LNG NEWS WEEKLY 28TH APRIL '24

TSAKOS DRAWS STRONG OFFER FOR STEAMSHIP FROM DUBAI SUITOR

Talk of buying interest in this ship and sale of another is raising eyebrows in LNG sale-and-purchase circles. US-listed Tsakos Energy Navigation is in the process of offloading its oldest LNG carrier as secondhand sale interest heats up for the sector amid talk that another Sinokor Merchant Marine steam turbine-driven LNG vessel has also been sold. Brokers said TEN's 150,000-cbm LNG carrier Neo Energy (built 2007) is under negotiation at a price close to $80m, which several commented is high, even given the ship's slightly larger size over other steamships. They said it is unclear if the sale of the vessel — currently listed as on charter to China National Offshore Oil Corp but also as "idle" — has been concluded as yet but indicated that talks had been narrowed down to a single prospective buyer. The interested party has been described as a "Dubai-based entity". TradeWinds has contacted TEN for comment on the sale of the vessel but has not received a response. The Neo Energy was TEN's first and at the time lone entry into the LNG sector. The vessel was ordered when other Greek shipowners were starting to grow sizeable fleets in the sector. But after building this initial vessel, TEN appeared to retreat from the business until 2013 when it contracted a second LNG newbuilding, this time a dual-fuel diesel-electric vessel, the 174,000-cbm Maria Energy (built 2016). TEN later grew with another single LNG carrier, adding the 174,000-cbm, two-stroke Tenergy (built 2022) two years ago. The vessel is listed as on charter to Trafigura. For all its LNG orders, the company is understood to have let associated optional slots lapse at the yard. TEN chief executive Nikolas Tsakos has repeatedly spoken about growing its LNG interests but has also admitted to being approached by companies interested in consolidation. Separately, brokers said South Korean shipowner Sinokor Merchant Marine has sold its 138,287-cbm steam turbine LNG carrier Singapore Energy (built 2003) which it circulated for sale late last year. Brokers said the ship is reported sold at a healthy $43m. Some had previously estimated its value at more than $35m. The ship is mentioned as sold to Middle East interests ultimately to end up in Russia. The mention of secondhand LNG carriers being sold to, or negotiated with, Russian interests via Middle Eastern buyers is creating concern in the sector where some are seeing echoes of the tanker sales which helped build up the so-called "shadow fleet" for shipping Russia-related oil and products. Sinokor, which traditionally has not commented on its commercial business, bought the Singapore Energy as the British Innovator in early 2018 when the ship and a sister vessel were nearing 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 which suffered from early Mark III membrane cargo containment system problems as one of the first export LNG carriers built by Samsung Heavy Industries. source : www.tradewindsnews.com

SAMSUNG HEAVY INDUSTRIES FILES FRESH CLAIM AGAINST KOGAS FOR LNG CARRIER DUO

Battle over containment system rages on but what does future hold for idle pair of six-year-old ships? South Korean shipbuilder Samsung Heavy Industries is taking compatriot gas importer Korea Gas Corp (Kogas) back to court over two LNG carriers for South Korea's SK Shipping which were fitted with a Kogas-designed membrane-type cargo containment system that proved faulty. According to South Korean media, SHI has filed a lawsuit against Kogas, whose spin-off arm KC LNG Tech designed the containment system for the two LNG carriers — the 174,100-cbm SK Serenity and SK Spica (both built 2018). This follows the shipbuilder paying out KRW 378.1bn ($290m) to SK Shipping in December following the result of an earlier arbitration hearing. At the time TradeWinds was told the figure was based on a valuation of around $180m per vessel when the two LNG carriers were delivered and their secondhand values which were set at about $45m each. SHI said in December that it planned to recover the compensation from Kogas and this latest lawsuit is the yard demanding reimbursement for this amount on the basis that it was the state gas importer who designed the KC-1 system. The yard's spokesperson was not immediately available for comment. In October, the Seoul Central District Court ordered Kogas to pay SHI KRW 72.6bn in compensation for the repair work carried out on the two ships — a ruling it is currently trying to overturn in the South Korean courts. The court also instructed Kogas to pay shipowner SK Shipping KRW 115.4bn in compensation for its loss on the ships being unable to trade. SHI revealed to the Korea Times that it had initially sought to acquire the LNG carriers jointly with Kogas rather than resort to legal action, but an agreement could not be reached due to the high costs involved on all sides. SK Shipping, SHI and Kogas have been locked in legal wranglings over the LNG carriers for several years now with each party blaming the other for the issues regarding the vessels. The SK Serenity and SK Spica 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 commercial shipment. Both ships have idled at SHI's Geoje yard in between repair work and test sailings. Interest is now focused on whether the ships can be adapted for trading, reconfigured for other uses, or will need to be scrapped. Aside from these two full-size LNG carriers, South 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

MOL, GAZ-SYSTEM SEAL GDANSK FSRU CHARTER DEAL

Japan's shipping giant MOL has signed a long-term FSRU charter deal with Poland's Gaz-System for the planned LNG import terminal in Gdansk. MOL also confirmed that HD Hyundai Heavy will build the FSRU. MOL and Gaz-System announced the signing of the charter agreements in separate statements issued on Thursday. According to Gaz-System, the deal with MOL's unit White Eagle Energy is for 15 years with the possibility of further extension. Based on the charter agreement, Gaz-System also has the right to purchase the FSRU, it said. In February, Gaz-System selected MOL as the preferred shipowner to time charter out the FSRU. This is Poland's first FSRU and will add to the onshore Swinoujscie LNG terminal. Poland's Orlen previously booked entire 6.1 bcm per year of regasification capacity at Gaz-System's planned FSRU-based LNG import facility. Orlen is already in charge for all of the supplies coming to Gaz System's LNG import terminal in Swinoujscie, Poland's first such facility, via PGNiG. The FSRU is assumed to be berthed at a mooring platform about 3km from the shore, in the area of the Port of Gdansk between the mouths of the Vistula River branches: Smiala and Martwa. Besides the FSRU, the project includes a jetty, offshore and onshore pipelines, and other infrastructure. Gaz-System previously said commissioning of the complete project, backed by the EU, is planned in 2027/2028.

