

LNG *journal*

The World's Leading LNG publication

March 2024



Leader in all **bunkering solutions**

» Ship to truck » Truck to ship » Ship to ship





We understand how you need
to reduce complexities at your plant.

CLEAN PROCESS + CLEAR PROGRESS

You strengthen your plant's safety, productivity
and availability with innovations and resources.

Endress+Hauser helps you to improve your processes:

- With the largest portfolio of safety instruments that comply with international regulations
- With applied technologies and people who have extensive industry application know-how
- With access to accurate and traceable information

Do you want to learn more?
www.endress.com/oil-gas

Endress+Hauser 
People for Process Automation

In this issue:

- 1 **From emergency response to sustainable integration: The evolutionary path of FSRUs**
FSRUs have acquired a critical role in bolstering global energy security and facilitating the transition to renewable energy
- 6 **Coal-to-gas switching in Asia spurs LNG demand in 'structurally tight' market**
Industrial coal-to-gas switching in China is forecast to propel up global LNG demand by more than 50 percent by 2040
- 8 **Preliminary data indicates ongoing monthly trade reduction in February**
Our preliminary February data showed significant LNG trade decrease globally
- 14 **Unlocking uniformity to support a dynamic LNG market**
LNG engineering systems can learn from the evolution of vastly different entities, which have all been through a process of standardisation
- 15 **Geopolitics and supply dislocation spur flexible floating asset demand**
Tight energy markets have benefited from demand and supply changes that has a knock-on effect for mobile assets
- 16 **NYK pursues flexibility with LNG tug retrofit**
LNG has long been hailed as a transition fuel, with relatively little focus on the exact steps that follow it as a fuel
- 18 **A round-up of latest events, company and industry news**
For the Record
- 30 **Tables of import and export LNG terminals and plants worldwide**
- 35 **World Carrier Fleet: Details of LNG vessels**

From emergency response to sustainable integration: The evolutionary path of FSRUs

FSRUs have acquired a critical role in bolstering global energy security and facilitating the transition to renewable energy. That success notwithstanding, developers are already looking for new applications to overcome criticisms of overbuilding and new regulations, our Markets Editor Alexander Wilk reports.

Floating Storage and Regasification Unit (FSRU) applications commonly range from serving as temporary solutions during peak demand periods to acting as long-term infrastructure projects. In several economies, FSRUs have been successfully implemented as the first step towards developing a natural gas market, providing immediate access to global LNG markets without the need for extensive, fixed infrastructure. On the other hand, in more developed markets, FSRUs complement existing energy infrastructure, providing additional flexibility and security of supply.

Technological advancements and innovation within the sector are further tailoring the FSRU market to meet specific regional needs. For instance, advancements in FSRU design are enhancing storage capacity and regasification rates, making them even more competitive compared to traditional land-based terminals. Additionally, the integration of FSRUs with renewable energy projects, such as offshore wind, is beginning to take shape, particularly in

regions with strong commitments to renewable energy. This promises further industry growth and diversification within the industry.

Supply flexibility

LNG imports via FSRUs have grown rapidly, increasing by 16.94mmt (58 percent) to 46.17mmt in 2023 from 29.22mmt in 2022. Much of that growth stemmed from demand increases in Europe, where LNG imports using FSRU capacity more than doubled by 12.67mmt (115 percent) to 23.66mmt from 10.99mmt.

Europe's LNG demand surged as it pivoted away from Russian pipeline gas, with imports reaching 128.1mmt by the end of December 2023, thus marginally exceeding by 0.95mmt the 127.15mmt we recorded for 2022. The United States supplied 47 percent of these imports, representing 60.66mmt, according to our data.

As we have reported previously, the swift adoption of additional FSRU capacity played an important role in addressing the 2022 energy crisis. As a testament at least

in part to the successful deployment of additional FSRU capacity, the global LNG market currently faces pressure from weaker demand as Europe's post-2022 offtake vortex diminished. European gas storage levels could potentially remain above 50 percent even in case of a sudden cold snap, according to a trader speaking to S&P Global. At the time of writing, storage capacity in the EU was almost 65 percent full. Germany's gas storage was 71 percent full, according to data by Gas Infrastructure Europe.

Europe, led by Germany, is set to continue to expand its LNG import facilities into 2024. Germany is aiming to double its LNG import capacity in 2024 and again by 2028. It already has three operational FSRUs, with plans for three more.

Meanwhile, Greece is pushing ahead with its ambition to become a regional 'import gateway' for Balkan States and Eastern Europe. Greece's energy ministry highlighted that this plan hinges on adequate capacity expansions.

Concurrently, Italy is also enhancing

LNG Imports via FSRU (MMt)



LNG journal



The World's Leading LNG publication

Maritime Content Ltd
2 Prospect Road
St Albans AL1 2AX
United Kingdom
www.LNGjournal.com
+44 (0)20 7253 2700

Publisher
Stuart Fryer

Markets & Commissioning Editor
Anja Karl
anja@lngjournal.com

Markets Editor
Alexander Wilk
alexander@lngjournal.com

Technical Editor
Ian Cochran
iancochran74@gmail.com

Fuelling Editor
Malcolm Ramsay
malcolmramsay@gmail.com

Advertising
David Jeffries, Only Media Ltd
Tel: +44 (0)20 8150 5293
djeffries@lngjournal.com

Subscriptions Sales Manager
Stephan Venter
venter@lngjournal.com

Subscriptions Renewals Manager & Customer Care
Gabi Weck
gabi@lngjournal.com

Production
Vivian Chee
chee@thedigitalship.com

Subscription

Print & online **£900/€1020/US\$1320**

Online only **£830/€920/US\$1190**

See website for more details
www.lngjournal.com
hotline +44 (0)20 7253 2700

No part of this publication may be reproduced or stored in any form by any mechanical, electronic, photocopying, recording or other means without the prior written consent of the publisher. Whilst the information and articles in LNG journal are published in good faith and every effort is made to check accuracy, readers should verify facts and statements direct with official sources before acting on them as the publisher can accept no responsibility in this respect. Any opinions expressed in this magazine should not be construed as those of the publisher.

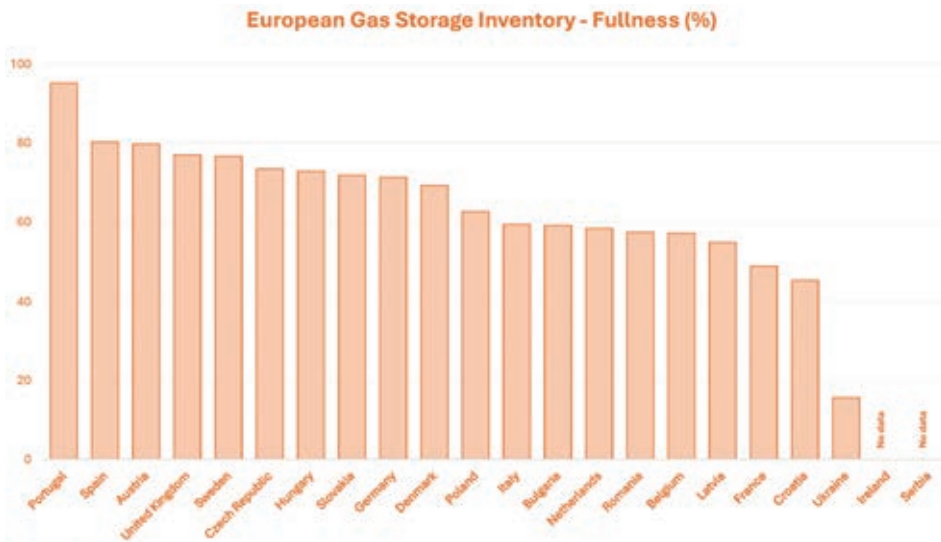
Printed by The Manson Group Ltd
Reynolds House, 8 Porters' Wood
Valley Road Industrial Estate
St Albans, Herts AL3 6PZ, U.K.

its LNG import capabilities, with a new FSRUs becoming operational in mid-2023 and another scheduled for 2025.

Scale flexibility

Significant growth also occurred in Southeast Asia, including the Indian subcontinent. However, the situation is more nuanced here. Among the established importers, Bangladesh and Indonesia grew their LNG offtakes via FSRUs by 0.98mmt (23 percent) and by 0.75mmt (18 percent) to 5.23mmt and to 2.58mmt, respectively. However, this growth came after a pronounced drop in FSRU utilisation in 2022. Meanwhile, Malaysia kept its LNG offtakes via FSRU only broadly steady year-on-year with imports at 0.51mmt at the end of 2023 compared to 0.59mmt imported in 2022. Another regional bright spot was the market entry by the Philippines, where two projects – PHLNG and FGEN Batangas – began operations in 2023 and accumulated collective imports of 0.57mmt in 2023.

An even more diverse picture emerges in the Middle East, where former hosts to significant FSRU capacity – Israel and Kuwait – are no longer utilising FSRUs. Egypt also discontinued its use of the Ain Sokhna FSRU terminal in 2023. In contrast, the remaining three regional FSRU hosts – Pakistan, the UAE and Jordan – continued to ramp up LNG imports. Pakistan saw the most significant import growth in 2023, with offtakes up by 0.37mmt (6 percent) to



Source: LNG Journal

7.07mmt from 6.70 in 2022. We also recorded steep import growth in the UAE, where the Dubai FSRU took in 0.30mmt (58 percent) more year-on-year at the end of 2023. Jordan, meanwhile, doubled LNG imports via its Aqaba terminal. However, this still meant volumes remained relatively small at 0.14mmt.

Fast growth

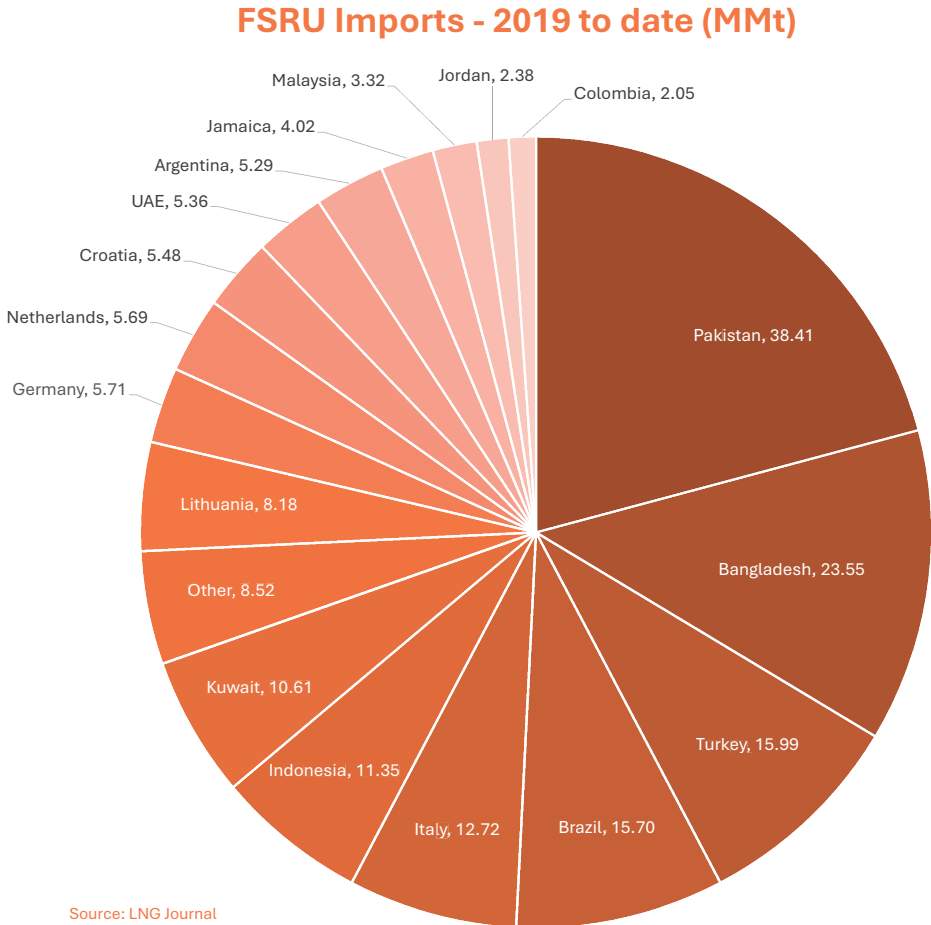
Similarly, the Acajutla FSRU terminal in El Salvador has seen a continued ramp up of imports since its commissioning in 2022 whilst its imports remained relatively small. The facility's imports were up by 0.08mmt (28 percent) year-on-year to 0.37mmt in 2023. This epitomised the use of FSRU capacity on the Pacific and Atlantic sides of Central America, with imports up by 0.85mmt (73 percent) year-on-year to 4.96mmt in 2023. More than half of that growth stemmed from

the OPT LNG hub on the US Virgin Islands, which took in 0.50mmt last year to distribute on a small-scale basis to other Caribbean islands. Finally, Jamaica grew its imports via the Port Esquivel facility by 0.27mmt (31 percent) to 1.14mmt.

Security & supply flexibility

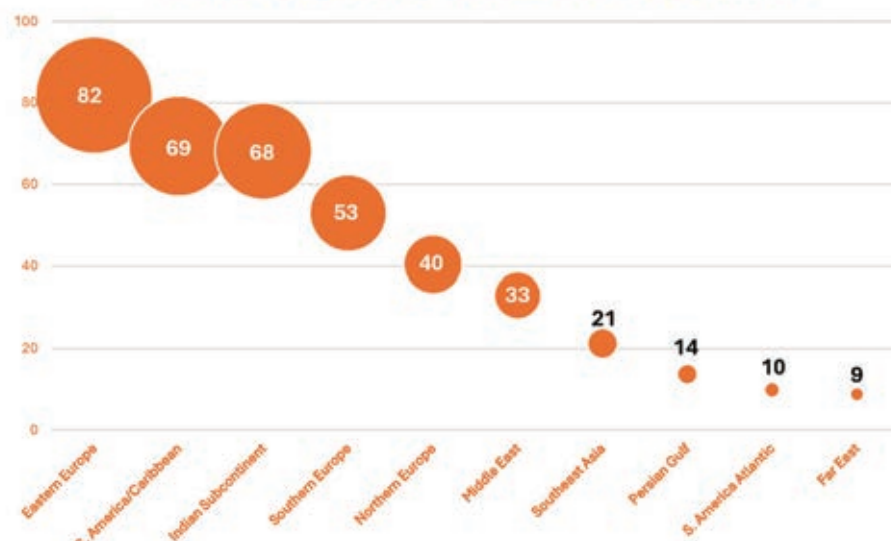
South America has evolved to comprehensively demonstrate the advantages of FSRU utilisation. The deployment of FSRUs has been a crucial component of energy security in South America, where they represent all LNG import terminals. The region frequently suffers from a heightened El Niño weather phenomenon, which can lead to widespread droughts typically peaking in December. Notably, a significant portion of the continent's energy production relies on the generation of hydroelectricity, but which collapses during extended dry spells. In the past, LNG has thus proven to be a crucial, flexible bridging fuel with relatively small capital outlays and environmental impacts.

The bulk of South America's deployed FSRU capacity is stationed in Brazil, where recently the floating and quick-to-build LNG import channels have been instrumental in cushioning the adverse effect a protracted drought had on hydroelectricity production in 2021. The country's LNG imports – all through FSRUs – shot up by 221 percent from 2.43mmt in 2020 to 7.80mmt in 2021, according to our data, but subsequently fell back to 1.95mmt in 2022 and plummeted by 1.11mmt (-57 percent) to just 0.84mmt in 2023. This left total capacity utilisation for the units installed at the time at only 4 percent. State-controlled Petrobras, Brazil's main LNG importer, attributed the decrease to a 'favourable hydrological scenario' in 2022.



Source: LNG Journal

FSRU Capacity Utilisation (%), 2023



Source: LNG Journal

Brazil's import behaviour in 2020/21 shows that local LNG demand can skyrocket if triggered by adverse weather. Accordingly, Brazil's LNG capacity has continued to expand as private investors are relying on the technology to quickly bring feedgas channels for local power generation online.

Similarly, LNG consumption has been on an upward trend in Columbia, where offtakes have shot up by 0.71mmt (645 percent) from 0.11mmt in 2022 to 0.82mmt in 2023, according to our data. As in Brazil, hydropower forms the bedrock of Colombian energy production and LNG offtake fluctuations can serve as a proxy for the country's levels of rainfall. With climate change progressing, there is concern that the frequency of extreme El Niño events could increase swiftly and thereby threaten the availability of hydroelectricity in South America more often.

The quick deployment of FSRUs has also been important for Argentina, where domestic gas production has frequently been unable to keep up with rising demand whilst hydropower capacity expansion has slowed drastically since 2012, according to data by energy think tank Ember. Accordingly, Argentina hosts a permanent FSRU terminal at Escobar and has previously supplemented it with an additional unit on term-charter at Bahia Blanca. Unlike Brazil, Argentina's LNG imports are trending upwards, our data show, with offtakes amounting to 1.34mmt in 2023. This is an increase of 0.35mmt (35 percent) from the 0.99mmt of 2022 and underscores the importance of FSRUs to its energy economy as its peak demand season typically coincides with dry weather.

Limited risk of overbuilding

Similar to other infrastructure developments, the growth in FSRU

capacity raises the spectre of overbuilding. As we reported previously, critics of these projects, along with some operators in Europe, have expressed concerns over the absence of adequate demand to justify further expansion of long-term capacity. For instance, Poland's Gaz-System announced last month that during its Open Season procedure it became apparent there was insufficient immediate demand to warrant a proposed second FSRU in the Bay of Gdansk (but talks with entities from the Czech Republic, Hungary and Slovakia are ongoing). In a similar vein, Lithuania's terminal operator Klaipėdos Nafta disclosed last November its decision to delay its capacity expansion project.

However, that concern has not yet manifested itself. Indeed, driven by recent capacity expansions, the FSRU market has turned from oversupplied to tight in the space of a year. Notably, Norwegian vessel owner and FSRU specialist Hoegh LNG had secured longterm business for all its regasification vessels at the end of last year, according to reporting by TradeWinds. The global FSRU market taking in conventional LNG cargoes comprises 40 operational terminals with its main activities clustered in Europe, South America and Southeast Asia. Capacity utilisation was led by facilities installed in Eastern Europe, Central America and in Bangladesh. European annual utilisation of installed FSRU capacity averaged roughly 58 percent, with projects in Eastern Europe reaching even 82 percent last year, according to our data and calculations. Utilisation was only low for projects distinctly serving during high demand seasons.

