now report that the shipowner is keen to take delivery of the vessel and is working to find employment for it. Sinokor is also understood to have paid the first deposits on the other three LNG newbuildings that are listed as scheduled for handover dates in 2024, although brokers have suggested the second will not emerge until at least 2025. The shipowner is now believed to control at least seven existing LNG carriers in Sinokor’s fleet, three of which are listed on databases as laid up. source : www.tradewindsnews.com

EVALEND LINKED TO TWO-SHIP ORDER AT HD HYUNDAI

Greek owner appears to be doubling up on LNG vessels after recent break into sector, Greek shipowner Evalend Shipping is being named as the company behind a two-ship newbuilding order at HD Hyundai Heavy Industries that would double its emerging LNG fleet. HD Korea Shipbuilding & Offshore Engineering Co (HD KSOE), the holding company for HD Hyundai Group’s shipyard interests, announced on Tuesday that it had won an order for two ships priced at KRW 698.1bn (\$525.4m). The order prices the vessels, which are believed to be options the shipowner was holding, at around \$262.7m each. The pair will be built at HD Hyundai Heavy Industries and is due for delivery by February 2028. HD KSOE did not name the contracting party, but described it as “an African shipper”. TradeWinds has contacted Evalend for confirmation. Kriton Lendoudis-led Evalend made a surprise break into the LNG sector in late July, ordering two ships at HHI priced at just under \$260m each and scheduled for handover in 2027. Evalend, which has been a particularly active player across the newbuilding market in the past two years, also has crude oil and LPG carrier tonnage on order at the South Korean shipbuilding giant. HD KSOE has won \$20.9bn worth of orders to date in 2023. The group has won contracts to build 146 vessels, including one floating production unit, and has achieved 133% of its \$15.7bn target for the year. source : www.tradewindsnews.com

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CYGNUS ENERGY
GAS & OIL
 LEVEL 45, CHEUNG KONG CENTER,
 2 QUEEN’S ROAD CENTRAL, HONG KONG
 SANDP@CYGNUS-ENERGY.COM (SALE & PURCHASE)
 GAS@CYGNUS-ENERGY.COM
 (GAS PROJECTS)