Hyundai Heavy to build FSRU

MOL said in a separate statement that HD Hyundai Heavy will build the FSRU and deliver it in 2027. The firm said that the unit will have a capacity of 170,000 cbm. It will be 294 meters long and 46 meters wide. Last month, MOL declined to comment when contacted by LNG Prime whether it was the owner behind an order for one FSRU at Hyundai Heavy. Hyundai Heavy's parent KSOE said on March 6 that the shipbuilder won an order from an owner in Europe. The contract has a price tag of 483.9 billion won or about $364 million, and Hyundai Heavy will deliver the FSRU by July 2027. This price is probably the highest price to date for a single FSRU of this or similar size. Prior to this order, US LNG firm Excelerate Energy booked a newbuild FSRU at Hyundai Heavy in October 2022 and this deal is worth about $332 million. Source : www.lngprime.com

AVENIR ORDERS TWO LARGE LNG BUNKERING VESSELS IN CHINA

UK-based small-scale LNG player Avenir has ordered two 20,000-cbm LNG bunkering and supply vessels at China's CIMC SOE. The joint venture of Stolt-Nielsen, Hoegh LNG, and Golar LNG said in a statement on Thursday that the vessels will be delivered in the fourth quarter of 2026 and the first quarter of 2027. Avenir did not provide the price tag of the order. The newbuildings will feature new type C tank designs, lower boil-off rates, the latest engine technologies, hull form optimization, and subcoolers which offer carbon emission reductions and minimizes cargo losses compared to other vessels of this size, it said. Also, the vessel design "enables maximum compatibility and versatility for loading and discharging LNG and bio-LNG to a wide range of receiving vessels and terminals reflecting the growing needs of our customers," Avenir said.

Second phase of growth

This new investment program marks the second phase of growth for the company, increasing the fleet by 40 percent and 80 percent in terms of total capacity. "We are pleased to be returning to SOE for our newbuilding program and continuing our relationship with the shipyard where we successfully built our last four vessels," **Jonathan Quinn**, managing director of Avenir said. "With the demand for LNG and bio-LNG as a bunker fuel set to grow over the next decade, these vessels will play a vital role in ensuring security of supply and decarbonizing global shipping markets," he said. In May 2022, Avenir took delivery of the 20,000-cbm Avenir Achievement, chartered by Shell, from CIMC SOE, concluding its initial asset development program. VesselsValue data shows that the price tag for Avenir Achievement, which was ordered back in 2018, was at about $56 million. The data suggests that its newbuild value is at $66.5 million. Avenir Achievement also has a sister vessel but Avenir sold it to a joint venture consisting of China's terminal operator Shanghai International Port (SIPG) and Shenergy. The small-scale player also has four 7,500-cbm LNG bunkering vessels in its fleet, and it owns the Higas terminal located on the Italian island of Sardinia. source: www.lngprime.com

ENI EXPECTS 'SOME' LNG CARGOES FROM EGYPT NEXT WINTER

Italian energy firm Eni expects to export "some" liquefied natural gas cargoes from the Damietta terminal in Egypt next winter as the country turns to imports of LNG to secure gas supplies. According to a recent report by Wood Mackenzie, the Egyptian Natural Gas Holding Company (EGAS) has chartered Hoegh LNG's floating storage regasification and storage unit, Hoegh Galleon, to deploy it in the Ain Sokhna port and address potential gas shortages in its domestic market. The charter is for a period of 18 months, starting in June this year, the report claims. Also, local media in Egypt suggest that the country has stopped all LNG exports from May to meet its domestic demand. Besides the Damietta terminal, Egypt has the Shell-led Idku LNG facility. Asked about the overall outlook for LNG exports out of Egypt this year during Eni's first quarter results call on Wednesday, Cristian Signoretto, director global gas and LNG portfolio, said, "clearly, the first quarter of this year, we have seen a steep reduction of export capacity from Egypt due to the supply and demand imbalance and the Middle East situation."

He said this summer the country expects to bring LNG from "outside". "We think that the next winter season could be another window of opportunity to export some LNG cargoes, clearly not many, vis-a-vis the past, but given the strong seasonal demand and supply balance of Egypt, we still think that there is a window of opportunity for the next winter to be exporting some cargoes," Signoretto said. **Guido Brusco**, Eni's chief operating officer natural resources, said in the fourth quarter earnings call that Eni shipped three cargoes from Egypt in December last year. "And we are foreseeing between 8 to 10 cargos in the forthcoming months before the end of the winter season," he said in February.

LNG demand

Eni said its LNG sales in the first quarter of this year were flat compared to 2023. The company sold 2.7 bcf (2 million tonnes of LNG) in the first quarter of this year. Quarterly sales rose compared to 2.4 bcm in the previous quarter. During the first quarter, Eni shipped the first LNG cargo from its Tango floating LNG facility moored in Congolese waters and this shipment recently arrived at Snam's FSRU-based facility in Piombino. Signoretto also discussed LNG demand in Europe and around the globe during the call. He said that Eni previously announced during its capital market update that the company sees "still a very finely balanced market for Europe, and actually for the world, in the next at least 12 to 18 months." "And this actually is the case because, I mean, we are seeing in Asia and especially in China, a pickup in the demand. In the first three months, we have seen 17 percent of LNG growth in that area in China," he said. "And it is true that demand in Europe has not been very robust because of the weather. But if you look at the fundamentals, we are seeing some pickup in the industrial demand," he said. "We have seen also countries like Egypt, as we said before, flipping from being exporter to being importer, and that actually gives another, let's say, story into the balance of the LNG market," he said. He also mentioned that two out free trains at the Freeport LNG terminal in the US are offline for maintenance. "So, let's say, a few million tons of LNG really can change the balance of the market. "We, again, we think that the summer will be still volatile because of this situation. Clearly, also the geopolitical situation can add on to that. We know also that there is uncertainty about the end of the Russian transit in Ukraine by the end of this year. So, we feel that the next 12 months could be still interesting and volatile from a market perspective," he said.