Even then, past and projected FSRU capacity utilisation, often used as a foundation for warnings on overbuilding, plays only a secondary role in most use

cases. Arguably, the more important decision drivers have been security and flexibility of energy supply with comparatively little capital outlay and environmental impact. Moreover, there usually remains the option to release an FSRU to trade as an LNG carrier, either on behalf of the original project sponsor or via sub-charters.

Evolving applications

Whilst among the cleanest fossil fuels available, it cannot be denied that the dynamic between LNG imports via FSRUs to cope with the adverse effects of extreme El Niño occurrences made more frequent by climate change imparts a certain irony.

Many countries are revising their energy policies to prioritise the transition to cleaner energy sources, which can increase the demand for natural gas as a bridge fuel. However, the long-term commitment to decarbonisation and the shift towards renewable energy sources could pose challenges to the demand for FSRUs as their environmental impact, despite being a cleaner alternative to coal and oil, has come under scrutiny. To adapt, companies in the FSRU sector are exploring how their units can be used in conjunction with renewable energy projects, such as supplying backup power to complement intermittent renewable energy sources, or how they can be repurposed for hydrogen or ammonia handling as these fuels gain traction in the energy transition.

FSRUs are already able to be integrated with renewable energy projects, such as wind and solar power by balancing intermittent renewable energy sources with the relatively reliable supply of natural gas. Such innovations not only unlock new markets for FSRUs but also align with global trends towards decarbonisation and energy transition.

Beyond that baseline, innovations aimed at reducing emissions and improving the environmental footprint of FSRUs are going to be critical in ensuring their acceptance and sustainability. This includes developments in reducing methane slip, enhancing LNG efficiency, and potentially incorporating carbon capture and storage (CCS) technologies into FSRU operations.

How exactly these solutions will come about remains to be seen, however. Notably, Hoegh has entered into a strategic partnership with Aker BP for carbon capture solutions (CCS) for CO2 emitting operations. "We expect CCS to

play a key role in the transition to a low-carbon energy future. This partnership reflects our ambition to advancing CCS solutions by combining Aker BP's strengths in subsurface understanding and large-scale project development with Höegh LNG's technical expertise in the LNG sector" said Karl Johnny Hersvik, CEO of Aker BP.

Moreover, Hoegh has been studying the potential of producing blue hydrogen from LNG via the HyProZero process with CO2 capture as well as the possible benefits of integrating the LNG gasification process with production of blue hydrogen. Demand for climate-neutral hydrogen is expected to rise significantly as industries such as steel and chemicals phase out fossil fuels, according to German daily Handelsblatt. Hoegh is keen to use its FSRUs chartered to German operators to being importing hydrogen starting in 2028.

Concluding thoughts

The FSRU sector stands at a crucial juncture, embodying both the challenges and opportunities presented by the global shift towards cleaner, more flexible energy systems. FSRUs have played a pivotal role in responding to immediate energy demands, facilitating access to LNG markets and supporting the integration of renewable energy sources across diverse geographical regions. The significant growth in LNG imports via FSRUs, particularly in Europe, Southeast Asia and the Middle East, underscores their strategic importance in ensuring energy security, enhancing supply flexibility, and bridging the transition to renewable energy.

However, the sector is not without its challenges. Concerns over potential overbuilding and the environmental impact of LNG, despite being one of the cleaner fossil fuels, highlight the complexities of balancing immediate energy needs with long-term sustainability goals. Some industry participants have shown a proactive approach, but a coherent concept has yet to emerge.

Nevertheless, strategic partnerships such as the one between Hoegh and Aker BP for carbon capture solutions, and the exploration of blue hydrogen production, are indicative of the sector's potential to contribute to a low-carbon energy future. These initiatives not only enhance the environmental credentials of FSRUs but also open up new avenues for their application beyond conventional LNG regasification. ■

Fast Solutions for & Transport



We can build your small-scale LNG terminal

Bulk Storage Tanks, Intermodal ISO Tank-Containers, Tanker Trailers



CORBAN ENERGY GROUP

For your LNG Storage Solution Needs.



al or peak-shaving plant within 18 months.

s, Ship/Barge Cargo Tanks for LNG or any Cryogenic/Liquefied Gases

www.CorbanEnergyGroup.com T. +1 201 509 8555

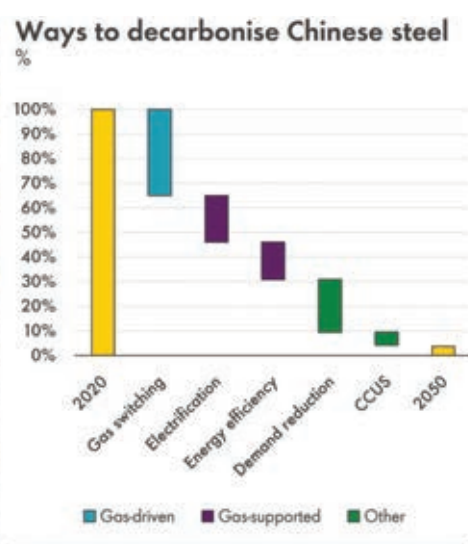
Coal-to-gas switching in Asia spurs LNG demand in a 'structurally tight' market

Industrial coal-to-gas switching in China, as well as rising gas imports for power generation in South and Southeast Asia, is forecast to propel up global LNG demand by more than 50 percent by 2040. But the market is "still structurally tight," Shell cautioned as fragility of supply and price volatility continues; our Markets Editor Anja Karl has more.

Decarbonisation in China and depleting gas fields in Indonesia and the Philippines, to name a few, are driving Asia's hunger for LNG: "China is likely to dominate LNG demand growth this decade as its industry seeks to cut carbon emissions by switching from coal to gas," said Steve Hill, Executive Vice President for Shell Energy. "With China's coal-based steel sector accounting for more emissions than the total emissions of the UK, Germany and Turkey combined, gas has an essential role to play in tackling one of the world's biggest sources of carbon emissions and local air pollution."

Iron and steel makers in the People's Republic could cut about 35 percent of their emissions by switching to natural gas for onsite power generation, save another 20 percent by electrifying operations and a further 10 percent by improving energy efficiency, the Shell LNG Outlook 2024 noted with reference to Global Efficiency Intelligence's and Berkeley Lab's Net-Zero Roadmap for China's Steel Industry.

Striving to secure cleaner-burning fuels, analysts anticipate the growth of China's LNG regas capacity to jump from around 15 million tons per annum (mtpa) to over 50 mtpa by the end of this year, while gas-fired power generation capacity could expand from 10 Gigawatt (GW) to around 17 GW over the same period. Infrastructure build-outs allowed China to overtake Japan and retake the top LNG importer spot, with landed volumes rising by 7.9 million tons last year, while imports to Thailand and India increased by 2.9 and 2.0 million tons, respectively.



China's gas demand has outpaced moderate economic growth: Rising gas use in the retail and consumer (R&C) and industrial sector was instrumental in pushing up overall demand by 8 percent between 2022 and 2023, while most economists peg GDP growth at less than half that level. Incremental demand is well covered by robust domestic supply, pipeline gas imports and term LNG, as well as very limited spot buying. Decarbonisation of China's iron ore and steel sector are set to accelerate gas demand growth – although the share of US term LNG is rising less than the share of Russian gas supply.

Across wide parts of Southeast Asia, dwindling domestic reserves and production is about to cause a surge in LNG demand to help economies fuel gas-fired power plants or industry. But Shell cautioned a pivot to LNG requires "significant investments in gas import infrastructure": Developers in the Philippines, Vietnam and Thailand are

already spending billions to build new import terminals and LNG shipments are picking up.

In most of Europe's mature LNG markets, in contrast, landed volumes are in decline as demand for natural gas has already peaked in many EU countries and is set to plateau or even peak globally after 2040. Until then, Shell expects latent demand for LNG – especially in Asia – to consume new supply that will come onto the market in the second half of the 2020s.

Fragile supply balance keeps prices volatile

Global trade in LNG reached 404 million tonnes in 2023, up from 397 million tonnes in previous year, but limited amounts of supply growth and the lack of Russian pipeline gas supply to Europe mean global gas markets remain squeezed. Gas prices and volatility are bound to stay elevated in a tight market, especially since US President Joe Biden's decision to pause approvals for LNG

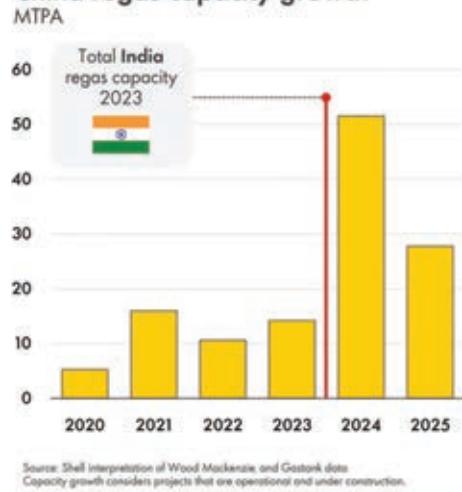
export projects is likely to push back some project beyond 2030.

Speaking to analysts, Shell Energy's VP said prices in 2023 were substantially lower than in the previous year and in late 2021, but on a historic basis spot LNG still comes dearly. "While things are relatively balanced and seem relatively comfortable today, the market is still quite fragile," Hill said, pointing to sharp price rises last year triggered by events like the Israel-Hamas war and subsequent shutdown of the Tamar field which restrained Egyptian LNG exports, prolonged Norwegian field maintenance and the threat of strikes among Australia LNG workers.

Today's structurally tight market, in his view, is merely balanced by "near-term market weakness" as fragility and volatility continue. A milder winter, high gas storage levels, modest economic recovery in China and lower demand in Europe helped balance the global gas market during 2023, with average JKM prices well below levels seen in the past 18 months. But further out markets might well be squeezed as Asia's industry and power sector shifts from coal to cleaner-burning gas.

Come 2040, LNG is anticipated to account for 5.1 percent of emerging Asia's gas supply source, compared with just 0.5 percent domestic supply and 4.4 percent pipeline gas imports. On the demand-side, gas-burn for power generation is forecast to double in Southeast Asia and nearly triple in China, where gas use by industry, transport and especially in the buildings sector is set to go through the roof. ■

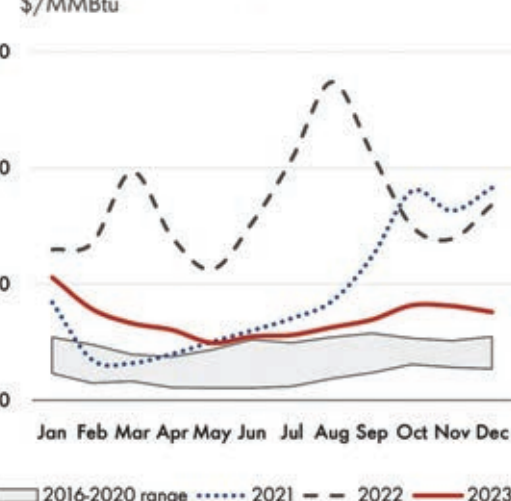
China regas capacity growth



Russian, US term supply to China



Average monthly JKM prices





LNG infrastructure for harsh weather conditions

Crown LNG's vision is to enhance energy security & support a responsible green energy transition.



The Crown LNG value chain



To find out more visit www.crownlng.com

Preliminary data indicates ongoing monthly trade reduction in February

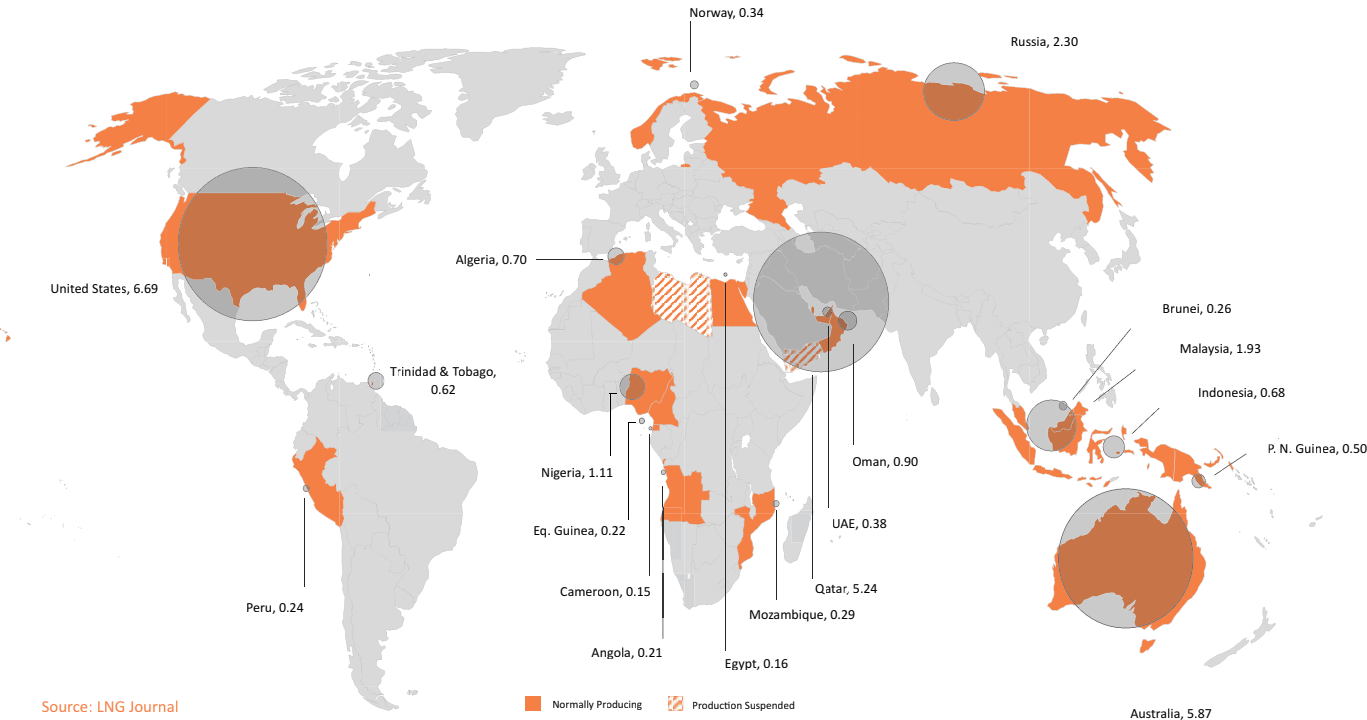
Our preliminary February data showed a significant LNG trade decrease globally. Whilst the scale of the reduction remains subject to change as the month progresses, it nonetheless announces the likely direction come month-end, our Market Editor Alexander Wilk reports.

According to our data, which remains subject to change as the month progresses, global LNG exports as of 26 February amounted to 28.79mmt, which represented a significant decrease of 2.08mmt (-7 percent) from the 30.87mmt we recorded on 26 January (N.B.: Subsequent references to months mean up to and including the 26th day of that month unless otherwise specified). Among the three most significant exporters in February, our data showed Qatar decreased exports by 0.66mmt (-11 percent) to 5.24mmt from 5.90mmt in January. Concurrently, we saw a decrease of 0.35mmt (-5 percent) to 6.69mmt in the United States whilst Malaysia had reduced exports by 0.35mmt (-15 percent) to 1.93mmt from 2.28mmt in January. As large-scale producers had considerably reduced their output at the time of writing, smaller producers struggled to compensate. Instead, net growth among exporters such as Oman and Mozambique represented little more than a single cargo whilst others such as Brunei merely kept their shipped volumes steady.

Global LNG demand, meanwhile, had decreased by 3.20mmt (-10 percent) month-on-month. Global offtakes were led by Japan with imports of 5.17mmt, even

Global LNG Exports (MMt)

1-26 February 2024



as these were down by 0.04mmt (-1 percent) from 5.17mmt in January. Our data on China, however, indicated an import reduction by 2.16mmt (-32 percent) to 4.56mmt alongside fewer imports by South Korea, which were down by 0.25mmt (-7 percent) to 3.32mmt. Concurrently, smaller Pacific buyers collectively had seen imports increased by only 0.33mmt to 2.67mmt at

the time of writing. In Europe, strong demand growth mainly among eastern and southern European buyers could not compensate for large-scale reductions among larger northern importers such as the United Kingdom. Meanwhile, Middle Eastern demand had remained seasonally subdued.

Export - Pacific Basin

For the month to 26 February, Pacific exports had accrued to 10.48mmt and thus came in below the January's equivalent total of 11.26mmt by 0.78mmt (-7 percent). Consequently, annualised capacity utilisation stood at 69 percent. Exports were also down by 1.44mmt (-12 percent) year-on-year.

Australia: The Pacific Basin's most significant exporter by installed capacity – Australia – saw a marginal export decrease of 0.03mmt (-1 percent) to 5.87mmt in February from 5.90mmt in January as most plants faced an export decrease.

Among the more significant month-on-month reductions, Wheatstone LNG cut exports by 0.15mmt (-19 percent) to 0.65mmt from 0.80mmt in January whilst Pluto LNG reduced shipments by 0.12mmt (-29 percent) to 0.30mmt from 0.42mmt. Concurrently, our data at the time of writing showed Gladstone LNG had cut exports by 0.06mmt (-13 percent) to 0.39mmt from 0.45mmt in January. We observed a more moderate export

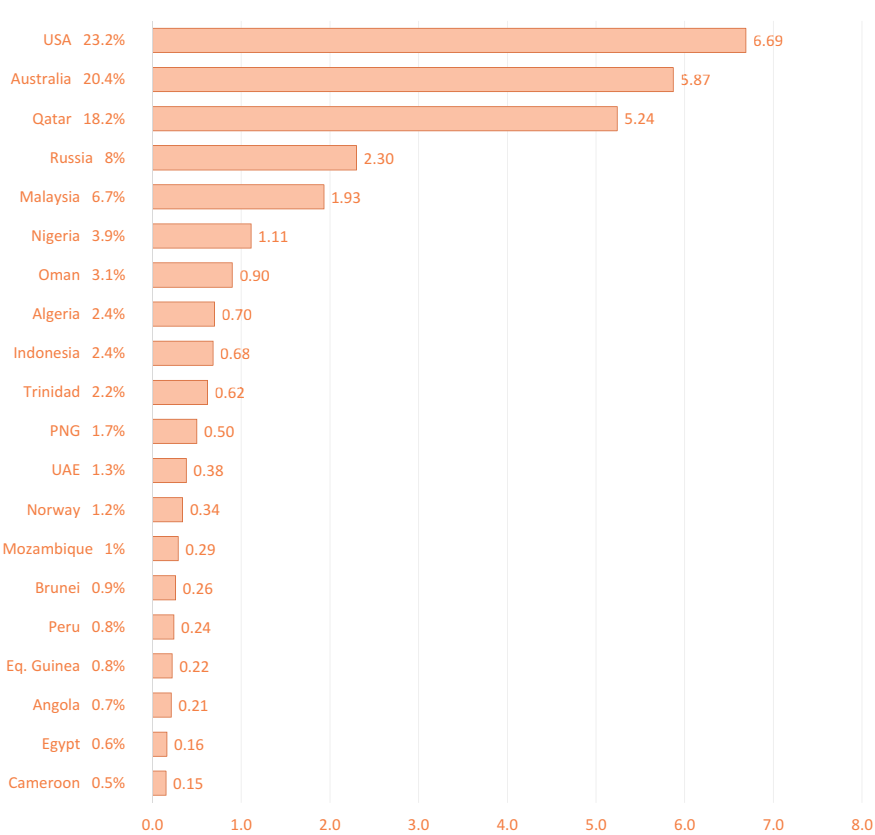
decrease by Gorgon LNG, where shipments were down by 0.21mmt (-16 percent) to 1.13mmt from 1.34mmt. Also showing a modest reduction was Queensland Curtis LNG, where export had decreased by 0.03mmt (-4 percent) to 0.68mmt. These export reductions were cushioned, however, by an export increase totalling 0.38mmt at Ichthys LNG, Prelude FLNG, NWS LNG and Australia Pacific LNG at the time of writing. At Ichthys LNG, our data showed a significant increase of 0.14mmt (23 percent) to 0.76mmt whilst Prelude FLNG boosted shipments by 0.13mmt (93 percent) to 0.27mmt. Finally, NWS LNG saw a notable increase of 0.08mmt (8 percent) to 1.10mmt alongside an increase of 0.03mmt (5 percent) to 0.65mmt at Australia Pacific LNG.

Australian exports at the time of writing were led by shipments to Japan amounting to 1.84mmt in January, followed by China with imports of 1.47mmt. South Korea was the third most significant importer with 0.87mmt. Notably, we were also tracking 0.63mmt of Australian exports that were headed to still undisclosed destinations within the Pacific Basin.

Southeast Asia: North of Australia, our data for PNG LNG showed an export decrease of 0.05mmt (-9 percent) to 0.50mmt from 0.55mmt in January. The plant's annualised capacity utilisation

Market Share & LNG Exports by Country (MMt)

1 - 26 February 2024





WE'VE GOT YOU COVERED

Need fiberglass blankets? Turn to Quietflex.

For decades, Quietflex has served the LNG and cryogenic markets with tough, durable fiberglass products that stand the test of time.

Our Resilient LNG Blanket has increased tensile strength that is capable of supporting its own weight without the need of pins, along with improved thermal efficiency. The LNG Suspended Deck Blanket has reduced settlement over time, requiring less material. Resilient and Deck blankets are both bacterial- and fungal-resistant, customizable to meet your needs and ideal for LNG and cryogenic tanks.

Quietflex allows inspectors to witness production and packaging at our Houston facility. So not only do you get the best; you also get reduced transportation costs. Win-win.

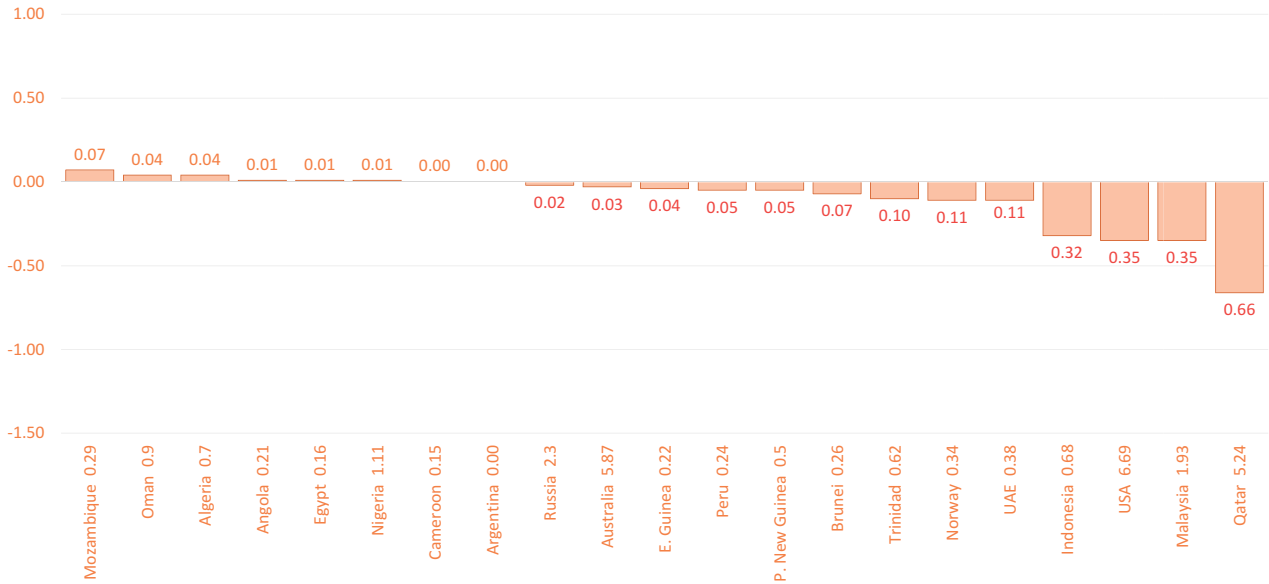
rate thus stood at 72 percent. PNG exports were led by shipments to Japan amounting to 0.29mmt in January, which were up by 0.08mmt (38 percent). China, meanwhile, increased imports by 0.07mmt (50 percent) to 0.21mmt. However, both South Korea and Taiwan had not yet received LNG from Papua New Guinea in February compared to 0.06mmt and 0.14mmt this time in January, respectively.

Indonesia, meanwhile, had seen a significant decrease in shipments of 0.32mmt (-32 percent) to 0.68mmt at the time of writing in February compared to 1.00mmt in January. Tangguh faced a decrease of 0.25mmt (-45 percent) to 0.31mmt from 0.56mmt in January. Bontang also faced an export reduction of 0.07mmt (-25 percent) to 0.21mmt whilst Donggi-Senoro LNG had maintained exports at 0.16mmt. Consequently, the Tangguh and Bontang plants produced at only 49 and 22 percent of annualised capacity utilisation, respectively, whilst Donggi-Senoro achieved 96 percent.

Malaysia, meanwhile, had decreased exports by 0.35mmt (-15 percent) to 1.93mmt at the time of writing in February compared to 2.28mmt in January. This was because Malaysia LNG saw a significant decrease of 0.29mmt (-14 percent) to 1.72mmt in shipments compared to 2.01mmt in January. PFLNG 1 also cut shipments by 0.06mmt (-46 percent) to 0.07mmt. These decreases were only slightly cushioned by steady shipments of 0.14mmt at PFLNG 2. Its annualised capacity utilisation thus stood at 140 percent whilst PFLNG 1 only saw utilisation of 70 percent, according to our data and calculations. Malaysia LNG, meanwhile, had also produced at only 70 percent annualised capacity utilisation at the time of writing.

Incremental LNG Exports by Country (MMt)

1 - 26 February 2024 vs same period in January



Source: LNG Journal

Brunei LNG recorded a production decrease of 0.07mmt (-21 percent) to 0.26mmt at the time of writing, down from 0.33mmt month-on-month. The plant's annualised capacity utilisation rate thus stood at 43 percent. As Japan and South Korea slashed their respective offtakes from Brunei LNG, these losses were only partially compensated by higher exports to Thailand and China.

Russia, Peru & Mozambique: Elsewhere in the Pacific, our data indicated Sakhalin-2 LNG saw an export increase of 0.02mmt (3 percent) to 0.71mmt at the time of writing in February from 0.69mmt for the equivalent period in January. The plant's annualised capacity utilisation rate thus stood at 89 percent. The plant's LNG exports were led by shipments to Japan amounting to 0.47mmt which represented a small increase in that specific LNG flow by 0.02mmt (4 percent). South Korea, meanwhile, cut month-on-month imports from Sakhalin-2 by 0.06mmt (-33 percent)

to 0.12mmt, but which was compensated by a doubling in exports to China to 0.12mmt.

Concurrently, Peru's Pampa Melchorita LNG showed a significant production decrease of 0.05mmt (-17 percent) to 0.24mmt in February from 0.29mmt in January. The plant's annualised capacity utilisation rate had thus also increased to 65 percent. LNG exports from Peru were led by 0.16mmt in shipments to the Pacific Basin but which still had to determine their destination.

Finally, Mozambique's Coral Sul FLNG recorded a production increase of 0.07mmt (32 percent) to 0.29mmt in January, which pegged the plant's annualised capacity utilisation rate at 102 percent.

translated into annualised export capacity utilisation of 66 percent for the Basin. Exports were nevertheless broadly steady year-on-year.

North Africa & Europe: The amount of LNG shipped from within its north-eastern part - comprising the EEA, Russia and North Africa (and not including re-exports) - amounted to 4.32mmt as of 26 February and thus constituted a decrease of 0.13mmt (-3 percent) from 4.45mmt on 26 January.

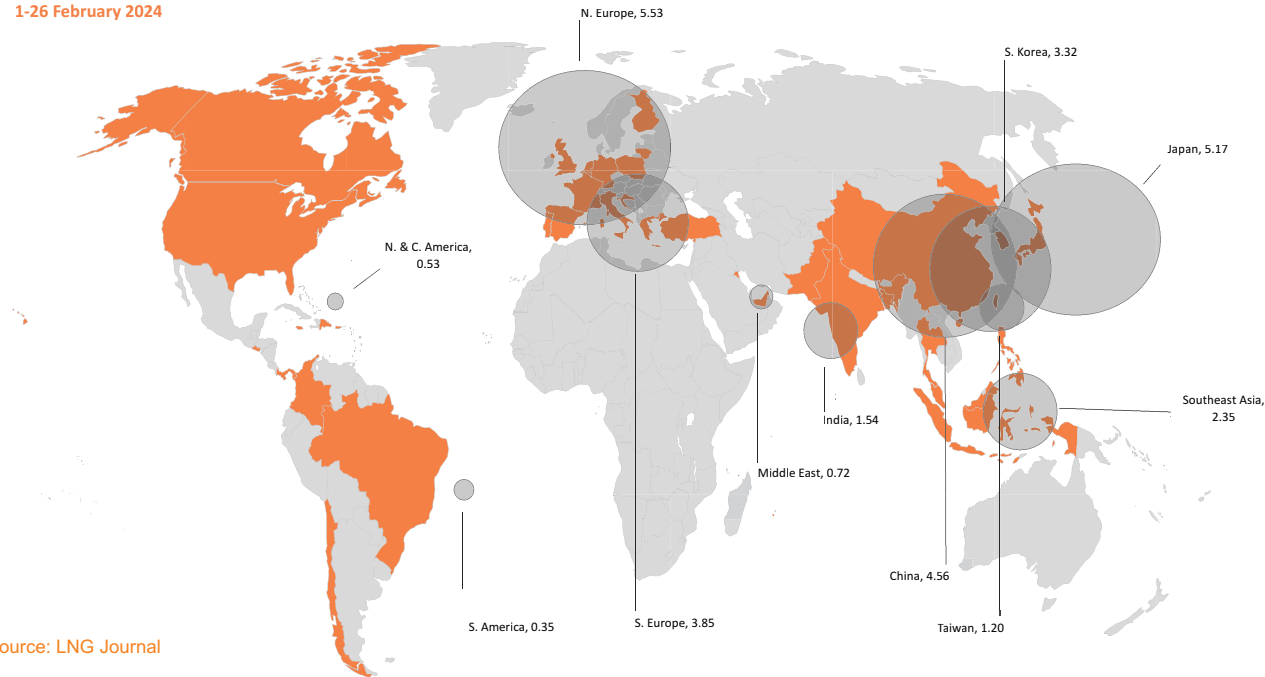
Russia's Atlantic Basin capacity saw a decrease in shipments of 0.04mmt (-2 percent) to 1.59mmt in February compared to 1.63mmt in January. Portovaya LNG maintained exports at 0.07mmt but Yamal LNG reduced flows by 0.04mmt (-3 percent) to 1.52mmt from 1.56mmt in January. Nevertheless, the plant still produced well above nameplate capacity at 105 percent.

Our data also showed Norway's Snøhvit LNG had decreased exports by 0.11mmt (-24 percent) to 0.34mmt in February from 0.45mmt in January. The plant's annualised capacity utilisation rate thus stood at 97 percent at the time of writing. Norway's negative export growth was mainly due to the non-recurrence of spot deliveries to the United States and China, which had amounted to 0.15mmt in January. However, it was a lack of demand by Lithuania that had tipped Snøhvit's performance into the red, according to our data at the time of writing.

In contrast to negative growth in Russia and Norway, our data at the time of writing showed an export increase in Algeria. At 0.70mmt, the country had grown shipments by 0.04mmt (6 percent) from 0.66mmt in January. Our data showed Arzew managed an increase of 0.03mmt (6 percent) to 0.52mmt in shipments

Global LNG Imports (MMt)

1-26 February 2024



Source: LNG Journal

compared to 0.49mmt in January. This was complemented by an export increase of 0.01mmt (6 percent) to 0.18mmt at Skikda LNG. The two plants thus operated at 30 and 28 percent of annualised capacity utilisation, respectively, our data showed on 26 February.

West Africa: West African LNG flows had decreased slightly by 0.02mmt (-1 percent) to 1.69mmt as of 26 February compared to 1.71mmt in January.

Our data for Nigeria's Bonny Island showed broadly steady exports of 1.11mmt compared to the 1.10mmt we recorded on 26 January. Cameroon's FLNG facility also maintained shipments at 0.15mmt. More significant month-on-month export growth at the time of writing thus only came from Angola LNG, where shipments were up by 0.01mmt (5 percent) to 0.21mmt. EG LNG, however, had faced a decrease of 0.04mmt (-15 percent) to 0.22mmt at the time of writing. West Africa's December exports were led by 0.35mmt in shipments to India, closely followed by 0.29mmt destined for yet to be determined destinations within the Pacific Basin. Concurrently, however, important destinations such as South Korea and Thailand had slashed their offtakes from West African producers.

Americas: Our US LNG export data as of 26 February showed a notable decrease in shipments by 0.35mmt (-5 percent) to 6.69mmt compared to 7.04mmt in January. According to our data at the time of writing, the most drastic change stemmed from Corpus Christi LNG, which had reduced its exports by 0.16mmt (-15 percent) month-on-month to 0.92mmt from 1.08mmt in January. Cameron LNG also curtailed exports by 0.10mmt (-9 percent) to 1.05mmt whilst Freeport LNG faced an export reduction of 0.15mmt (-14 percent) to 0.93mmt. Concurrently, we recorded more moderate reductions totalling 0.07mmt among the remaining US export plants. Calcasieu Pass LNG had reduced shipments by 0.04mmt (-5 percent) to 0.76mmt alongside a 0.02mmt (-4 percent) reduction to 0.50mmt at Cove Point LNG and a 0.01mmt (-6 percent) cut to 0.15mmt at Elba Island LNG. Meanwhile, our data suggested at the time of writing that Sabine Pass LNG had increased exports by 0.13mmt (6 percent) to 2.38mmt.

In South America, Atlantic LNG had curtailed its month-on-month LNG exports by 0.10mmt (-14 percent), according to our data, with shipments amounting to 0.62mm. The plant's

utilisation rate thus stood at 49 percent.

Middle East

Middle Eastern LNG exports at the time of writing in February amounted to 6.68mmt and thus showed a significant decrease of 0.72mmt (-10 percent) from 7.40mmt in January. Exports were down by 0.86mmt (-11 percent) year-on-year. Accordingly, our data showed the Basin's

annualised utilisation of operational export capacity (i.e., excluding Yemen) at 86 percent at the time of writing, down from effectively full utilisation this time in January.