Interest in long-term LNG contracts

Eni is also in talks with buyers to sign long-term LNG contracts for its LNG projects. Asked about negotiations for long-term LNG contracts, including for Congo and the second Mozambique FLNG project, Brusco said during the call said that "there is appetite, particularly in the Far East where there is interest to sign long-term contracts." "Clearly, this is based on the view of those players on the growth of the economies and also the pace of the phaseout of coal in the energy mix of that part of the world," he said. Source : www.lngprime.com

OMAN LNG DELIVERED 173 CARGOES LAST YEAR, REVENUE REACHED $4.9 BILLION

State-owned Oman LNG delivered 173 cargoes of liquefied natural gas from its Qalhat complex in 2023, down by three cargoes compared to the year before, while its revenue decreased by 15.5 percent year-on-year to $4.9 billion. Oman LNG delivered 176 cargoes in 2022, 163 in 2021, 155 in 2020, and 166 in 2019. According to Oman LNG's 2023 annual report, out of the 173 LNG cargoes delivered last year 94 percent were contracted cargoes and 6 percent were spot supplies. Oman produced 11.5 mtpa of LNG, exceeding the enhanced nameplate capacity. This compares to 11.5 mtpa in 2022, 10.6 mtpa in 2021, 10.2 mtpa in 2020, and 10.7 mtpa in 2019. Oman LNG operates three liquefaction trains at its site in Qalhat near Sur and the trains maintained an "exceptionally high level", standing at 95 percent, alongside a plant utilization rate of 92 percent last year, it said. Besides LNG cargoes, Oman LNG said that 31 NGL cargoes were lifted in 2023.

Net profit at $1.5 billion

Oman LNG did not reveal the reasons behind the drop in its 2023 revenue to $4.9 billion from $5.8 billion last year. The company's revenue reached $3.3 billion in 2022, $2.5 billion in 2021, and $3.3 billion in 2019. Net profit also declined from $1.9 billion in 2022 to $1.5 billion last year. Previously, Oman LNG reported net profit of $0.9 billion in 2021, $0.7 billion in 2020, and $1.1 billion in 2019. "The extraordinary year unfolded against the backdrop of a global energy crisis in Europe – a rolling effect from 2022 – accompanied by steadily increasing demand from key markets in Asia," Oman LNG's CEO, **Hamed Al Naamany**, said in the report. "We achieved a second consecutive record-breaking financial performance, highlighting the strength and reliability of our long-term agreements," he said. "Oman LNG remained active in the spot market and contracts optimization leveraging increased agility and deals that yielded over $1 billion in upside," the CEO said.

Shareholders and supply deals

Al Naamany noted that Oman LNG last year signed shareholding deals with international companies, including Shell and TotalEnergies. Besides Oman LNG and Qalhat LNG shareholding agreements, Oman LNG, in which the government of Oman holds 51 percent, also signed a gas supply agreement with state-owned Integrated Gas Company (IGC) to extend the gas supplies beyond 2024. Oman LNG in collaboration with its shareholders, approved the extension of the company's operations beyond 2024 that linked these key agreements for a period of 10 years from 2025 to 2034 for Oman LNG and 2026 to 2029 for Qalhat LNG. As a result of these deals, Oman LNG secured sales term commitments up to 10.4 mtpa through the execution of term sheet agreements with several buyers and shareholders, expanding the company's footprint into new regions across Asian and European markets, the CEO said. Oman LNG recently signed a 10-year SPA with its shareholder TotalEnergies for 0.8 mtpa of LNG from 2025, and a 10-year SPA with Botas for 1 mtpa of LNG. Oman LNG also signed a 10-year SPA for 1.6 mtpa of LNG with its shareholder Shell and it also signed a 10-year SPA for 0.8 mtpa of LNG with Japan's Jera, The LNG producer and German gas importer Securing Energy for Europe (SEFE) recently also finalized their previously announced LNG deal for 0.4 mtpa of LNG between 2026 and 2029. Source : www.lngprime.com

BAKER HUGHES WON $200 MILLION IN LNG EQUIPMENT ORDERS IN Q1

US energy services firm Baker Hughes booked about $200 million of LNG equipment orders in the first quarter of this year, and the company expects global LNG FIDs to reach about 100 mtpa over the next three years. Baker Hughes booked record $5.6 billion of LNG equipment orders in 2023 and $3.5 billion in 2022. During the first quarter of this year, Baker Hughes secured an order from compatriot engineer Black & Veatch to supply the planned Cedar LNG project in Canada with electric driven liquefaction technologies. “LNG equipment orders totaled almost $200 million during the quarter. Excluding LNG equipment, our IET business booked more than $2.7 billion of orders, the second highest of any quarter since the 2017 merger,” CEO Lorenzo Simonelli said during the company’s first quarter earnings conference call on Wednesday. He said this was attributed to non-LNG gas tech equipment orders more than tripling from prior-year levels. LNG growth Simonelli said that “strong underlying natural gas demand will spur robust growth in LNG over the coming decades.” Through the end of this decade, Baker Hughes expects demand to increase by “mid-single digits annually.” “We believe this will support an installed nameplate capacity of 800 mtpa by 2030. Looking out to 2040, we expect LNG demand growth to continue, requiring further capacity additions beyond 800 mtpa,” he said. “While there could be periods of price volatility driven by temporary dislocations in supply and demand over this time period, we see these as opportunities for accelerated demand creation LNG consumers, who tend to be very price sensitive, typically respond to lower prices with stronger demand,” Simonelli said. “We have seen evidence of this recently. Global LNG demand is up 4 percent year to date, against the backdrop of an approximate 50 percent decline in LNG prices over the same period,” he said.