The Middle East's overall negative export growth was driven by Qatar's Ras Laffan LNG complex. Our preliminary February data indicated the facility had exported 5.24mmt at the time of writing,

a decrease of 0.66mmt (-11 percent) month-on-month. The plant's annualised capacity utilisation rate thus stood at 81 percent. As we have highlighted last month, the necessity to avoid the Suez Canal in favour of the Cape Route had a trade reducing effect as it occupied more shipping capacity. As such, Qatar's February trade to Europe suffered by 0.46mmt. This reduction came in addition







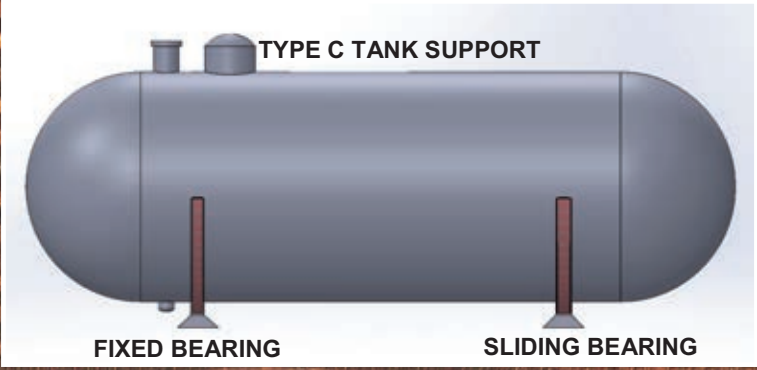




Fixed bearing



Sliding bearing



TYPE C TANK SUPPORT

FIXED BEARING SLIDING BEARING



DEHONIT® / PERMALI TANK SUPPORTS

- ◆ FOR IMO A, B, C, BILOBE AND TRILOBE TANKS
- ◆ FOR MEMBRANE TANKS
- ◆ FOR VERTICAL IMO TYPE C TANKS

WITH CARGO/ FUEL TYPE

- ◆ LNG, LPG, LH₂, LEG, LCO₂, LNH₃

DEHONIT® / PERMALI MATERIAL IS APPROVED BY

- ◆ DNV (DET NORSKE VERITAS)
- ◆ BV (BUREAU VERITAS)
- ◆ ABS (AMERICAN B. OF SHIPPING)
- ◆ LR (LLOYD'S REGISTER)
- ◆ CLASS NK
- ◆ CCS (CHINA CLASS. SOCIETY)
- ◆ KR (KOREAN REGISTER)
- ◆ GTT
- ◆ DIN ISO 9001:2015

FEATURES OF DEHONIT®/ PERMALI

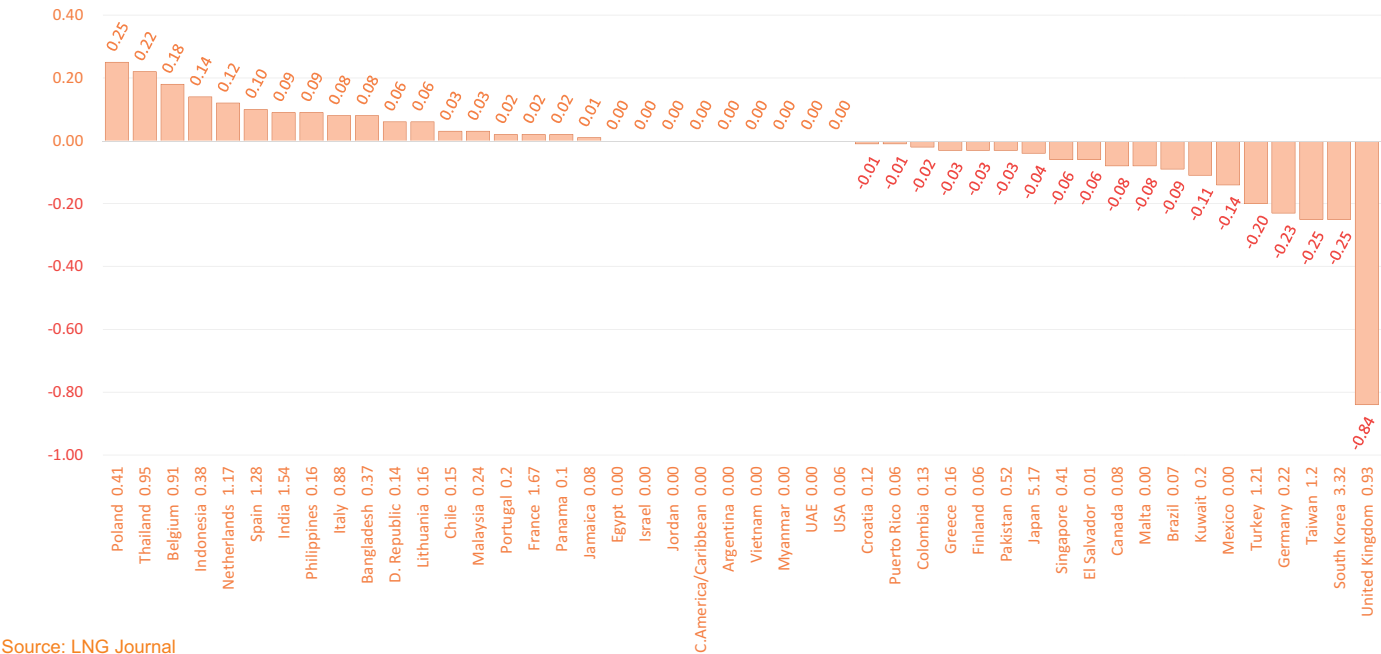
- ◆ MORE THAN 70 YEARS IN SERVICE
- ◆ LOW SPECIFIC WEIGHT
- ◆ HIGH COMPRESSIVE STRENGTH
- ◆ WATER RESISTANT
- ◆ LOW THERMAL CONDUCTIVITY
- ◆ LOW COEFFICIENT OF FRICTION
- ◆ TEMPERATURE STABILITY
- ◆ LOW COEFFICIENT OF LINEAR EXPANSION

WWW.DEHONIT.DE

WWW.PERMALIDEHO.CO.UK

Incremental LNG Imports by Country (MMt)

1 - 26 February 2024 vs same period in January



Source: LNG Journal

to less demand in Asia and the Middle East, which was down by 0.21mmt and 0.20mmt, respectively. However, demand for Qatar’s LNG remained steady on the Indian subcontinent.

Lower performance by Qatar was echoed by a significant decrease in the UAE’s LNG exports, which were down by 0.11mmt (-22 percent) to 0.38mmt at the time of writing. This meant annualised capacity utilisation at Abu Dhabi’s Das Island plant stood at 83 percent. In neighbouring Oman, however, our data indicated a production increase of 0.04mmt (5 percent) to 0.90mmt at Oman LNG. The plant's annualised capacity utilisation rate thus stood at 104 percent.

Export growth in the Middle East, albeit modest in volume terms, also stemmed from Egypt, where Damietta SEGAS LNG had increased shipments by 0.01mmt (14 percent) to 0.08mmt at the time of writing. The plant's annualised capacity utilisation rate thus stood at just 19 percent. Neighbouring Idku LNG, meanwhile, had maintained its output level with a single export of 0.08mmt. Its annualised capacity utilisation rate thus stood at 13 percent.

Imports & Domestic Trade

Global LNG imports as of 26 February had decreased significantly by 3.20mmt (-10 percent) to 29.85mmt compared to the 32.55mmt we recorded this time last month. Demand growth at the time of writing was elusive in all three Basin but the strongest reduction took place in the Pacific.

Pacific Basin

Month-on-month Pacific Basin imports were down by 2.28mmt (-11 percent) net to 18.46mmt from 20.74mmt in January.

Among larger-scale importers, China, South Korea and Taiwan had decreased their offtakes by 2.66mmt (-23 percent) in total to 9.08mmt alongside a slight reduction of 0.04mmt (-1 percent) to 5.17mmt in Japan. As a result, this reduction could not be overcome by the relatively modest demand increase of 0.09mmt (6 percent) to 1.54mmt in India.

Concurrently, the roster of smaller Pacific buyers – including Thailand, Bangladesh, Singapore, Malaysia, Indonesia, the Philippines, Chile, El Salvador and Myanmar – collectively had seen imports increase by 0.33mmt to 2.67mmt at the time of writing. This increase was primarily due to demand growth in Indonesia and the Philippines, where offtakes were up by 0.14mmt (58 percent) and by 0.09mmt (129 percent) to 0.38mmt and 0.16mmt, respectively. Bangladesh, Chile and Malaysia had also seen imports go up by a total of 0.14mmt month-on-month, our data showed at the time of writing. The roster’s overall growth was thus only tempered by a lack of demand in Mexico compared to imports of 0.14mmt this time in January and reductions totalling 0.12mmt in Singapore and El Salvador.

Atlantic Basin

LNG demand in the Atlantic Basin had decreased more moderately as of 26 February. Offtakes were down by 0.78mmt (-7 percent) to 10.17mmt, with annualised utilisation of installed capacity at 37 percent.

European demand saw a net decrease of 0.59mmt (-6 percent) to 9.38mmt. Strong import growth in Poland by 0.25mmt (156 percent) to 0.41mmt added to increases totalling 0.58mmt elsewhere in Europe, mainly Belgium, the

Netherlands and Spain. Nevertheless, these increases could not compensate for negative growth of 1.42mmt stemming mainly from northern European buyers such as the United Kingdom and Germany.

Our February data at the time of writing also showed a significant demand

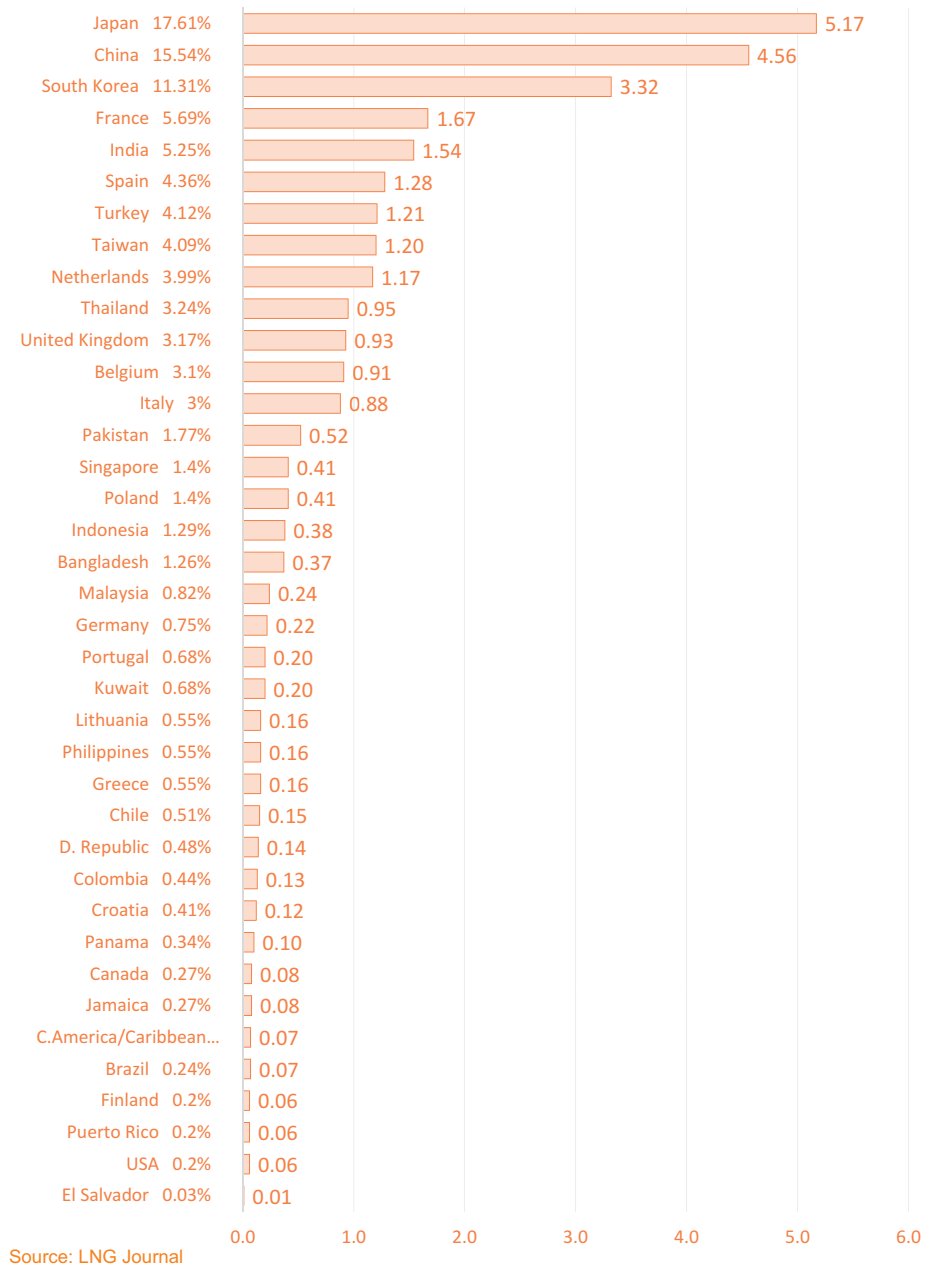
decrease of 0.11mmt (-12 percent) in the Americas. Notably, Brazil, Canada and Colombia – three of the strongest regional demand growth centres in recent months – curtailed offtakes by a total of 0.19mmt. Moreover, Puerto Rico had decreased its LNG offtakes by 0.01mmt (-14 percent) to 0.06mmt. As such, demand growth totalling 0.09mmt in the Dominican Republic, Panama and Jamaica as well as steady inflows of 0.07mmt into the OPT LNG Hub could not compensate.

Middle East

Meanwhile, overall Middle Eastern LNG demand of 0.72mmt at the time of writing in February was down by 0.14mmt (-16 percent) from 0.86mmt in January. Our data for both Pakistan and Kuwait showed significant offtake decreases of 0.03mmt (-5 percent) to 0.52mmt and 0.11mmt (-35 percent) to 0.20mmt, respectively. Concurrently, Jordan and the UAE continued their market absences. As such, the Middle East’s annualised import capacity utilisation stood at only 10 percent at the time of writing.

Market Share & LNG Imports by Country (MMt)

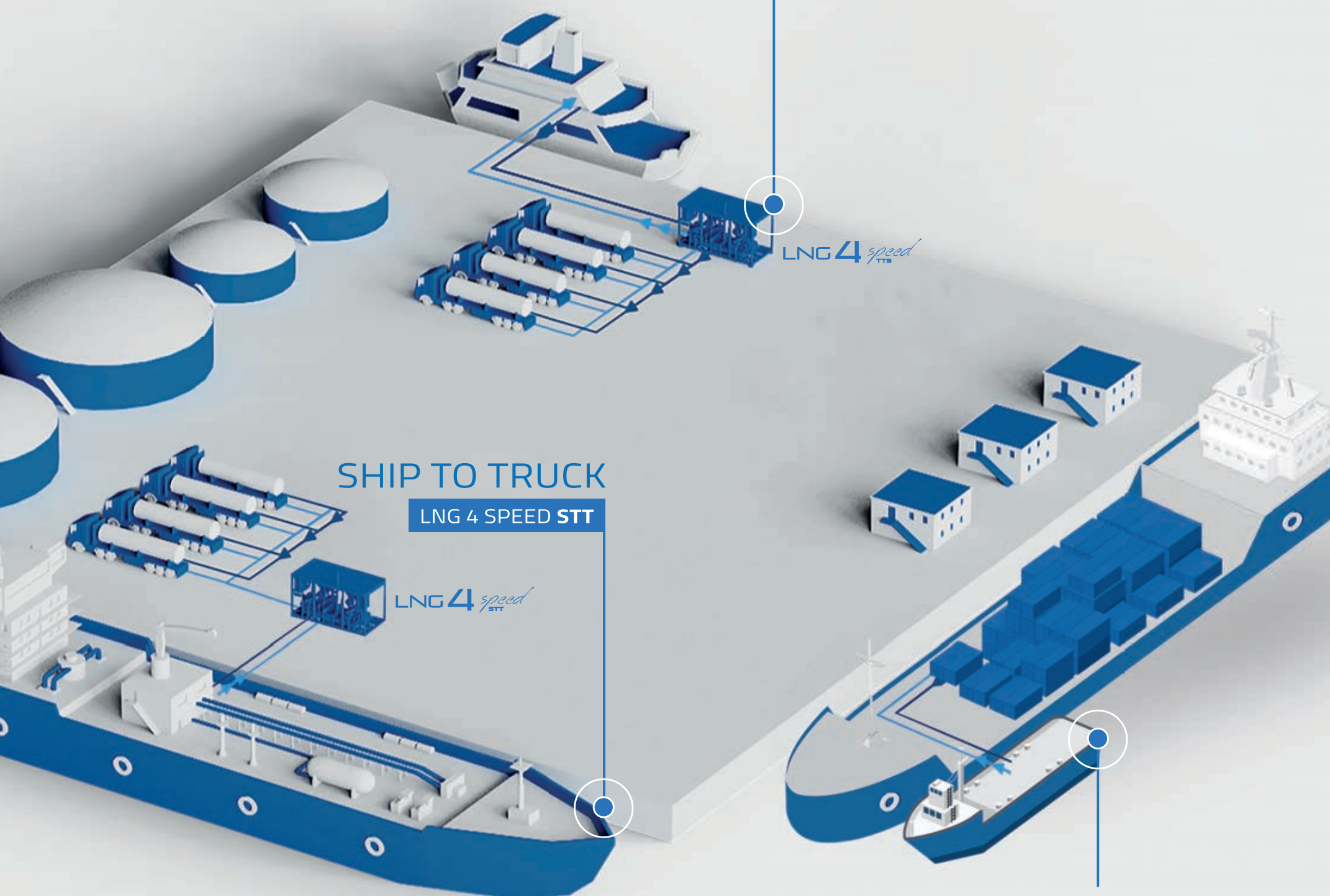
1 - 26 February 2024



Source: LNG Journal

TRUCK TO SHIP

LNG 4 SPEED TTS



SHIP TO TRUCK

LNG 4 SPEED STT

LNG 4 speed STT

SHIP TO SHIP



Leader in all bunkering solutions

Gas and Heat is an Italian company with **75 years of experience and a strong vocation to the future.**

Through a custom-made approach we provide our clients with solutions tailored to their specific needs. We design, build and deliver highly engineered solutions for **LNG** and **BIO LNG fuelling systems**, both in marine, inland waterway and land-based areas, as well as an energy source for small-sized on shore plants. Our R&D department engineers solutions for the adoption of alternative and greener fuels like **Ammonia and Hydrogen**.

The design and manufacturing cycle of the tanks is completely carried out in the **Tombolo Plant**, in the heart of Tuscany.

Discover all
our solutions



gasandheat.it



Unlocking uniformity to support a dynamic LNG market

*From Microsoft operating platforms to Wi-Fi, and even debit card processing, LNG engineering systems can learn from the evolution of these vastly different entities, which have all been through a process of standardisation.**

Just as consistent technologies have been used across many products in these examples' respective sectors to improve efficiency, the same high-level ambition can be applied to the development of ship-to-ship (STS) transfers to improve speed, safety, and new standards.

Increasing demand for LNG

LNG production is at a new juncture. After several years of steady growth, the industry has matured. As a result, LNG trade no longer centres solely on long-term contracts accompanied by a level of predictability. Instead, it has broadened out to include short-term, more flexible spot contracts that bring a higher need for adaptability, as well as the undisputed need for safety and efficiency.

Looking forward, the demand for LNG remains strong especially in its role as a transition fuel, due to lower LNG prices and greater availability, compared to other alternative energy sources.

However, supply slowed in 2023 and is forecast to be tight again in 2024 despite a buoyant start to the year for the spot market. Delays in the development of new liquefaction plants and the high cost of associated infrastructure amongst other factors are expected by the International Energy Agency (IEA) to dampen growth to 3.5% this year, compared to historical growth between 2016 and 2020 of 8%.

As energy companies navigate these market conditions, LNG supply chains are being re-evaluated to reflect a more dynamic era and to ensure that infrastructure is fit for purpose.

Specifically, we have seen the increasing use of FSRUs, which have subsequently become more complex. The quest for more agile operations has driven the use of ship-to-ship transfer, a relatively new process in LNG supply chains – and one that highlights the industry's evolution away from traditional fossil fuel-based infrastructure.

Shedding the legacy

To ensure effective performance and safety during the ship-to-ship LNG transfer process, one of the vessels must essentially replicate a shoreside operation to ensure efficiency and safety.

Despite the development of innovative hose designs and coupling solutions to enhance the viability of these operations, the industry still faces the challenge of transitioning from traditional 'analogue' hardware to adopting new digital transfer systems.

Enhancing this ship-to-ship connectivity has become crucial to address compatibility issues between ships' systems, particularly legacy emergency shutdown (ESD) link types.

Many large-scale LNG analogue fibre optic links were originally designed in the

1980s, adhering to technology standards of that era. They were later reverse-engineered in the 1990s to establish compatible links. However, the lack of formal, standardised design specifications resulted in complexity and inefficiency, making them unique in terms of legacy interface support.

Through continuous development over the past 30 years, it is now possible to re-engineer the core processing of ship-to-shore link systems. This involves removing traditional hardware barriers that hindered efficient ship linking. Consequently, LNGCs equipped with the latest Ship-to-Ship Link (SSL) models can participate in ship-to-ship transfer processes by utilising any of their ESD links, particularly the fibre optic system.

This transformation allows for telecommunications more like a traditional ship-to-shore connection, eliminating historical limitations associated with traditional safety links. This advancement is particularly beneficial for STS and FSU installations, especially those involving multiple LNG transfer processes.

As ship-to-ship transfer becomes more common, both modernising and harmonising systems are key to mitigating risks and significantly enhancing operational efficiencies.

In a shifting market where systems and processes may be fragmented, due to



Andrew Stafford

geographical or operational differences, the value of uniformity cannot be underestimated. Additionally, uniformity could become business critical, if components in older systems are no longer produced.

Setting new standards

Establishing the foundation for new compatibility requirements will streamline the shift toward more intelligent STS systems.

While substantial advancements are needed to enhance existing compatibility standards, it is equally crucial to focus on anticipating future application challenges, ensuring that frameworks can accommodate upcoming requirements.

This perspective is vital, especially when implementing systems that can be adapted for a broader range of fuels, enabling energy companies to swiftly pivot as alternative options, like ammonia, gain traction.

The development of operational frameworks and standards is an ongoing process for SIGTTO, SGMF, and OCIMF. However, as the pace of innovation outstrips that of regulation, energy companies, engineers, manufacturers, and technology developers must collaborate.

This collaboration is essential to identify compatible ways of working, allowing for agile and mutually beneficial infrastructure that supports the evolution and commercial potential of the LNG industry. ■

**This article was written by Andrew Stafford, Technical Director, Trelleborg Marine Systems*



The use of FSRUs is increasing

Geopolitics and supply dislocation spur flexible floating asset demand

Tight energy markets have benefited from demand and supply changes that have had a knock-on effect for mobile assets, writes Tor-Ivar Guttelsrod, Director FSRU & FLNG, Global Gas Solutions, ABS Europe.

Floating energy assets represent a large-scale commitment from owners and operators, as well as requiring deep expertise from the yards contracted to build them.

The dividend this commitment delivers is the flexibility they can provide, especially at times of changing energy supply and political disruption.

FLNGs

Floating Liquefied Natural Gas (FLNG) units have seen demand spike, as energy supply and demand patterns have shifted since the start of the Ukraine/Russia conflict.

These units can be built in shipyards under controlled conditions and towed to site for hookups. FLNGs are in reality an 'LNG version' of a Floating Production Storage and Offloading (FPSO) unit and just like FPSOs, they can easily be redeployed and hence have a low risk of becoming stranded assets.

As an example of their flexibility, 'Tango' FLNG was built and designed for operations in Colombia, moved to Argentina and has since arrived off the Congo after being acquired by Eni.

Petronas has also proved that FLNGs can be redeployed when necessary, with the move of its first FLNG from one field to another within Malaysia.

There are good prospects for small and medium-sized FLNGs going forward, enabling more regional LNG supply from stranded gas pockets.

Tightness in the LNG carrier (LNGC) market is due to a much higher level of newbuilding orders and increasingly tighter environmental regulatory standards for shipping, which also impact LNG shipping.

There are more yards coming into the LNGC space, but the newbuilding market is still fairly tight.

As the containment systems are very similar for LNGCs and FLNGs, there are also limitations for newbuilding FLNG capacity.

Conversions have played an important role for FLNGs and this will most likely continue, while geopolitical uncertainty remains.

Of the main regasification players, only Golar has delivered FLNG conversions, but there are likely opportunities for both newbuilding and conversion projects for FLNGs as well.

FSRUs

Floating Storage and Regasification Units (FSRUs) are for the most part, specialised ships that can trade as gas carriers and also serve as floating regasification terminals.

This means that FSRUs can be ordered speculatively and do not have to be tailor-made for each project as they can trade in the LNG shipping market until they are needed for a regasification assignment.

Most of the significant players in the FSRU space have ordered regasification vessels or conversions on a speculative basis, knowing that they can trade as LNGCs until a regasification project is available.

FSRUs are also typically used to open up new markets or provide seasonal supply to markets characterised by large swings in energy demand and/or local energy production.

When Europe needed new regasification supply to come on-stream as soon as possible, the region was in the fortunate situation that several FSRUs were trading as LNGCs and could be made available for regasification projects quickly.

The main elements that need to be in place before an FSRU operation are pipeline connections, jetty/mooring and LNG transfer systems through either loading arms or hoses.

Operations

FSRUs are all typically built to international shipping regulations, such as the International Maritime Organisation's (IMO) IGC Code, plus any additional requirements from class or flag state.

This means that they are very flexible in terms of location of service and can easily be redeployed to another location following the completion of a charter.

Typically, this means that the regasification vessel satisfies regulatory requirements 'as-is' and the main local regulatory needs are related to environmental issues, such as emissions and local labour regulations.

FSRUs have to pay similar attention to changes in maritime regulation as other ship types, although some regulations, such as the Carbon Intensity Index (CII), are not applicable for FSRUs as they operate in a single location.

They do not trade cargoes and will only move away from bad weather or while switching locations.



Tor-Ivar Guttelsrod

However, local regulators are looking to tighten pollution regimes as far as possible and there is a focus on both air and water emissions. As a result, the use of shore power rather than on board power generation is becoming more common.

FLNGs are following the trend of other upstream and midstream assets in seeking to improve their energy efficiency, as well as minimising their emissions, efforts that are pushed by both regulators and financiers.

There is also a focus on the impact of agents used in seawater loops in LNG vaporisation, as well as in cooling water loops for liquefaction assets if agents are subsequently released into the ocean.

There is a desire to minimise the impact on the marine environment both by the release of chemicals and temperature changes.

The future

There is a continuous push to make both FLNGs and FSRUs viable in smaller size ranges, as this opens up the total number of project sites and helps provide for underserved areas, thus making projects viable that otherwise would not be.

However, it can be challenging to efficiently take a large scale technology and make it work well on a smaller scale. Thermal and operational efficiency are already a key focus and will continue to be so and we anticipate strong efforts in these and other areas with new technology developments to follow. ■



The former Exmar FLNG 'Tango' now owned by Eni and operating off the Republic of Congo coast

NYK pursues flexibility with LNG tug retrofit

LNG has long been hailed as a transition fuel, with relatively little focus on the exact steps that follow it as a fuel. However, as new bunker capacity emerges for alternative fuels many operators are now exploring means to retrofit existing LNG vessels and prepare for future demand. Fuelling Editor Malcolm Ramsay has more.

One of the latest examples of this, is a pilot project to convert an LNG-powered tug in Japan to ammonia fuel. The conversion will be carried out by a consortium of maritime experts as part of the Green Innovation Fund Project of Japan's New Energy and Industrial Technology Development Organization (NEDO) and will be led by Japanese shipping group NYK along with IHI Power Systems and Nihon Shipyard.

Suguru Akaike from NYK Line tells *LNG Journal* that the partners plan to “replace the entire engine, including the main engine and fuel tank”, noting that “the engine room will be cut to remove the existing LNG-fuelled equipment and install the new ammonia-fuelled machinery.”

This project will see the firm convert the LNG-fuelled tugboat Sakigake to ammonia for operations by the NYK Group in Tokyo Bay.

Complex design

To transform the vessel from LNG operation to ammonia a detailed modification programme was initiated in 2021 to study the engine, hull and operability parameters. Given the significant differences between LNG propulsion and ammonia the teams involved have had to collaborate closely to ensure that the blueprints will result in a beneficial change.

Akaike of NYK, explains that one of the main design issues when using ammonia as a fuel has been ensuring that it can combust stably, and that crew can “operate the engine while increasing the usage ratio of ammonia, which is flame-retardant and has low energy density”.

“Safety measures based on risk assessment are necessary to ensure the same level of safety as conventional vessels,” Akaike continues, noting that it has been paramount that the new design includes measures to “prevent leakage of toxic ammonia and adequate safety measures in the event of leakage.”

To achieve this an entirely new engine has been designed by Japan Engine Corporation and IHI Power Systems, in collaboration with NYK. Early testing has already been completed at IHI Power Systems' Ota Plant in Gunma Prefecture on Japan's Honshu Island.

“Since the combustion of ammonia generates nitrous oxide (N₂O), which has about 300 times the warming potential of CO₂, it is necessary to control the combustion,” Akaike notes, adding this can then “prevent the generation of nitrous oxide and its discharge overboard.”

The testing phase at the Ota Plant has now confirmed virtually zero emissions from the unburned ammonia. With virtually no nitrous oxide output, a highly potent greenhouse gas that can have detrimental effects if handled incorrectly.

With a new four-stroke design finalised the partners are currently working on fabrication of the engine in parallel with final design and construction work on the hull. Final engineering work and fabrication will be carried out by Keihin Dock at the Oppama factory and shipyard in Yokohama, Japan.

The new tug is scheduled for delivery in June 2024 and will then undergo sea testing, demonstration and commercialisation. It will continue to be operated by Shin-Nihon Kaiyosha, a subsidiary of NYK, and if successful the



Uplifted A-tug

partners plan to pursue further conversions in future years dependent on cost profile.

NYK is one of the largest shipping companies in the world with a fleet of more than 800 vessels. Last year, NYK group launched its ‘Sail Green, Drive Transformations 2026’ roadmap, aiming to go beyond the scope of global logistics and become a supporter of a carbon-free society through ocean transport.

Strategic transformation

The project is underway as part of NEDO's strategic plan to accelerate transformation of Japan's energy and industrial sectors. As fuelling technologies have progressed in recent years the interplay between different solutions has grown increasingly complex, with shipping lines now forecasting a greater range of bunkering options in future.

Ammonia has emerged as a prominent alternative due to its low emissions profile and low boil off rate. While LNG is

the most efficient in terms of fuel gas consumption cost, it still produces non-negligible CO₂ emissions making it increasingly unsustainable as legislation is expected to tighten towards 2050 and beyond.

NEDO has allocated a ¥2 trillion fund to support Green Innovation projects and aims to deliver carbon neutrality in its core sectors by 2050.

“In addition to providing evidence necessary for policy making, technology development strategies utilizing Japan's competitive advantages will be formulated by anticipating innovation trends faster and more accurately than in other countries,” Saito Tamotsu, Chairman of NEDO, said, adding that the organisation now plans to carry out further industry-academia-government collaborative projects.

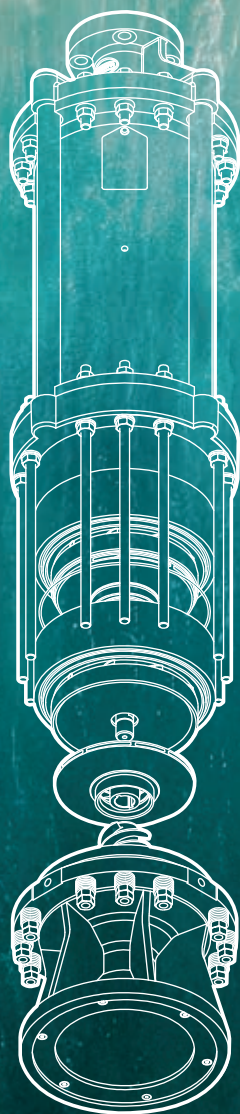
Headquartered just outside Tokyo in Kawasaki City, NEDO is Japan's largest public management organization promoting research and development of energy transition technologies. ■



Artist's rendition of A-tug

RIDE THE WAVE

Of the LNG marine expansion



All the key role players in the marine industry have started to invest in LNG technology and infrastructures, as well as in new dual fuel or gas only engines for ships and new LNG bunkering vessels too. Vanzetti Engineering ARTIKA Series submerged pumps and VT-3 Series reciprocating pumps are the default choice for low and high pressure marine engine fuel gas systems, stripping and spray applications, booster, ship to ship bunkering, cargo and more.

VANZETTI ENGINEERING.
Widening the horizons of LNG sustainability.

www.vanzettiengineering.com

VANZETTI  **CRYOGENIC
TECHNOLOGY**

For the Record

ABS, the American Bureau of Shipping maritime classification society, has inaugurated an ABS Global LNG Academy in the Qatari capital Doha and dedicated to training and educating mariners in modern LNG vessel operations.

The Doha-based academy is supported by QatarEnergy and is coordinating efforts with industry partners to have more knowledgeable crews operating the new LNG carriers under construction.

“Establishing the training center is also a key part of ABS’s support of Qatar’s National Vision 2030 and the Tawteen Program, which focuses on education and quality employment for Qatari nationals,” ABS added.

“This academy will not just act as a crucial LNG training center, but will also be part of QatarEnergy’s Localization Program for Services and Industries in the Energy Sector and an LNG Centre of Excellence in Qatar,” the US class society stated.

ABS itself has its global headquarters in the Texas town of Spring.

Christopher J. Wiernicki, ABS Chairman and Chief Executive said that Qatar offered an ideal location for the establishment of a global LNG Academy.

“It allows the combination of Qatar’s LNG operational leadership with ABS’s record of safety leadership and technical and regulatory LNG knowledge,” Wiernicki added.

“The state-of-the-art facility offers a unique learning experience both on board and through immersive classroom simulation training,” stated the ABS CEO.

The establishment will be designed to offer theoretical and practical training to support safety in the various aspects of LNG carriage and the safe-handling of LNG as a marine fuel.

“The training facility goes beyond the average training experience, offering innovative online, virtual and classroom options for interactive and continuous learning,” explained the statement.

In cooperation with Qatar Gas Transport Co, also known as Nakilat, ABS is delivering the industry’s first fully operational LNG metaSHIP.

“Powered by Orka, the MetaSHIP is a highly realistic virtual asset, built to scale from vessel drawings, and they take learners on virtual field trips - providing a powerful, immersive learning experience in a dynamic simulated training environment,” it added.

“Difficult or obscure concepts can be better understood when visualized on board the MetaSHIP, such as recognizing gas hazardous zones and their safety implications,” the statement concluded.

The ABS Academy’s simulator training room will also offers gas-handling operations and engine room simulation courses offered by French storage tanks designer GTT.

AIR PRODUCTS, the leading global supplier of LNG equipment and a global player in industrial gases and large-scale green fuel and power projects, reported an increase in fiscal first-quarter net income even as revenues slipped.

Air Products said that fiscal first-quarter net income amounted to \$621.6 million to the end of December, up from \$583.8M in the same three months last year.

The company remains the leading supplier of LNG equipment for the majority of plants operating worldwide.

Basic earnings per share for the Allentown, Pennsylvania-based company amounted to \$2.74 per share compared with \$2.58 per share in the prior-year quarter.

Air Products posted sales that were about 6 percent lower in the quarter at \$2.99 billion, down from \$3.17Bln in the same period of 2022.

During the past year the company has taken major LNG technology orders including for the Petronas LNG Complex in Bintulu, Malaysia, for the QatarEnergy’s North Field South project in Ras Laffan and for NextDecade’s Rio Grande LNG Phase I project in the Port of Brownsville in Texas.

The company said that the favourable currency changes were more than offset by 11 percent lower energy cost pass throughs, which negatively affected sales but had no impact on net income.

“Despite significant geopolitical and economic headwinds, the team at Air Products performed well, increasing our adjusted EPS by seven percent over last year,” said Air Products’ Chairman, President and Chief Executive Seifi Ghasemi.

“Our reported results were lower than our expectations, mainly due to a

slowdown in manufacturing in Asia, particularly in China; lower helium demand; cost headwinds from a sale of equipment for projects; and currency devaluation in Argentina,” Ghasemi explained.

“We are moving forward to successfully implement our ambitious, long-term growth strategy through our core industrial gases business and as a leader in low-carbon intensity hydrogen to generate a cleaner future for the world,” the Chairman stated.

The company also has among its key projects the \$12Bln gasification and power joint venture with Saudi Aramco, ACWA Power and the US firm’s Saudi unit, Air Products Qudra, in the Jazan Economic City in Saudi Arabia.

Air Products is also awaiting more progress on the TotalEnergies-led Mozambique onshore LNG export project in Cabo Delgado province where it is expected to be an equipment supplier.

ATMOS Energy Corp., the US natural gas distribution company serving more than 1,400 communities across eight mostly southern states, reported a rise in first-quarter profit as lower costs helped offset the impact of lower demand caused by milder weather.

The Dallas-based company posted net income for the three months to December, which is the Atmos fiscal first quarter, of \$311 million versus \$272M in the same three months of 2022.

Atmos said the earnings per share came to \$2.08 per share compared with \$1.91 per share in the prior-year quarter.

The company is active in the states of Colorado, Kansas, Kentucky, Louisiana, Mississippi, Tennessee, Texas and Virginia.

It provides natural gas, for example, to more than 184,500 customers in Kentucky communities such as Owensboro, Paducah, Hopkinsville, Lawrenceburg, Danville, Princeton and Campbellsville.

Atmos also has industrial customers in the states it serves and in Tennessee the distributor supplies natural gas to Bell Helicopter, the Jack Daniels whiskey distillery, General Motors and the Middle and East Tennessee State Universities.

The company reported that total capital expenditure in the quarter was \$769.7M, slightly lower than the 2022 quarter.

Spending was focused on the repair and replacement of transmission and distribution pipelines as well as on gas

fortifications and installing and replacing measurement and regulating equipment.

Atmos also issued \$900M of long-term debt financing with \$500M of 6.20-percent, 30-year senior notes issued in October 2023.

This was followed shortly afterwards by \$400M of 5.90-percent, 10-year senior notes.

In its financial guidance for all of fiscal 2024, Atmos forecasts net profits of between \$985M and \$1.05 billion compared with \$882M in the previous fiscal year.

In the coming fiscal year Atmos expects up to \$665M in profits from the distribution business and up to \$350M from pipelines and storage.

The board increased the quarterly dividend by 8.8 percent to \$0.805 per common share.

The indicated annual dividend for fiscal 2024 was \$3.22 per share.

“Our first-quarter results reflect the continued execution of our proven strategy by all of our 5,000 dedicated employees of operating safely and reliably while we modernize our natural gas distribution, transmission and storage systems,” said Kevin Akers, President and Chief Executive.

“This strategy, along with our employees’ continued focus on our vision to be the safest provider of natural gas services, continues to benefit our customers, our communities, and it positions us to continue delivering annual earnings per share growth in the six to eight percent range,” Akers concluded.

CHENIERE Energy Inc., the largest US liquefied natural gas exporter and operator of the Corpus Christi plant in Texas and Sabine Pass in Louisiana and with both being expanded, has been approved for up-listing to the full New York Stock Exchange (NYSE) from the NYSE American list.