FIDs

Baker Hughes said in its quarterly report that near-term project FID sequencing was disrupted by the US moratorium on non-FTA LNG export approvals. The company expects most impacted US projects to proceed in 2025 and 2026. Simonelli said that Baker Hughes expects global LNG FIDs of about 100 mtpa over the next three years. “This view, supported by customer dialogue and our internal LNG demand expectations, would result in our installed capacity increasing by 70 percent,” he said. Simonelli said that this growing installed base brings “significant opportunities” for Baker Hughes across the lifecycle of the equipment. “Like our industrial peers, our gas tech business typically generates more profitability on the less cyclical aftermarket services. For LNG equipment specifically, this accounted for less than 10 percent of our total company Ebitda last year,” he said. Source : www.lngprime.com

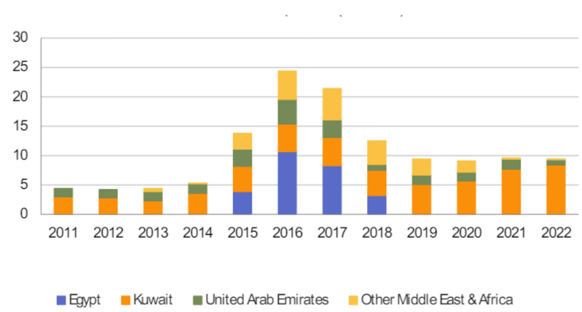
MIDDLE EASTERN LNG DEMAND IN FLUX

LNG imports into the gas-rich Middle East and Egypt’s connected gas system in North Africa have grown fast and faded almost as quickly as individual countries have discovered and developed more of their own resources. At a peak of 24.5bn m3 in

2016, the region looked like a major potential new market, but offshore Mediterranean gas put paid to continued growth (see figure 1). By 2022, LNG imports had dropped back to just 9.4bn m3, almost all accounted for by Kuwait.

However, the regional gas balance is changing once again. Kuwait certainly has the below ground potential to replace all of its LNG imports with domestic production and has announced plans to do so. Questions remain over deliverability, timing and politics, but the country already last year appears to have capped to some degree the upward trend in its LNG volumes. Meanwhile, moving in the opposite direction, Egypt looks likely to return to the LNG import market and is already bringing regasified LNG in via Jordan's Aqaba import terminal under an agreement which runs until 2025.

FIGURE 1 | MENA LNG imports (bn m3) | Source: Energy Institute



Israel becomes a regional gas exporter

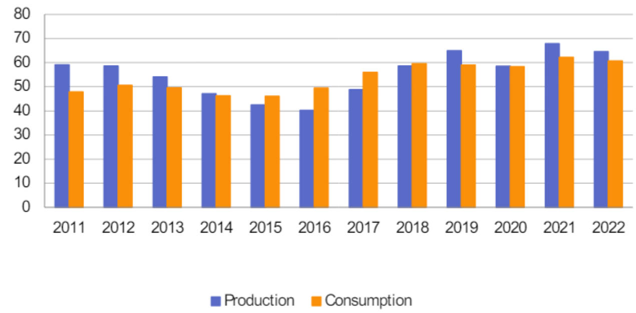
Israel's change from LNG importer to gas pipeline exporter appears to be a more enduring feature of the Middle Eastern gas scene. Its exports are facilitated by pipelines to Jordan and Egypt in a region where regional pipelines are few and far between.

Hamas's attack on the country did disrupt gas trade with the closure of the Tamar gas field platform and the cessation of Arish-Ashkelon pipeline flows from October 10 to November 14, but they have since resumed. Moreover, Israel was able to maintain flows from the larger Leviathan field through Jordan and into Egypt via the northerly Israel-Jordan pipeline and Arab Gas Pipeline. In fact, Israeli gas exports to Egypt and Jordan were up by about a quarter in 2023 year on year with about 2.7bn m3 going to Jordan and 8.6bn m3 to Egypt. Development of the Tamar field (2013) and Leviathan (2019) have been backed by the Karish field, which came onstream in 2022, and a decision in February to expand Tamar production from just over 10 bn m3/yr to 16.5bn m3 by 2025. Twelve offshore licenses were also awarded at the end of October to two separate consortiums. Israeli gas flows to Egypt have been vital in maintaining the latter's LNG exports and bolstering the country's gas balance as output from the giant Zohr field has declined. It has also limited Jordan's LNG requirements.

Egyptian gas output and demand

Egyptian gas production has seen something of a roller coaster ride over the last decade, slumping to 46bn m3 in 2015 before staging a rapid recovery as the government paid off its debts to gas producers and incentivised production by improving domestic market returns (see figure 2). By 2021, production had hit 62.2bn m3, owing to the fast-track development of a number of major fields, including the offshore Zohr field.

FIGURE 2 | Egyptian gas production and consumption (bn m3) | Source: Energy Institute



The rapid upturn, supported by imports of Israeli gas, allowed a resumption of and then increase in LNG exports. However, gas production fell from its 2021 peak to 64.5bn m3 in 2022 and 59.3bn m3 in 2023, leading to a sudden drop in LNG exports to 4.5mn m3 last year, half the level of 2022. These have been sustained by a tripartite agreement between Israel, Egypt and the EU to allow Israeli gas imports to be used for LNG production destined for Europe, and by Cairo rationing domestic gas use to maintain exports in order to support the state's foreign currency earnings. Nonetheless, according to data from the Joint Organisations Data Initiative (JODI), LNG exports fell to zero from May to September last year, the period of highest domestic gas demand, before resuming at reduced levels in the remainder of the year, compared with the start of 2023.

A drop in production from the Zohr field, attributed to high rates of water infiltration, appears to lie at the heart of the decline, although commentators have also highlighted rapid depletion rates of 10-15% on other fields and a relatively small pipeline of new projects. Rating's agency Fitch, for example, predicted in July last year that Egyptian gas production would decline steadily to 51bn m3/yr in 2032. This outlook was balanced, however, by a strong exploration schedule and sustained interest in the Egyptian upstream by oil majors such as Chevron, BP and Eni, which developed Zohr. On the consumption side, the Egyptian economy appears able to consume as much gas as is provided. Demand rose to a peak of 62.2bn m3 in 2021 and the subsequent drop reflects gas rationing and supply constraints rather than a lack of demand.