The Cheniere affiliate, Cheniere Energy Partners L.P. has also been approved to join the full NYSE.

The common stock of Cheniere and the common units of Cheniere Partners ceased trading on the NYSE American after the market close on February 2 and the shares were then placed on the NYSE at the opening of trading on February 5.

Cheniere and Cheniere Partners continue to trade under the ticker symbols “LNG” and “CQP” respectively.

“Cheniere has been listed on the NYSE American or its predecessors for over two decades, and we thank the NYSE

American for the many years of cooperation and being a key part of the Cheniere success story,” said Zach Davis, Cheniere's Executive Vice President and Chief Financial Officer.

“We look forward to furthering that success as part of the NYSE family with our up-listing to the NYSE,” Davis stated.

Cheniere Energy shares were last trading at \$165.44 per share, valuing the company on January 31 at \$39.65 billion.

Shares in Cheniere Partners were trading on the same date at \$53.07 per share for a market capitalisation of \$25.69Bln.

Since the Sabine Pass plant shipped its first cargo in 2016, the Houston, Texas-based Cheniere companies have developed at a fast pace to be valued now at a combined \$65Bln.

Cheniere is a full-service LNG provider with capabilities that include gas procurement and transportation, liquefaction, vessel chartering and LNG delivery.

The liquefaction plants have a combined nameplate production of 45 million tonnes per annum of LNG and with an additional 10 MTPA under construction.

Cheniere Partners owns the Sabine Pass LNG terminal located in Cameron Parish, Louisiana, with its six liquefaction Trains with a total production capacity of 30 MTPA.

The Sabine Pass LNG terminal also has operational regasification facilities that include five LNG storage tanks, vaporizers and three marine berths.

Cheniere Partners also owns the Creole Trail Pipeline, which interconnects the Sabine Pass LNG terminal with a number of large interstate and intrastate pipelines.

CHESAPEAKE Energy Corp., the US natural gas producer completing a merger with smaller peer Southwestern Energy to create American's biggest natural gas company, reported declines in fourth-quarter and annual net income as it also advanced with various LNG deals.

Chesapeake's net income for the year to December more than halved to \$2.42 billion from \$4.93Bln in 2022 when prices were higher.

Net income in the fourth quarter tumbled to \$569 million from \$3.58Bln in the same three months of 2022 amid one-time items.

Basic earnings per common share fell to \$4.34 per share from \$26.16 per share in the prior-year quarter.

The Oklahoma-based company said that the previously announced agreed merger deal with Southwestern Energy was expected to close in the second quarter of 2024.

Chesapeake additionally said that it successfully wound up its Eagle Ford Basin activities with a sell-off for proceeds of over \$3.5Bln.

One of its main project areas is the Marcellus Shale where it is one of the largest operators with a position concentrated in northeast Pennsylvania.

The company's other main operating area is the Haynesville Shale covering northwest Louisiana, southwest Arkansas and eastern Texas.

Chesapeake reported that fourth-quarter output of mostly natural gas fell to 3.42 billion cubic feet equivalent (bcfe) per day, from 4.05 bcfe per day in the previous year.

LNG agreements also figured among the main highlights of the year with multiple deals worked on.

Chesapeake secured a 500,000 tonnes a year LNG sale and purchase agreement with the Delfin project offshore Louisiana at a Henry Hub-linked price and subsequently sold the volumes to commodities firm Gunvor at a Japan Korea Marker-linked spot cargo price.

There is also second Gunvor offtake heads of agreement for up to an additional 1.5 million tonnes per annum with JKM-linked prices,

An LNG accord was also signed by Chesapeake with another global commodities player, Vitol. This is for offtake of up to 1 MTPA linked to the JKM price.

“It was another year of strong operational performance for Chesapeake as we delivered approximately \$840 million to shareholders via our capital return framework despite a challenging commodity price environment,” explained Nick Dell’Osso, Chesapeake’s President and Chief Executive.

“Our 2024 operating plan is designed to prudently respond to today’s market, further demonstrating our continued focus on capital discipline, operational efficiency and free cash flow generation to consistently deliver through all demand cycles,” the CEO added.

“Our strategic combination with Southwestern will make our future outlook even stronger, extending America’s energy reach by positioning us to deliver more reliable, affordable, lower carbon energy to markets in need,” Dell’Osso said.

“We are forming the first US independent that can truly compete on a global scale, redefining the natural gas producer to the benefit of our shareholders and energy consumers alike,” he declared.

Chesapeake’s realised prices in the fourth quarter for the various basins was \$2.15 per thousand feet equivalent for the Marcellus and \$2.41 per Mcfe for Haynesville.

The earnings statement showed that annual capital expenditure declined to \$1.78Bln from \$1.93bln.

Its capital spending plan for 2024 will fund about 2.7 Bcfe per day in volumes while average natural gas prices dipped over 50 percent in the fourth quarter compared with last year and fell to a three-and-one-half year low in February 2024.

Chesapeake explained that quarterly revenues mostly from natural gas tumbled to \$763M from \$2.20Bln in the 2022 quarter.

Natural gas revenues for the year declined to \$3.54Bln from \$9.89Bln in the previous year with some marginal income also from oil and natural gas liquids.

Derivative revenues for 2023 came to \$1.73Bln versus derivative losses of \$2.68Bln in 2022.

ENAGAS, the Spanish natural gas operator of six large LNG terminals and with gas assets in other European countries and overseas, reported a fall in net profits as Spanish gas and power demand dropped, offset by a one-time gain from the sale of a stake in a gas pipeline in Mexico.

The Madrid-based company’s net profit in 2023 totalled €342.5 million (\$369M), exceeding the yearly target range of €310M-€320M, though down by 8.8 percent on the €375.8M logged in 2022.

Enagás said that natural gas demand from the power sector in Spain dropped by more than 30 percent from the very high levels of 2022.

“The demand for gas for electricity generation decreased by 30.7 percent, after registering in 2022 the highest level since 2010, as a consequence of the increase in generation from renewable energy and the decrease in electricity transported by international connections, mainly to France,” explained Enagás.

Spain also appears to be supplying more gas to Morocco as natural gas exports by Enagás via pipelines increased by 23.7 percent.

Annual revenues declined by 5.2

percent to €919.6M from €970.3M on the decline in Spanish gas and power demand.

The one-time gain in profits for Enagás came to €42.2M from the sale of its stake to Macquarie Infrastructure Partners of Australia in a 172-kilometres (107 miles) gas pipeline crossing the three Mexican states of Morelos, Puebla and Tlaxcala.

Enagás posted gross earnings (EBITDA) of €780.3M, exceeding the yearly target of €770M.

The company said that total demand, including exports, decreased by 7.3 percent in 2023, although it noted a recovery in demand for natural gas from industry.

It added that funds from operations (FFO) at the end of December 2023, amounted to €555.3M, including dividends received from affiliates totalling €192.5M.

Among the receipts was the first ever dividend from the company’s 20 percent shareholding in the Trans-Adriatic Pipeline (TAP) running from Azerbaijan to Italy and which amounted to €76.4M.

Enagás net debts at the end of the year were reduced by €122M but still totalled €3.347 billion.

Among its annual highlights, the company noted the start-up of the El Musel LNG trans-shipment terminal in 2023 in the Port of Gijón in northwest Spain to supply other EU nations. Logistics services have been assigned to the European utility Endesa.

Enagás owns five large Spanish terminals at Barcelona in the northeast, at Cartagena in the southeast, at Sagunto in the east of Spain, at Huelva in the southwest and the El Musel facility.

Enagás additionally holds a 50 percent stake at another northwest facility serving the northwest port of Bilbao and owns two small regasification terminals in the Canary Islands.

In other LNG activities outside of Spain, Enagás became an industrial partner by taking a 10 percent stake in the Hanseatic Energy Hub consortium planning an onshore LNG import terminal at the German North Sea port of Stade.

ENBRIDGE Inc, the Canadian-based pipelines and energy company, swung to a fourth-quarter profit from a previous loss and more than doubled annual profits as pipeline natural gas and liquids distributions increased amid the purchase of a gas utilities portfolio.

Enbridge reported a quarterly profit of

C\$1.72 billion (US\$1.28Bln) compared with losses of C\$1.06Bln in the same three months of 2022.

The Calgary, Alberta-based company said annual profits in the 12 months to December 2023 jumped to C\$5.84Bln (US\$4.84Bln) from C\$2.58Bln in the previous year.

“In Gas Distribution, we announced a once-in-a-generation opportunity to acquire large-scale gas utilities (in 2023) at historically attractive multiples,” explained Greg Ebel, President and Chief Executive of Enbridge.

“The assets operate in gas supportive jurisdictions and are expected to be accretive in their first full-year of ownership,” said the CEO.

“Our pro-forma gas distribution business will deliver approximately 9.3 billion cubic feet per day of natural gas to 7 million customers, making it North America's largest natural gas utility platform,” he added.

Abel said that the US natural gas acquisitions balanced Enbridge's earnings mix to around 50 percent for natural gas and renewables and 50 percent for liquids.

Enbridge agreed a deal with Dominion Energy of the US in September 2023 to acquire a North American gas utility franchise valued at around US\$14Bln.

The three businesses purchased in the cash and debt transaction included the East Ohio Gas Company serving more than 1.2 million customers across 400 communities and 27 counties in Ohio and Questar Gas, which serves about 1.2 million customers across Utah as well as regions in southwest Wyoming and Idaho, in addition to its related Wexpro companies.

The third business Enbridge bought was the Public Service Company of North Carolina, also known as PSNC Energy, which serves more than 600,000 customers across 28 counties in the state.

Since the announcement of the acquisitions, Enbridge said it had pre-funded C\$10Bln of the C\$12.8Bln (US\$9.4Bln) of the cash consideration in the transactions, significantly de-risking the execution of the company's funding plan.

“In Gas Transmission, we continue to expand our existing infrastructure to support the growing demand for safe, reliable and affordable natural gas,” added CEO Ebel.

“We added over 100 bcf of combined gas storage between Aitken Creek in British Columbia and Tres Palacios in the

US Gulf Coast,” he said.

In the US Northeast Enbridge also concluded an open season on the Algonquin Pipeline to expand deliveries to New England.

It also finally closed the first six acquisitions of the landfill-to-renewables natural gas (RNG) made from waste for facilities taken over from Morrow Renewables.

“In Liquids Pipelines, we saw high utilization across our systems and set multiple throughput records. The Mainline transported annual average volumes of 3.1million barrels per day anchored by December's exit rate of 3.26 MMB per day,” said Abel.

“The industry approved MTS-settlement (swift payment) in May 2023 and this will help to ensure high utilization and first-choice service standards for years to come,” he added.

In the US Gulf Coast, both Enbridge Ingleside Energy Center (EIEC) and Gray Oak set annual records for throughput.

“Enbridge's US Gulf Coast infrastructure provides customers with the most cost-effective path from the Permian Basin to tidewater and we are well positioned to take advantage of growing Permian production,” stated CEO Ebel.

In its 2024 outlook, Enbridge said growth was anticipated to be driven by contributions from recent acquisitions, assets placed into service, and toll escalators, partially offset by lower Mainline tolls, higher financing costs and higher current income taxes.

Enbridge increased its 2024 quarterly dividend by 3.1 percent to \$0.915 (\$3.66 annualized) per share, commencing with the dividend payable March 1, 2024 to shareholders of record on February 15, 2024.

“I'm pleased to report another year of strong safety, operational and financial performance across the enterprise. While geopolitical instability, persistent inflation and rising interest rates impacted the North American energy industry, Enbridge achieved its financial guidance for the 18th year in a row,” said Ebel.

“Our stable, low-risk, diversified business remains well positioned to grow earnings and dividends for shareholders for years to come,” he added.

EQT Corp., the leading US natural gas producer in the Appalachian shale basins, reported solid annual net income even as earnings dropped for the fourth quarter

and has now signed three LNG tolling agreements on the Gulf Coast and was pursuing sales contracts.

EGT said that net income for the year to December 2023 came to \$1.73 billion versus \$1.78Bln in the previous year.

Diluted annual earnings per share amounted to \$4.22 per share compared with \$4.38 per share in 2022.

Annual net cash provided by operational activities came to \$3.18Bln for 2023 versus \$3.46Bln in the previous year.

The Pittsburgh-based company with shale-gas operations in the Marcellus and Utica formations of western Pennsylvania, Ohio and West Virginia, said net income for the last three months of the year declined to \$501 million from \$1.71Bln in the same prior year period.

However, EQT said that fourth-quarter production of 564 billion cubic feet equivalent (Bcfe) was towards the high-end of guidance “driven by continued operational efficiency gains and strong well performance” in the period.

On LNG strategy, EQT said its contractual pipeline capacity will deliver 1.2 billion cubic feet per day, or 20 percent of EQT's production, to the Gulf Coast, where it can be sold into international markets through new LNG export facilities.

EQT has signed Heads of Agreements (HOAs) with the developers of the Lake Charles LNG, Commonwealth LNG and Texas LNG projects and negotiations towards finalising “definitive tolling agreements” were ongoing

The company said it was also pursuing Sales and Purchase Agreements (SPAs) for its current total of 2.5 million tonnes per annum of LNG production with prospective international buyers and was additionally exploring more future tolling opportunities.

In the earnings report, EQT said that net cash provided by operating activities in the final three months of the year came to \$624M.

The company also retired all of its outstanding convertible notes, eliminating more than \$400m of debt and simplifying capital structure.

In the earnings presentation, EQT described itself as a “pure-play Appalachian producer” with 1.1 million core net acres, a 30-year de-risked inventory and with wells at 4,000 locations.

The average realised price in the fourth quarter was \$2.75 per thousand feet equivalent (Mcf) and \$2.79 per Mcfe

for all of 2023.

Total operating costs amounted to \$1.27 per Mcfe versus \$1.33 Mcfe for the whole of the past year.

EQT also signed two of the largest, long-term physical supply deals linked to the Mountain Valley Pipeline being constructed from northwestern West Virginia to southern Virginia.

The MVP will be over 300 miles in length and there is also a proposed Southgate Extension which would run 75 miles from Virginia into North Carolina.

EQT said that MVP volumes were locked in at premium pricing while providing supply security to customers.

“EQT restructured previous 525 MMcf per day capacity release into a new 10-year, 800 MMcf per day firm sales contract beginning in 2027,” it said,

“It also signed new 10-year, 400 MMcf per day firm sales contract with separate investment-grade utility beginning in 2027,” said EQT.

“The supply deals will facilitate Transco debottlenecking projects and shift EQT's pricing exposure to premium Transco Zones 4 and 5 South pricing,” it added.

EQT's 2023 total proved reserves amounted to 27.6 trillion cubic feet equivalent (Tcfe), an increase of 2,594 Bcfe, or 10 percent, versus 2022 due to extensions, discoveries and other additions and the acquisitions of the Tug Hill and XcL Midstream companies.

The Marcellus Shale still comprises 91 percent of the company's total proved developed reserves, 98 percent of its total proved undeveloped reserves and 93 percent of total proved reserves.

“On the operations front, we set multiple drilling world records and achieved our highest completion efficiency pace ever,” said President and Chief Executive Toby Z. Rice.

“This stellar execution allowed us to generate roughly \$880M of free cash flow in 2023 despite natural gas prices averaging just \$2.74 per MMBtu, which speaks to our advantaged position at the low end of the North American natural gas cost curve,” explained Rice.

“We also integrated the Tug Hill and XcL Midstream (acquired) assets at a company record pace while driving incremental upside to synergies by leveraging our best-in-class operating model,” said Rice.

“Additionally, we signed the largest long-term physical supply deals ever executed in North America, highlighting EQT's unique ability to meet significant



TRUSTED. TO THE EXTREME.

BECAUSE EXTREME APPLICATIONS ASK FOR EXTREME PERFORMANCE

Owens Corning Provides Reliable and High-Performance Insulation Solutions for both Critical Tank and Piping & Equipment Applications.

- Proven Fire-Safe Insulation Systems in Accordance with UL1709 and ISO 22899
- Dedicated Insulation Systems for Cryogenic Tank Bases and Cryogenic Piping & Equipment
- 100% Impermeable Material Properties for Proven Performance in Cryogenic Applications
- Proven Long-Term Performance for Lasting Energy Efficiency
- Trusted Insulation Solutions Provider to the LNG Industry for Over Five Decades

SELECTING THE PROPER INSULATION SYSTEM FOR EXTREME APPLICATIONS IS CRITICAL FOR STAYING OPERATIONAL, SAFE AND HIGH-PERFORMING



FOAMGLAS®

Visit us online at www.foamglas.com

© 2024 Owens Corning, All Rights Reserved

growth in US gas-fired power demand while generating differentiated margin opportunities,” stated the EQT CEO.

The EQT outlook for the coming year forecasts total sales volume of 2,200 Bcfe to 2,300 Bcfe and the company expects maintenance capital expenditures to total \$1.95Bln to \$2.05Bln in 2024.

“The company also plans to spend \$200M to \$300M on strategic growth capital expenditures, which target opportunistic, high-return water, midstream and other infrastructure and land opportunities,” it stated.

“Inclusive of the company's advantaged hedge position, the EQT estimates a 2024 NYMEX Henry Hub free cash flow breakeven price of \$2.20 per MMBtu,” it stated.

EQUINOR, the Norwegian major that is now the leading pipeline natural gas supplier to Europe, has just signed a 15-year agreement to deliver LNG cargoes to India with shipments starting in 2026.

Equinor's growing global LNG portfolio is based on output from the Equinor-operated Hammerfest liquefaction plant on Melkøya island in northern Norway and additional cargoes booked mainly from the US.

Equinor said that the new Indian partner, Deepak Fertilisers and Petrochemicals Corporation Limited (DFPCL), would use the regasified LNG mainly as feedstock for production of ammonia in its newly commissioned plant for manufacturing fertilisers and petrochemicals.

The Equinor-Deepak agreement covers an annual supply of around 650,000 tonnes per annum of LNG for 15 years starting from 2026.

Equinor said that it was delighted with the Deepak agreement as ammonia was a “key building block for the society, being crucial for agriculture and food security” in the Asian nation.

“The ammonia which Deepak will produce from the natural gas will be for domestic use,” added Equinor.

The Deepak fertilisers facility is located at Taloja in the West Coast state of Maharashtra.

“Deepak's new ammonia plant has created new gas demand in the growing Indian market,” explained Helge Haugane, Equinor's Senior Vice President for Gas and Power.

“I am very happy that we have landed this agreement with Deepak Fertilisers. The agreement is another proof of how we use our position in the Atlantic Basin to

strengthen our relationship with key players in the growing Indian market,” he added.

“We look forward to developing our relationship with Deepak and to exploring avenues for further collaboration on petrochemicals feedstocks such as propane and ethane and on low-carbon ammonia in the future,” stated Hauge.

Sailesh C. Mehta, Chairman and Managing Director, of DFPCL, said he was delighted with the Norwegian LNG deal.

“The agreement will provide reliable supplies of feedstock which will further strengthen Deepak Fertilisers' value-chain from gas to ammonia, the key ingredient in fertilisers,” Mehta explained.

“The agreement will help us absorb global volatility as well as enhance overall margins,” he added.

“We also look forward to exploring with Equinor further collaboration on feedstock and carbon footprint reduction initiatives,” stated Mehta.

FLEX LNG, the Norwegian shipping company with a fleet of 13 vessels and several chartered to some of the largest market players, reported a halving of fourth-quarter net profits and forecast a challenging next two years for the sector with more ships in the global fleet.

“We see a somewhat more challenging freight market as there are more ships for delivery compared to the expected new export volumes,” said Øystein Kalleklev, Chief Executive of Flex LNG Management whose charterers include Cheniere of the US and UK major BP.

“Hence, we think Flex LNG is very well positioned as we have 94 percent charter coverage for 2024 and 50 years minimum firm charter backlog, which may increase to 71 years if all charterer's options are extended,” Kalleklev explained.

“Additionally, our fleet consists entirely of large LNG carriers fitted with the most modern two-stroke propulsion system resulting in significant fuel savings compared to older generation tonnage,” the CEO added.

Flex earnings showed a halving of fourth-quarter net income to \$19.39 million from \$41.47M in the same three months of 2022.

Annual net profits dropped to \$120.04M from \$188.04M in the 2022. Vessel operating revenues in 2023 came to \$371.02M versus \$347.91M in the previous year.

“The increase is due to a higher proportion of our fleet on improved longer term fixed-rate contracts as well as a relatively stronger spot market compared to 2022,” said Kalleklev.

“This is offset by scheduled dry-dockings of the vessels ‘Flex Enterprise’, ‘Flex Endeavour’, ‘Flex Ranger’ and ‘Flex Rainbow’ in 2023, resulting in 77 off-hire days,” the CEO said.

Vessel expenses for the fourth quarter came to \$97.2M compared with \$94.6M for the third quarter 2023.

Average Time Charter Equivalent (TCE) rates amounted to \$81,114 per day for the fourth quarter versus \$79,207 per day for the third quarter 2023.

“We guided that our revenues would increase from \$348M in 2022 to approximately \$370M in 2023 and we delivered revenues of \$371M in 2023, while revenues for the fourth quarter came in at \$97.2M in line with quarterly guidance,” Kalleklev stated.

In an overview the LNG freight market, Flex noted that there were 630 live ships in the fleet at the end of 2023, with 210 steamers still in service.

“An additional 33 newbuilds were added to the fleet last year while 68 newbuild orders were placed, representing a significant decrease from the 145 orders in 2022 and 69 newbuilds are scheduled to be delivered in 2024, with seven uncommitted for long-term contracts,” Flex said.

Flex also stated that newbuild prices for the base specifications have “somewhat tapered off” from the peak of \$265M, with ship brokers quoting \$258M to 262M as of early February 2024.

GASUM, Nordic LNG and biogas company, has started an expansion project at its Riihimäki biogas plant in Finland that makes natural gas from waste and supplies it to the national gas grid.

Gasum is a Finnish state-owned company with LNG terminals at Øra and Ålesund in Norway, at Lysekil and Nynäshamn in Sweden and at Pori in Finland.

The company is also a shareholder in the Manga LNG terminal joint venture in Tornio in Finland.

It additionally operates the small-scale LNG carrier “Coral Energy” for Nordic fuel deliveries.

Gasum said that its Riihimäki biogas plant in Finland is now undergoing “a significant conversion” focused on the treatment of the digestate.

This is the residues left from the anaerobic fermentation of organic matter such as animal manure and plant biomass.

“The plant primarily processes biowaste, sewage sludge and industrial side streams and the resulting digestate has traditionally been utilized in agriculture, providing essential nutrients to farms as fertilizer,” explained Ari Suomilammi, Gasum's Head of Renewable Gas.

“However, the utilization of digestate has faced challenges due to recently revised fertilizer regulations,” he added.

Operational since 2016, the Riihimäki plant contributes around 45 gigawatt hours of biomethane annually to Finland's gas transmission network and meeting industrial and transportation needs for renewable energy.

The Gasum investment includes an evaporator to remove excess water and a reverse osmosis system to separate and recover valuable nutrients from the digestate.

“The resulting product is a solid digestate, resembling soil, suitable for agricultural use and landscaping. Additionally, the thick concentrate can be utilized as fertilizer and the produced ammonium water in industrial processes,” Suomilammi said.

Gasum added that the biogas project demonstrated the company's commitment to increasing production to bring more renewable energy to the market and at the same time promote the use of recycled nutrients.

Gasum said it was investing €7.5 million (\$8.1M) in the project aimed at expanding and enhancing the Riihimäki plant.

“The project's objective is to implement an advanced evaporation system to remove liquid more efficiently from the digestate generated during biogas production,” Gasum explained.

“This addition to the plant process not only boosts operational efficiency but also allows for the recovery of nitrogen in the form of valuable ammonium water,” it added.

INDIAN liquefied natural gas imports increased by 15 percent for the first 10 months of the fiscal year so far and by 26 percent in January as an additional terminal was available and as prices declined by 27 percent since last year while demand continued to grow.

LNG import for the month of January 2024 came to 1.78 million tonnes, or 27

cargoes, compared with 1.41MT, or 21 cargoes, in December 2022, according to provisional data from India's Ministry of Petroleum and Natural Gas.

Deliveries of cargoes for the previous month of December had amounted to 1.77MT, or 26 cargoes, compared with 1.58MT, or 23 cargoes, in the prior year month.

The LNG imports rose by around 15 percent for the first 10 months of the fiscal year from April 2023 to the end of January 2024 and amounted to 18.72MT, or about 274 cargoes, compared with 16.22MT, or 237 cargoes, in the same period of the previous year.

The Ministry data showed that LNG cargo costs in the first 10 months of the fiscal year to January 2024 cost the nation 90,869 crore Indian rupees (\$10.90Bln), which was almost 27 percent less than the 122,863 crore rupees (\$14.80Bln) paid in the prior fiscal-year period.

Deliveries of LNG to Indian terminals in 2023 have come mainly from Qatar, which provides over one-third of volumes, as well as West Africa, the US, Asia-Pacific nations, the spot market and Russia.

The latest regional spot LNG indicator price, the West India Marker (WIM), declined for the front month to \$8.395 per million British thermal units from \$9.183 per MMBtu last month.

The WIM futures prices are for spot LNG cargoes delivered ex-ship (DES) into West Asia and the Arabian Gulf states.

The Indian Ministry data showed that domestic natural gas production for the month of January jumped by 6 percent to 3.139 billion cubic metres versus 2.975 Bcm in January 2022.

Output of natural gas for the first 10 months of the fiscal year came to 30.35 Bcm, an increase of 5 percent on the 28.84 Bcm logged for the same 10 months in the previous year.

Reliance Industries, a leading Indian conglomerate with significant energy interests, started up a third gas field in the Krishna Godavari Basin KG-D6 block on the East Coast in July 2023 in a joint venture with BP of the UK.

Reliance and BP brought the MJ field on stream as the third part of a three-field project also involving the R-Cluster and the Satellite-Cluster fields.

The Ministry also gave average capacity utilization rates for the seven LNG terminals now operating and with data covering the first nine months, one month in arrears, of the fiscal year from April to December.

The total capacity of existing terminals has now risen to 47.7 MTPA from the seven facilities.

The largest Indian terminal at Dahej, located north of Mumbai and operated by Petronet LNG, has capacity of 17.5 MTPA and had the highest utilisation rate which rose to 95.1 percent capacity use versus 94.4 percent in the previous year-to-date month.

At the Hazira facility, operated by Shell India, the utilisation rate edged lower to 32.8 percent from 34.6 percent previously for 5.2 MTPA of capacity.

The GAIL (India) terminal at Dabhol, south of Mumbai, reported an increase to 36.4 percent in throughput from the 35.5 percent nine-month average previously logged for its 5 MTPA.

The West Coast terminal at Mundra reported a fall in utilisation to 11.1 percent from 11.6 percent for 5 MTPA.

At the Kochi facility in the southwest state of Kerala usage increased to 20.3 percent versus 19.8 percent previously for 5 MTPA.

At the Kamarajar (Ennore) terminal on the East Coast, capacity usage fell slightly to 17.0 percent from the 17.2 percent registered previously at the facility with 5 MTPA of capacity.

At the second East Coast terminal, owned by the Adani group and TotalEnergies and located at Dhamra in the state of Odisha, the utilisation rate edged lower to 25.1 percent versus 25.4 percent for its 5 MTPA of regasification capacity.

The Ministry said that natural gas consumption for the month of January 2024 was 5.494 Bcm which was 14 percent higher than in January 2023.

Consumption was 10 percent higher at 55.074 Bcm for the 10 months of the fiscal year to January compared with 50.100 Bcm in the previous fiscal-year period.

The major consumers of natural gas in the country are the fertilizer industry with around 34 percent of consumption, city-gas 22 percent, power generation 15 percent, refineries 9 percent, petrochemicals 5 percent and others 15 percent.

The Ministry additionally said that in the Indian oil market the basket crude price averaged \$80.32 a barrel during January 2024 as against \$77.91 per barrel during December 2023 and \$80.92 a barrel in January 2023.

The data showed that total crude oil processed during January 2024 was 22.2 million tonnes which was 1.1 percent higher than in January 2023 with Public

Sector Unit/Joint Venture refiners processing 15.3MT and private refiners processing 7.3MT of crude oil.

Total indigenous crude oil processed was 2.2MT and total imported crude oil processed was 20.4MT by all Indian refineries.

“There was a growth of 2.8 percent in total crude oil processed in the current April-January fiscal-year period compared with FY 2022-2023,” the Ministry noted.

JAPANESE liquefied natural gas imports dropped by 10.5 percent amid milder winter weather and prices at almost 30 percent lower levels while thermal coal imports were steady.

Japan received 6.11 million tonnes of LNG imports in January 2024, or 90 cargoes, compared 6.82MT, or 101 cargoes, in January 2023, according to provisional trade data from the Ministry of Finance.

The Japanese paid 622.41Bln yen (\$4.14Bln) for LNG cargoes in January 2024, down 28.8 percent from the year before when the shipments had cost a total of 873.51Bln yen (\$5.81Bln).

Japan imported a total of 9.95MT of thermal coal for power generation and that was 6.8 percent lower than last January's total.

The Ministry data had shown that Japanese imports in the previous month of December 2023 had amounted to 6.49MT, up 7.2 percent year-over-year, and had cost of 656.52Bln yen (\$4.43Bln).

Japan's LNG imports for all of 2023 had dropped to a 14-year low and China regained the No. 1 spot as the largest global importer of the fuel with a late surge of deliveries.

Japan's annual LNG imports dropped by 8.1 percent last year to 66.15MT compared with 71.99MT in 2022 and 74.31MT in 2021.

This was Japan's lowest total since imports of 64MT were recorded in 2009 while China regained the top spot in 2023 with LNG imports of just over 71MT.

Japan had briefly regained the global No. 1 spot as an LNG importer from China in 2022 with its 72MT of volumes.

The Ministry data for January 2024 showed that deliveries of LNG from Asian nations like Malaysia and Indonesia amounted to 1.60MT, down 14.7 percent.

Deliveries from countries in the Middle East like Qatar came to 728,000 tonnes in January, down 7.4 percent from the previous year.

Only US deliveries to the Japanese network of LNG terminal increased by

19.6 percent to 601,000 tonnes, while deliveries from Russia declined by 7.2 percent to 654,000 tonnes

The balance of Japan's LNG imports in January 2024 came from Australia and the spot market.

This portion of deliveries amounted to 2.62MT, well down in the 3.86MT received in January 2023.

JERA Co. Inc, Japan's biggest liquefied natural gas importer and utility company, has signed an accord with a unit of Indonesia's state-owned power supplier PT PLN (Persero) to cooperate on LNG supplies for Indonesian domestic use.

JERA's accord on joint participation in the LNG value chain is with PT PLN Energi Primer Indonesia (PLN EPI), the fuel procurement and transportation operator for the PLN power company.

“Indonesia is expected to see continued increases in its demand for electricity due to its robust economic growth,” said JERA.

“On the other hand, the country is highly dependent on coal-fired power generation, and there is concern about the increase in greenhouse-gas emissions that will accompany the increase in electricity demand and accordingly the importance of LNG as an energy transition fuel is increasing,” JERA explained.

“Collaboration to establish a value chain for LNG is expected to help Indonesia achieve both a stable supply of electricity and will contribute to achieving net zero emissions by 2060,” the Japanese company added.

JERA buys around 35 million tonnes per annum of LNG and is Japan's biggest fossil-fuel electricity generator, being owned jointly by Tokyo Electric Power and Chubu Electric, the two largest power companies.

JERA currently oversees the operations and provides fuel for a total of 26 power plants in Japan and imports LNG into 11 of Japan's network of 37 terminals.

Indonesia's power giant PLN has always been at the centre of Indonesia's LNG project development.

The Asian nation comprising a huge chain of Islands has always been both an LNG exporter from its main export plant at Bontang in East Kalimantan as well as an importer.

Indonesia was the first in the region to use floating storage and regasification units (FSRUs) for delivery of domestic LNG for power.

UK major BP shipped the first cargo in October 2023 from the third Train expansion at Indonesia's Tangguh LNG plant to PLN for domestic consumption.

The start-up of Tangguh Train 3 added 3.8 MTPA of LNG production capacity to the existing two-Train facility, bringing total plant capacity to 11.4 MTPA.

The first cargo of LNG produced by the new Tangguh Train was delivered to PLN's regasification facility in Arun in Indonesia's Aceh Darussalam province.

Tangguh LNG is located in the Papua Barat Province of Indonesia and has been in operation since 2009.

"The JERA and the PLN EPI unit accord provides for collaboration in LNG procurement, optimization and the development and operation of LNG receiving terminals in anticipation of growing demand for LNG in Indonesia," said JERA.

"By utilizing JERA's LNG expertise, JERA and PLN EPI will establish an LNG value chain for the power segment in Indonesia," added JERA.

"Drawing on our long experience in the LNG value chain business, JERA will leverage experience and expertise of LNG, a transitional fuel indispensable for achieving decarbonization," stated JERA.

JERA is already carrying out joint research with Japanese LNG and energy engineers JGC Holdings Corp. and the Indonesia's PLN on a project to introduce and commercialise carbon-capture and storage for thermal power.

NATIONAL GRID Plc's UK Isle of Grain facility on the Medway River in Kent, has extended its capacity agreement with the Algerian national energy company Sonatrach.

Grain LNG, the largest LNG terminal in Europe and owned by a subsidiary of National Grid, said a 10-year agreement was signed to extend the long-term storage and redelivery capacity of Sonatrach at the facility from January 2029.

This is the first agreement signed for around 3 million tonnes per annum of capacity from Grain LNG's competitive auction process which was launched in September 2023.

"The successful outcome of the auction further secures the future of Europe's largest terminal into the next decade," said the company.

The Grain LNG terminal, sited about 43 miles (69 kilometres) southeast of London, is currently expanding to store and deliver enough gas to meet up to

33 percent of UK gas demand.

"This helps ensure the UK's energy security as LNG imports play a critical role in making sure the UK has the gas it needs, when it needs it and providing a flexible and reliable supply to heat peoples' homes and to complement the growth of renewable generation," said Katie Jackson, President of National Grid Ventures, owner of the terminal.

"This agreement ensures that Grain will continue to have a diverse supplier base within the Atlantic Basin," added Jackson.

"I am delighted that Sonatrach have once again shown a long-term commitment to our world-class site which UK consumers rely on, and I look forward to continuing our working relationship with them in the coming years," she stated.

Mayouf Belgacem, Executive Vice President of Sonatrach, said LNG would continue to play a critical role in worldwide energy supply.

Algeria, the longest-standing global exporter of LNG supplies to Europe, operates two liquefaction and export plants at Skikda and Arzew on the Mediterranean Coast.

"We have expressed our willingness to strengthen our position as a long-term partner of Grain LNG and as a substantial contributor to UK gas security of supply," Belgacem explained.

"Besides, this agreement offers Sonatrach guaranteed access to Europe's largest terminal which helps line up Sonatrach's long-term marketing strategy by diversifying its markets," said the Sonatrach executive.

The Isle of Grain terminal had launched its auction for 9 MTPA of existing capacity and Sonatrach has now been a leading beneficiary.

There is also an expansion project underway at the UK facility that will see LNG storage at the terminal increase in 2025 to around 1.2 million cubic metres.

In the past 12 months the UK terminal has unloaded almost 120 carriers originating from multiple countries.

In addition to Algerian volumes, the terminal has received cargoes from the US, Qatar, Angola, Nigeria, Norway, Peru and Trinidad and Tobago.

Grain LNG, as part of the National Grid Ventures subsidiary, operates outside of National Grid's core regulated businesses in the UK.

National Grid Ventures has a diverse portfolio including subsea electricity interconnectors, competitive transmission,

wind and solar generation, battery storage as well as the Grain LNG storage and regasification infrastructure.

NYK LINE, the Japanese company whose formal name is Nippon Yusen Kabushiki Kaisha Line and with almost 80 LNG carriers and a fleet of over 700 vessels covering all sectors, has given an overview of shipping difficulties such as Panama Canal congestion and trading route problems, China's economic slowdown and lower global oil output for its tankers to handle.

NYK Line said that the LNG fleet had stable earnings because of contract conditions though other segments such as oil tankers, car-carriers, containerships and other vessels had mixed earnings as the company's fiscal nine-month revenues declined and the profits plunged.

The company, headquartered in Tokyo, reported revenues in the first nine months of the fiscal year to December of 1.79 trillion yen (\$12.05 billion), down from 2.05 trillion yen (\$13.81Bln).

The profits for the nine months attributable to the parent company plummeted to 153.57 billion yen (\$1.03Bln) from 920.37Bln yen (\$6.20Bln) in the same period of 2022.

NYK Line's huge owned, chartered and operated fleet comprises 79 LNG carriers, 68 tankers and multi-purpose fuel carriers, 120 car carriers and 55 containerships as well as 270 assorted Capsize and Panamax bulkers and several hundred other assorted vessels.