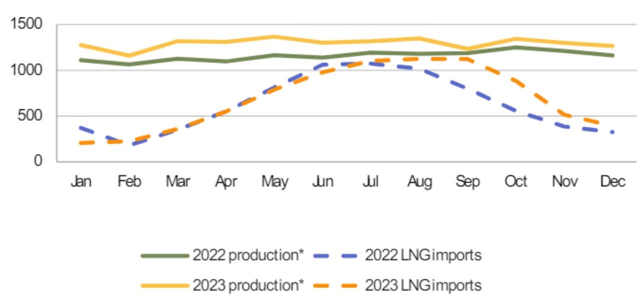
Although expansion of Tamar should allow an increase in Israeli gas exports, Cairo is moving to secure more LNG as well. The disruption to gas flows caused by Hamas's attack on Israel may have been relatively minor but it and the subsequent regional tensions highlight the vulnerabilities of trans-national gas flows in the volatile Middle East. In addition to securing cargoes for receipt in Jordan's Aqaba terminal, Cairo is reported to be preparing to install an FSRU once again at Ain Sukhna. However, finding an available FSRU may prove a challenge, owing to the surge in FSRU installations in Europe since Russia's invasion of Ukraine in February 2022, which has left few available for service elsewhere.

Kuwaiti LNG demand stable as domestic production rises

As Egypt hovers on the brink of a return to direct LNG imports, Kuwait, the bedrock of Middle Eastern LNG demand, appears to be having more success in raising its own domestic production, putting a cap on the growth of its LNG imports (see figure 3). According to Energy Institute data, Kuwaiti gas production declined from a peak of 16.9bn m3 in 2018 to 12.1bn m3 in 2021, in part because of its dependence on associated gas production, which falls in periods when OPEC limits oil output.

Gas production recovered in 2022 to 13.4bn m3. Over the same period LNG imports trended steadily higher from 4.3bn m3 in 2018 to 8.4bn m3 in 2022.

FIGURE 3 Kuwaiti gas production and LNG imports , 2022-2023 (mn m3) Source: JODI



JODI data, which does not correlate directly with the Energy Institute's, puts observed gross inland deliveries of gas in Kuwait at 13.9bn m3 in 2022, rising to 15.5bn m3 in 2023. At the same time, LNG imports increased only marginally from 7.5bn m3 to 8.2bn m3.

Increased domestic supply is in line with the Kuwait Petroleum Company's (KPC) development of non-associated gas production, largely from its three Jurassic Production Facilities. Two more facilities are under active development. However, the country has major plans to boost domestic gas production beyond its current needs, while at the same time increasing its renewable energy capacities to limit gas demand growth from the power sector. In October, the government announced a new strategy to boost oil production to 4mn b/d by 2035 from 2.9mn b/d currently. In addition, KPC's 2040 strategy targets 20.7bn m3 of non-associated gas production by 2040. With enhanced associated gas production from the increase in oil output, this, in combination with an increase in renewable energy, should cover Kuwait's gas needs. On the demand side, however, electricity consumption continues to grow fast, while the need for desalination plants provides another energy hungry demand source. Subsidised sales of water and power mean Kuwait has one of the highest per capita electricity consumption rates worldwide, alongside a fast-growing population.

Target achievement in question

The big questions are whether Kuwait can achieve its targets in both the oil and gas sector and the renewable energy sphere. To date the record is not good. At the end of 2023, Kuwait had only 114 MW of renewable energy capacity, registering no increase from 2022. Its 4-GW phase of the Shagaya solar project, announced a decade ago, has still not started construction and has been downsized to 2 GW. A tender was launched in January for 1.1 GW. Part of the problem is that the only bodies mandated to construct power plants are the Ministry of Electricity, Water and Renewable Energy and the Kuwait Authority for Partnership Projects. Both are subject to political control and Kuwait's political system remains gridlocked. Another dissolution of parliament in February suggests little imminent improvement on the political front. Oil and gas production targets have also been repeatedly missed, reduced and pushed back. In addition, Kuwait is pinning a large part of its ambitions on the Dorra gas field which lies in a maritime area contested by Iran. Kuwait and Saudi Arabia claim that they jointly own the field. In March, Iran said that if Kuwait starts to extract oil and gas from the Arash-Dorra field, it will follow suit. The field was discovered in 1960, but has seen no production because of its disputed ownership. Saudi Arabia and Kuwait are targeting the start of gas production from Dorra by 2029, but to push ahead with development would add another bone of contention to the region's already tense politics.source : www.naturalgasworld.com

OMAN LNG REPORTS DECLINE IN 2023 NET INCOME

State-owned Oman LNG's net income after tax (NIAT) in 2023 was $1.5bn, down 21% year/year, according to the company's 2023 annual report published on April 23. Oman LNG's total revenue amounted to $4.9bn, down from $5.8bn in the preceding year. The company delivered 173 LNG cargoes in 2023, marginally lower than the 176 cargoes dispatched in 2022.A significant portion of Oman LNG's cargo deliveries in 2023—approximately 94%—was executed under long-term contractual agreements. The remaining cargoes were allocated to the spot market. Oman LNG is primarily owned by the government of Oman with a 51% stake, alongside ownership shares held by Shell (30%), Total (5.4%), Kogas (5%), and various Japanese and Omani firms holding stakes under 3%. It has been actively securing LNG supply agreements in recent weeks, having signed deals with TotalEnergies, Botas, Japan's Jera and global energy giant Shell. Oman LNG last year signed agreements to extend supplies to shareholders including Shell and TotalEnergies for up to 10 years beyond 2024. Source : www.naturalgasworld.com

SEASPAN LAUNCHES LNG BUNKERING VESSEL FOR US WEST COAST

Seaspan Energy has launched the second of its trio of LNG bunkering vessels.Seaspan Lions follows the launch of Seaspan Garibaldi in January, with a third vessel set to arrive next year. Seaspan Garibaldi will be based in the Panama region. As reported in October, Seaspan and energy firm AES inked a memorandum of understanding aimed at providing LNG bunkering services to ships crossing the Panama Canal. All three vessels in this series are 113 m in length, designed to sail at 13 knots and have a 7,600 m^3 capacity. The bunker vessels will provide LNG fuelling services for vessels on the North American West Coast, making Seaspan the first company to offer LNG bunkering in the Pacific Northwest. Seaspan president Ian McIver said, "Solving the LNG infrastructure gap on the West Coast will play a vital role in creating new markets for lower-emission fuels and a more sustainable maritime industry." These vessels were built by CIMC Sinopacific Offshore & Engineering, one of the most experienced small-scale gas carrier shipyards in the world. VARD Marine helped design the vessel, incorporating emerging technologies resulting in a decrease in emissions and underwater noise. The design is focused on safe, efficient, and economical refuelling of multiple ship types with an ability to transfer to and from a wide range of terminals. The vessel will be able to engage in ship-to-ship LNG transfer and coastal and shortsea shipping operations. source : www.rivieramm.com

SURGE IN LNG PRODUCTION EXPECTED

Global LNG supply is projected to rise across 2024, primarily propelled by growth in the Atlantic Basin, but subdued demand from Europe will prompt Asian markets to absorb the surplus. A new whitepaper finds that global LNG supply is likely to increase by 5.1M tonnes in 2024. Growth of LNG supply in the Atlantic Basin will be the driving force, but low demand from Europe will see Asian absorb the increase. In Europe, the weak European macroeconomic environment is likely to limit demand, despite lower gas prices. In addition, the high level of storage is keeping a lid on demand. According to the Argus Energy whitepaper: Summer 2024 European Gas Market Preview: "Combined stocks in the EU and UK were roughly 680 TWh on 1 April, around 40 TWh higher than a year earlier and representing 58% of nameplate capacity." "Europe has replaced Russian gas dependence with a reliance on LNG secured on the spot market". Storage in France and Germany is also being impacted by LNG imports from FSRUs; EU storage reached the target of 90% in August 2023 and is expected to rebuild back to that level by November 2024. The 4.3M tonnes per year Alexandroupolis FSRU is expected to come online in April 2024. This will provide Greece and the region with an alternative source of gas and replace some of the demand for Russian gas. In some respects, noted the whitepaper, Europe has replaced Russian gas dependence with a reliance on LNG secured on the spot market.

FSRU additions in France and Germany

Location	Country	Start	FSRU	Capacity (m3)
Le Havre	France	Oct-23	Cape Ann	145,000
Wilhelmshaven	Germany	Dec-23	Excelsior	138,000
Stade	Germany	Dec-23	Transgas Force	174,000
Deutsche Ostsee pphase 2	Germany	Mar-24	Transgas Power	174,000
Alexandroupolis	Greece	Apr-24	Alexandrouplis	135,000
Vasilikos	Cyprus	1H 2024	Etyfa Prometheas	136,000

Elsewhere, the complex hybrid pricing (which includes a crude oil price element) of natural gas via pipeline from Algeria may actually encourage LNG imports to Spain over pipeline. The whitepaper noted that the Spain - Algeria relationship is still difficult: "Spain can only import Algerian gas through the 10.5bn m^3 per year Medgaz pipeline, after flows through the Maghreb-Europe link halted in October 2021, following a breakoff in diplomatic relations between Algeria and Morocco."

But Algerian LNG exports have room to grow. The whitepaper notes: "Algerian LNG loadings already jumped by 41% year-on-year to 4.99M tonnes in summer 2023. But the 21M tonnes per year Arzew and 4.5M per year Skikda terminals still operated at only 55% of capacity, leaving scope for a further ramp-up." The impact of the loss of the OLT Terminal FSRU Toscana for the whole summer while extraordinary maintenance is undertaken on the turret bearing is likely to be balanced, noted the whitepaper, by increased delivers into the Piombino facility, and be a pre-emptive increase in stocks. The outlook for Asian

LNG demand is mixed, with growth being driven by China, India and South-East Asia, while the more traditional markets of Japan and South Korea are not expected to grow significantly. In Japan, there is the unknown quantity of how many coal-fired stations will come back online after the most recent earthquake, while in South Korea, summer demand revolves around the price of LNG versus coal. India is maintaining a subsidy scheme that saw LNG consumption double in the power sector in the summer of 2023. Source : www.rivieramm.com

TRAFIGURA TO DEPLOY EMISSIONS-MEASURING TECH ON LNG CARRIER

Commodity trader Trafigura will deploy greenhouse gas emissions measuring technology on a chartered LNG carrier. The commodity trading giant has opted to install Daphne Technology's PureMetrics on a chartered LNG carrier managed by Latsco LNG later this year. PureMetrics, which was awarded approval in principle from Lloyd's Register at the Nor-Shipping trade fair in June 2023, measures and reports real-time tonnes of greenhouse gas (GHG) emissions to the environment using an array of sensors, multi-source data integration, methodologies and algorithms. The technology will help ensure compliance with the EU Monitoring, Reporting and Verification and International Maritime Organization Data Collection System regulations. The planned approach for implementing PureMetrics on Trafigura's fleet involves ensuring seamless integration with existing systems and processes, addressing technical challenges, and adhering to evolving environmental regulations and GHG emissions standards. Daphne Technology said the Trafigura contract aligns with its long-term vision for addressing global methane slip challenges. Last year, Shell agreed to trial Daphne's SlipPure methane emissions measuring system, part of PureMetrics, on the Angelicoussis Group's LNG carrier Maran Gas Chios. Daphne Founder and chief executive Mario Michan said, "We are thrilled to have signed our first commercial contract with Trafigura, marking a significant milestone for our young company. While Trafigura is one of our strategic investors, this contract stands on its own merits as a testament to the effectiveness of our PureMetrics solution. It is a clear indication of our commitment to delivering value to our partners and clients, and we are proud to collaborate with Trafigura and Latsco on this important initiative." Trafigura head of the energy transition group and venture capital investments, Margaux Moore called it a "crucial step towards establishing a baseline measurement for GHG emissions in our maritime operations. This baseline will provide a foundational understanding of actual emissions levels, enabling effective monitoring and targeted reduction efforts." Source : www.rivieramm.com

STENA BULK SELLS STENA BLUE SKY LNG CARRIER

Stena Bulk has sold yet another LNG carrier with the sale of Stena Blue Sky to an undisclosed Asian buyer .This is the Swedish shipowner's third LNG carrier sale in under a month following BW LNG's recent acquisition of two 2011-built vessels, Stena Crystal Sky and Stena Clear Sky. Originally built by South Korea's Daewoo Shipbuilding & Marine Engineering (now

Hanwha Ocean) in 2006, Stena Blue Sky has a carrying capacity 145,000 m^3 of LNG and was delivered to the buyer on 18 April in Singapore. Stena did not disclose the sale price. Last month, company president and chief executive Erik Hånell said these moves were part of the company's vision to explore new avenues of growth within the fleet. "We look forward to new opportunities for the Stena Bulk fleet and for our company. As we navigate this transition, we remain steadfast in our commitment to optimising our fleet, while simultaneously driving innovation and expansion," he said. In addition to the LNG vessels, Stena Bulk also owns Stena Power & LNG Solutions, a company that offers innovative and cost-effective jettyless services for LNG, ammonia, CO2 and gas to power. The team is currently developing regasification and import terminals for LNG, import and export terminals for ammonia and gas-to-power solutions that involve onshore distribution of LNG.Stena Bulk said as part of an ongoing sales process, Stena Power & LNG Solutions is in discussions with interested parties regarding a potential straight sale of the business unit, or co-investment in the future. Source : www.rivieramm.com

EQUINOR TO RESTART HAMMERFEST LNG PLANT ON FRIDAY

Norway's Equinor expects to restart its 4.3 mtpa Hammerfest LNG export plant on Friday following a gas leak. Equinor said on Tuesday that the leak was detected just before 10.00am local time while personnel were moved from the area and nobody was injured. A spokeswoman for Equinor told LNG Prime on Wednesday that the "leakage has been repaired". "Planned start-up is now on Friday," she said. The spokeswoman said it was "a leak in a valve", adding that she can not provide further details at this point. Gassco data showed on Tuesday that Hammerfest LNG will be offline until 1200 local time on March 26 at least due to "a gas turbine failure". This was later changed to "process problems" and "gas leakage in system 26". In May last year, Equinor closed the facility after a gas leak occurred in connection with a valve in one of the plant's cooling circuits. The firm restarted production in June the same year. The LNG plant liquefies natural gas coming from the Snohvit field in the Barents Sea. Gas reaches Hammerfest LNG via a 160-kilometer gas pipeline which became operational in the autumn of 2007. Equinor is the operator of both the Snohvit field and Hammerfest LNG with a 36.8 percent stake. Other license owners of Snohvit are Petoro (30 percent), TotalEnergies EP Norge (18.4 percent), Neptune Energy Norge (12 percent), and Wintershall Dea Norge (2.81 percent). The partners are currently working on upgrading the facility. The Snohvit Future project will extend the productive life of Hammerfest LNG past 2030, and includes onshore compression and electrification of Hammerfest LNG.
Source : www.lngprime.com

JAPAN'S JERA GETS 4000TH LNG CARGO AT FUTTSU TERMINAL

Japan's power firm and LNG trader, Jera, has received the 4000th cargo of liquefied natural gas at its Futtsu LNG terminal and the adjacent power station since 1985. According to Jera, the 2018-built 164,700-cbm LNG carrier, Enshu Maru, delivered the milestone cargo to the facility in Chiba prefecture on Tokyo Bay. Enshu Maru's AIS data provided by VesselsValue shows that the LNG carrier delivered the cargo from the Inpex-operated Ichthys LNG plant in Australia. "For over 38 years since the arrival of the first vessel in 1985, the station has carried out the cargo handling operations with zero accident and zero occupational injury," the joint venture of Tokyo Electric and Chubu Electric said. The Futtsu thermal power station is the largest thermal power station in Japan, with 21 generators in four systems, capable of generating 5,160 MW in total. Also, the LNG terminal is one of the largest in Japan and it receives about 10 million tons of LNG annually, Jera said. It has two jetties and 12 underground LNG storage tanks, and a total capacity of 22.9 mtpa. Besides supplying the Futtsu power plant, the LNG terminal also delivers gas to other power plants via the east-west connecting gas pipeline buried under the sea of Tokyo Bay. Back in 2022, Jera and partners also completed a new pipeline connecting the Futtsu LNG import terminal and the Anegasaki thermal power station in Chiba. Source : www.lngprime.com

SPAIN'S ENAGAS REPORTS HIGHER PROFIT IN Q1

Spanish LNG terminal operator Enagas reported a rise in its profit in the first quarter of this year, while gas demand in Spain decreased by 4 percent compared to the same period last year. Enagas said its net profit reached 65.3 million euros ($69.9 million) in the first quarter, up 19.5 percent on the previous year and "well on track" to meet its annual target. The company previously reported an 8.8 percent decrease in its 2023 net profit, Net profit reached 342.5 million euros last year. "In line with the good net profit performance, the company's Ebitda reached 178.3 million euros in the first three months of this year, up 2.7 percent year-on-year, the first Ebitda growth since the 2021-2026 regulatory framework came into force," the company said. Enagas said the "good performance" of the first quarter results is linked to the high level of implementation of the 2022-2030 strategic plan in its three main lines of action: the investment plan to contribute to the decarbonization and energy security of Spain and Europe, the control of operating and financial costs, and the renewable hydrogen calendar.

Spanish gas demand down

In a quarter marked by international conflicts in the Middle East and Ukraine, the Spanish gas system has operated with 100 percent availability, the company said. Spanish regasification terminals have received natural gas from 9 different countries during the quarter and have more than 90 percent of LNG storage contracts, it said. Underground storage facilities ended the winter at 78 percent full and interest is high, with 100 percent of available service capacity contracted, Enagas said. The positive trend in industrial demand in Spain continued in the first quarter, with an increase of 8.4 percent to 47.6 TWh, driven by the refining, chemical, pharmaceutical and cogeneration sectors. Conventional demand, which includes industrial demand, grew by 2 percent in the first quarter of 2024. Total demand fell by 4 percent in the first quarter of 2024 compared with the same period last year, driven by a 24 percent fall in gas demand for electricity generation and a 10.3 percent fall in commercial domestic demand due to high temperatures in the winter months, Enagas said. Source : www.lngprime.com

GLENFARNE'S TEXAS LNG INKS NEW DEAL WITH EQT

US natural gas producer EQT has entered into a second heads of agreement for liquefaction services from Texas LNG's planned facility in Brownsville to produce an additional 1.5 mtpa of LNG under a 20-year tolling agreement. In January, the two firms entered into a heads of agreement for liquefaction services for 0.5 mtpa of LNG under a 15-year tolling agreement. This transaction expands Texas LNG's total HOA volume with EQT to 2 mtpa. Texas LNG said in a statement that final terms remain subject to the negotiation of a definitive 20-year LNG tolling agreement. Brendan Duval, Glenfarne CEO and founder said Texas LNG has sold more than half of its permitted capacity. "With this announcement with EQT and additional offtake sales to be announced soon, we will reach financial close and the start of construction in the fourth quarter this year," he said. Texas LNG recently also signed a long-term supply deal with a unit of Geneva-based trader Gunvor. Under the heads of agreement, Gunvor Singapore will buy 0.5 mtpa of LNG on a FOB basis for 20 years from Texas LNG. Including both of these deals, only 1.5 mtpa of additional offtake is pending public announcement to reach Texas LNG's fully permitted capacity, it said. Texas LNG plans to start commercial operations in 2028. Source : www.lngprime.com

SFL BUYS TWO LNG-POWERED CHEMICAL TANKERS FOR $114 MILLION

SFL Corporation has purchased two LNG dual-fuel chemical carriers for about $114 million. The firm also arranged long-term employment for the vessels with affiliates of Stolt Tankers, a unit of Stolt-Nielsen. John Fredriksen-controlled SFL said in a statement on Tuesday that the 33,000-dwt vessels are built in 2022/2023 and fitted with stainless steel cargo tanks. The company did not reveal the names of the vessels. SFL expects to take delivery of the vessels between June and August this year and both vessels will be employed for a minimum of eight years. Also, one vessel will be on a fixed rate time-charter and one vessel will be employed in a pool with similar-sized vessels. The fixed rate vessel has extension options of up to three years, in addition to purchase options after year five and eight, subject to a profit share mechanism with SFL, the company said.

Six LNG-powered ships

Ole B. Hjertaker, CEO of SFL Management said the announcement marks "another accretive investment for the company and will add two sophisticated chemical carriers to our fleet." "With these vessels, we will have six LNG dual-fuel vessels in our fleet, and the transaction demonstrates our ability to expand our portfolio of maritime assets with vessels suitable for long term charters to industry leading companies," he said. He added that the market dynamics for stainless-steel chemical tankers "are also very favorable now, with steady underlying growth in demand, ageing fleet and a limited orderbook." China's Guangzhou Shipyard International (GSI) recently delivered SFL's fourth and final LNG dual-fuel pure car and truck carrier, Thor Highway. In September 2023, GSI delivered the first LNG-powered PCTC in this batch, Emden, followed by the delivery of Wolfsburg in

November. Both of these PCTCs serve a long-term charter with German giant Volkswagen Group. Moreover, it delivered Odin Highway in January this year. This vessel and Thor Highway will work for K Line under charter deals. Source : www.lngprime.com

CROATIAN FSRU WELCOMES 90TH LNG CARGO

Croatia's Krk liquefied natural gas (LNG) terminal has received its 90th cargo since the launch of operations in January 2021. The 2021-built 174,000-cbm, MOL Hestia, arrived at the 140,000-cbm FSRU on April 22, according to a short statement by state-owned LNG terminal operator LNG Croatia. MOL Hestia's AIS data provided by VesselsValue shows that the LNG carrier previously picked up the cargo at Cheniere's giant Sabine Pass plant in Louisiana. The Croatian FSRU mainly receives shipments from the US, but it also received cargoes from Qatar, Nigeria, Egypt, Trinidad, Indonesia, and reloads from European terminals. Hungary's MFGK and a unit of Switzerland-based trading firm MET are some of the users of the facility. From the start of commercial operations, the LNG terminal has shipped more than 7.42 billion cubic meters of natural gas into the Croatian system, according to LNG Croatia. The LNG terminal regasified more than 12.2 million cubic meters of LNG and completed 336 truck loading operations. Due to high demand, LNG Croatia is currently working to boost the capacity of its FSRU-based Krk LNG terminal. Last year, a unit of Finland's Wartsila won a contract to supply one regasification module for the FSRU. Under the contract, Wartsila Gas Solutions is building the regas module with a maximum capacity of 250,000 m3/h. The firm awarded the module contract to China's CIMC SOE. The current three LNG regasification units have a maximum regasification rate of 451,840 m3/h. Following the upgrade, the Krk LNG facility will have a capacity of about 6.1 bcm per year in 2025. Source : www.lngprime.com

CYGNUS ENERGY
GAS & OIL
LEVEL 43/44, CHAMPION TOWER,
3 GARDEN ROAD, CENTRAL, HONG KONG
SANDP@CYGNUS-ENERGY.COM (SALE N PURCHASE)
GAS@CYGNUS-ENERYG.COM (GAS PROJECTS)