"In the LNG carrier segment, the results were steady on support from the long-term contracts that generate stable earnings," said NYK.

"Also, in the offshore business, FPSO (Floating, Production, Storage and Offloading), drill ships and shuttle tankers were steady," it added.

However, in the petrochemical tanker market, NYK said that the trade patterns changed due to the impact of the ongoing situation in Russia and Ukraine and the longer shipping distances affecting the market.

"In the Very Large LPG Carrier segment, the increased long-distance shipments from the United States to Asia and the transit restrictions at the Panama Canal caused supply-and-demand conditions to tighten," NYK explained.

NYK said that fuel prices for its ships, namely the bunker oil price (for the fourth quarter) increased to \$633.00 at tonne from \$620.98 a tonne previously.

"The bunker oil price is on average

basis for all the major fuel grades including Very Low Sulphur Fuel Oil (VLSFO)," NYK added.

The company said that as a result of the various issues "both profit and revenue declined compared to the same period last year" in the overall Bulk Shipping Business.

"In the Energy Business Division, the Very Large Crude Carrier (VLCC) market softened in the (fiscal) second quarter due to seasonally weak demand and the decision by major oil producing countries to cut production," NYK explained.

"However, in the third quarter (to December 2023), a period of typically strong demand, exports from the Americas increased, and the market partially recovered," the company added.

NYK said that the Dry Bulk Business Division, including the Capesize market was affected by the economic slowdown in China through August 2023.

"However, from September, sentiment improved due to seasonally strong demand and additional economic stimulus measures in China, and combined with tighter supply-and-demand conditions in the Atlantic Basin, market levels trended higher," said NYK.

"In the Panamax and smaller segments, although shipment volumes of coal and grain were firm, markets trended below the high levels recorded during the same period last year," it added.

NYK said that within this business environment, efforts were made to reduce the risk of market volatility through the use of futures contracts to stabilize earnings through the acquisition of long-term contracts and to reduce costs through more efficient operations.

The company's car-carrier business was affected by ongoing port congestion and Panama Canal transit restrictions.

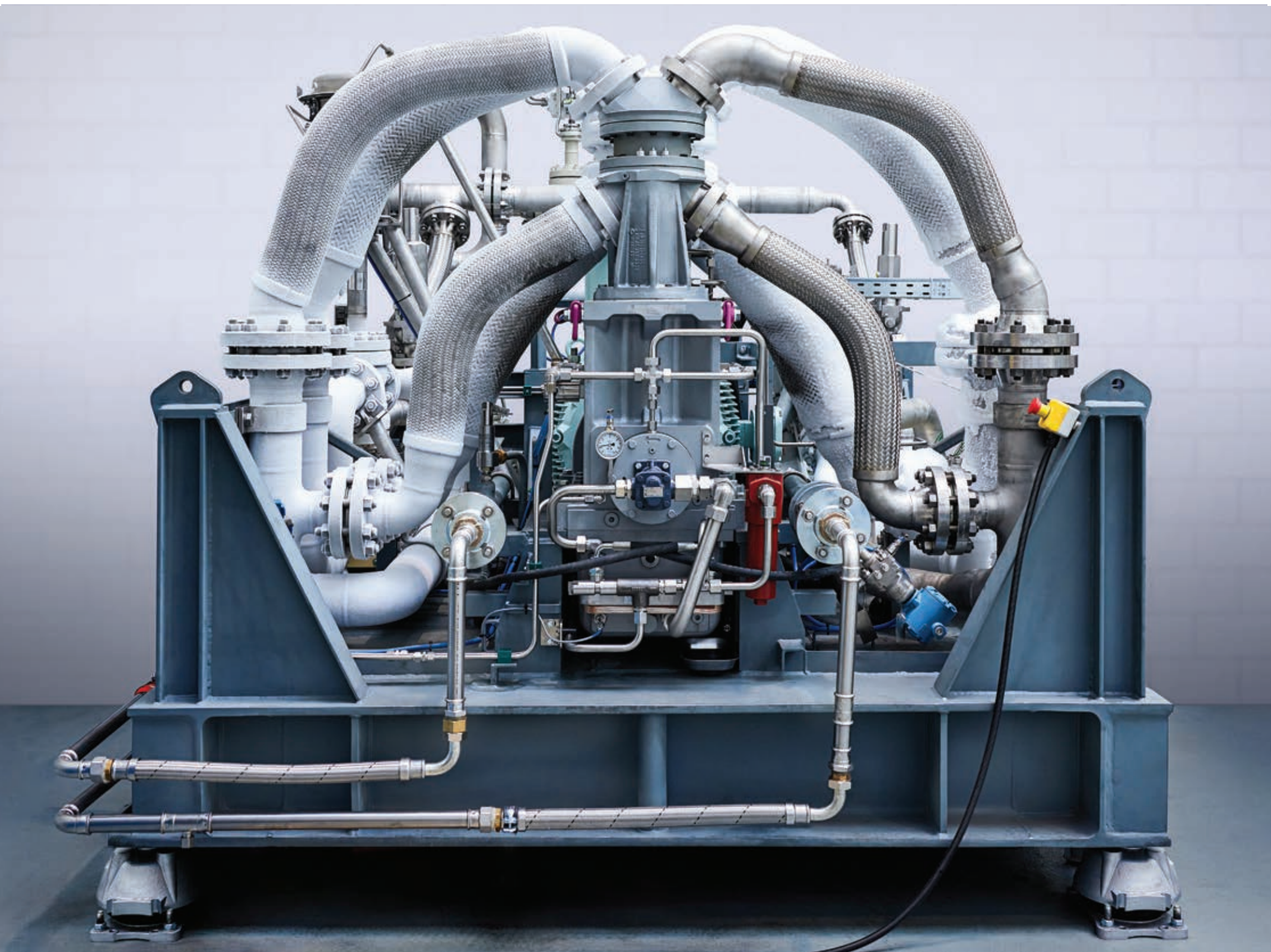
This situation was offset by the fact the number of vehicles transported increased compared with the same period in 2022 due to recovering automobile production volumes and firmer vehicle sales.

"In the auto logistics business, handling volumes increased year on year in Europe, India, Mexico and part of Southeast Asia. Also, efforts were made to increase profitability and expand the business in Turkey and other growth market," said NYK.

OLT OFFSHORE LNG Toscana, the floating terminal firm controlled by Italian natural gas grid and LNG terminals operator Societa Nazionale Metanodotti (SNAM), said the "FSRU

OUR MASTER PIECE FOR MERCHANT SHIPPING

2K70 > COMPRESSION SOLUTION FOR BOG HANDLING
CRYOGENIC + GAS-TIGHT + EFFICIENT = SUSTAINABLE



Burckhardt Compression offers a complete portfolio of compression solutions for marine BOG management. Our compressor systems supply BOG to low- and high-pressure dual-fuel engines, which is the most efficient way to manage BOG. In addition, Burckhardt Compression has a global network of local service centers that enables us to offer local support with a quick response rate.

Learn more: burckhardtcompression.com/marine

get leaflet



Compressors for a Lifetime™



Toscana” vessel would be undergoing long-term maintenance for a longer period than initially expected.

The “FSRU Toscana” will now be offline for a total eight months from March 1, 2024, until October 31, 2024.

OLT Offshore had previously said that the “FSRU Toscana” would be offline from April until the end of October 2024 but the start date for the departure to a shipyard has been brought forward to the start of March.

OLT Offshore had said that one of the main parts of the work scope for the maintenance would be the replacement of part of the anchoring system of the terminal.

The anchoring system is designed and built to ensure the rotation of the FLNG terminal around the geostationary turret permanently anchored to the seabed.

The vessel “FSRU Toscana” is currently moored 22 kilometres (13.6 miles) off the Italian West Coast between the cities of Livorno and Pisa.

The ship is connected to the Italian gas grid through a 36.5-kilometres pipeline from the shore.

SNAM acquired 49 percent of the share capital of OLT in 2020 from Italian utility company, the Iren Group, and has joint control of the terminal along with Igneo Infrastructure Partners.

Since acquiring control of “FSRU Toscana” SNAM has become Italy’s dominant LNG importing company with several other FSRUs being put into operation.

The OLT Offshore facility, which has a regasification capacity of 5 billion cubic metres per annum, has traditionally provided national peak-shaving services to Italy with LNG cargoes.

SNAM is also currently moving towards developing a fifth LNG regasification facility for Italy at the Adriatic port of Ravenna.

The company has already started the construction of the associated facilities for the new FSRU in the form of the LNG vessel “BW Singapore”.

The FSRU is the second purchased by SNAM to improve Italy’s energy security and will be operational by the end of 2024.

The ship will provide the country with an additional 5 Bcm gas in addition to that supplied by the FSRU “Golar Tundra” which has been operational on Italy’s West Coast port of Piombino in Tuscany since July 2023.

In addition to the Piombino FSRU terminal on the west Coast, SNAM already operates the onshore Panigaglia

LNG facility on the northwest coast near Genoa and which has been in service since 1969.

The new FSRU facility at Ravenna will be in the same area as the Adriatic LNG terminal.

Adriatic LNG terminal is majority-owned by US major ExxonMobil and with QatarEnergy also a shareholder.

The Adriatic terminal is a gravity-based structure located 15 km off the Veneto coastline and SNAM is a 7.3 percent shareholder in the facility.

QATARENERGY Chief Executive Saad Sherida Al-Kaabi has spoken about liquefied natural gas deliveries and Red Sea shipping issues at the laying of a foundation stone for one of the world’s largest petrochemical complexes being built at Ras Laffan, site of Qatar’s liquefaction plant that is being expanded to make the Qataris world leaders in LNG production and exports.

Al-Kaabi said at the ceremony that Red Sea shipping disruptions would limit the timely arrival of LNG cargoes to customers and that diversions away from the Suez Canal to the longer route around the Cape of Good Hope were not ideal as they added to costs and the length of voyages.

Attacks on international shipping have continued from Yemen as Houthi armed groups backed by Iran have launched drones and missiles against vessels heading for or coming from the Suez Canal in what they see as actions to support the Hamas terror group in its war against Israel from Gaza.

The shipping route from Asia and the Arabian Gulf via the Red Sea and the Suez Canal and return transits from the Mediterranean and Europe have mostly been halted for security reasons and crew safety, shutting down about 12 percent of global shipping trade.

“Whether you talk about LNG, crude, LPG, or condensate, it’s exactly the same thing for all these products. There is a cost,” explained Al-Kaabi in reference to the impact on energy product deliveries.

“It’s going to add to costs, it’s going to add time and it’s also going to add constraints to the actual deliveries,” the CEO added.

A voyage to Europe by a Qatari LNG carrier would normally take about nine days while the route round the Cape and South Africa doubles the time to 18 days.

Al-Kaabi declared that he hoped the Red Sea problem would be resolved with an end to fighting in Gaza.

“I think when that stops, according to what we hear from the Houthis, the economic impact on the entire world stops,” Al-Kaabi said.

The laying of the foundation stone for the petrochemicals complex at Ras Laffan was carried out by the Emir of the State of Qatar, Sheikh Tamim bin Hamad Al-Thani.

QatarEnergy said that the new petrochemicals facility would raise Qatar’s overall petrochemical production capacity to about 14 million tons per annum by the end of 2026.

The project is a joint venture with two US affiliate companies and the ceremony was attended by Mark Lashier, the President and CEO of Phillips 66 and Bruce Chinn, the President and CEO of Chevron Phillips Chemical, as well as other senior executives and officials.

“The Ras Laffan Petrochemical Complex is being built at a cost of US\$6 billion, making it the largest investment in the history of QatarEnergy in Qatar’s petrochemicals sector,” said Al-Kaabi.

“There is no doubt that this is an important landmark in QatarEnergy’s downstream expansion strategy as it will reinforce our integrated position as a global energy player and generate significant economic benefits for the country,” he stated.

“Our prominent standing in the petrochemical industry will be further strengthened when we commence production of the Golden Triangle Polymers Plant in 2026, which we are developing in the US state of Texas at a cost of \$8.5 billion in partnership with Chevron Phillips Chemical - and which is considered the biggest in the world,” added Al-Kaabi.

QatarEnergy holds an equity share of 70 percent in the Ras Laffan petrochemical venture with Chevron Phillips Chemical owning the remaining 30 percent.

SHELL reported a drop in fourth-quarter and annual profits as oil and gas prices declined from last year while the UK major’s LNG sales increased to over 67 million tonnes for the year.

Shell reported adjusted earnings of \$28.25 billion for the full-year 2023, down by 29 percent from the previous year’s \$39.87Bln.

Fourth-quarter profits attributable to Shell shareholders tumbled to \$474 million from \$10.41Bln in the same three months of 2022 because of impairment charges.

“Fourth quarter 2023 income attributable also included net impairment charges and reversals (\$3.9Bln) and unfavourable movements due to the fair value accounting of commodity derivatives,” explained the London-headquartered company.

“These charges and unfavourable movements are included in identified items amounting to a net loss of \$6.0Bln in the quarter,” Shell stated

Shell posted adjusted earnings of \$7.31Bln for the final quarter of 2023, up 17 percent from the previous quarter’s \$6.22Bln but lower than the \$9.81Bln posted in the prior-year quarter.

Annual earnings per share dropped by 50 percent to \$2.88 from \$5.76 in 2022.

“Shell delivered another quarter of strong performance, concluding a year in which we made good progress. As we enter 2024 we are continuing to simplify our organisation with a focus on delivering more value with less emissions,” said Shell Chief Executive Wael Sawan.

The LNG sales volumes for the year increased by 2 percent to 67.09 million tonnes from 65.98MT in 2022.

For the fourth quarter LNG sales amounted to 18.09MT, up 8 percent from the 16.82MT logged in the same three months of 2022.

In the Integrated Gas division, including LNG activities, annual earnings tumbled by over 68 percent to \$7.04Bln from \$22.21Bln in 2022.

“Segment earnings, compared with the third quarter 2023, reflected the net effect of higher contributions from trading and optimisation,” said Shell.

However, fourth-quarter earnings also included unfavourable movements of \$1.58Bln due to the fair value accounting of commodity derivatives and impairment charges of \$547M.

Quarterly highlights included the previously announced sale of Shell’s participating interest of 35 percent in Indonesia’s Masela production-sharing contract to Indonesia’s Pertamina Hulu Energi and Petronas of Malaysia, giving them entry to the Abadi LNG project operated by Inpex Corp. of Japan.

Shell added that its partners in the Oman LNG in the Arabian peninsula signed an amended shareholder agreement extending the business beyond 2024.

“We will remain the largest private shareholder in Oman LNG, with a 30 percent shareholding,” Shell added.

In Shell’s Upstream division, total production, compared with the third

quarter increased mainly due to lower scheduled maintenance and growth from new fields.

Upstream earnings compared with last year mainly reflected lower realised oil and gas prices with a decrease of \$5.7Bln and lower volumes sales down \$2.0Bln.

“Full year 2023 segment earnings also included net impairment charges and reversals of \$642M and net charges of \$295M related to the impact of the weakening Argentine peso and strengthening Brazilian real on a deferred tax position,” Shell added.

Shell in December announced the start of production of the floating production, storage and offloading (FPSO) unit “Sepetiba” in the Mero field offshore the Santos Basin in Brazil where it holds a 19.3 percent stake.

It also made a final investment decision for Sparta, a deepwater development in the US Gulf of Mexico in which it holds a 51 percent interest.

In January 2024, Shell additionally reached an agreement to sell the Shell Petroleum Development Company of Nigeria (SPDC) to Renaissance, a consortium of five companies.

“Completion of the transaction is subject to approvals by the Federal Government of Nigeria and other conditions,” said Shell.

SIPG, the Shanghai International Port Group and the first Chinese port to launch LNG bunkering services two years ago, said it registered bonded LNG fuelling of 260,000 cubic metres in 2023, double the total of the previous year as the fuel market continued to expand.

Shanghai, which is also the world's largest port for containerships, was China's first and the world's third port to provide ship-to-ship bonded LNG bunkering with Simultaneous Operations (SIMOPS) operations.

The Chinese port currently offers a range of bunkering services on a regular basis.

International shipping companies with growing fleets capable of using LNG, including the French containers shipping group, CMA CGM Group and ZIM Integrated Shipping Services, have chosen Shanghai Port as an Asian refuel depot for the vessels.

The Shanghai Port noted that it implemented a flexible customs declaration system after launching its service in March 2022 to ensure timely refuelling and customs clearance when the service was provided.

The Port's LNG bunkering tanker, the “Hai Gang Wei Lai”, conducted its latest ship-to-ship fuelling of a vessel this week that was a landmark operation.

Eastern Pacific Shipping (EPS) said that its 150th LNG bunkering took place at Yangshan-Shanghai, with the EPS-managed “CMA CGM Bali” receiving 9,498 cubic metres of LNG from the SIPG bunker vessel, the “Hai Gang Wei Lai”.

The LNG bunkering vessel “Hia Gang Wei Lai” has 20,000 cubic metres of capacity and is operated by Shanghai SIPG Energy Services (SSES), the Port's own bunkering fuel provider.

The LNG fuel operation involved the EPS-managed 15,000 twenty-foot-units (TEU) dual-fuel vessel, “CMA CGM Bali”, receiving 9,498 cubic metres of LNG from the bunker vessel.

EPS's inaugural LNG bunkering operations began in November 2020 and since then the company said that its fleet had received 404,958MT of LNG.

EPS, headquartered in Singapore, said it was determined to remain at the forefront of the shipping industry's green and technology-driven growth.

“The Shanghai Port's bonded LNG bunkering for international shipping has received strong support from all Chinese government departments including the Government of the Shanghai Municipality,” said Gu Jinshan, Chairman of SIPG.

“Bonded LNG bunkering for international shipping contributes in creating a world-class business environment in the Port and is of great significance for improving Shanghai's Port services,” Gu added.

CMA CGM has one of the firmest and longest LNG bunkering contracts in Shanghai for SIMOPS LNG bunkering.

In March 2022 CMA CGM signed a 10-year deal with SIPG for the provision of LNG bunkering services for CMA CGM's vessels sailing from China to the United States.

SONATRACH, the Algerian national energy company, has signed a supply contract for pipeline natural gas to be delivered to Germany via pipelines to southern European as the Germans now appear to be less enthusiastic about replacing Russian gas with LNG imports from the US and Qatar.

The pipeline gas agreement was signed during a visit to Algiers by German ministers and is with Leipzig-based VNG Handel & Vertrieb GmbH, a wholly owned subsidiary of VNG AG.

The VNG group is involved in energy trading and sales as well as natural gas and energy transportation by pipeline and gas storage.

No details were released on the length of the supply contract nor on the volumes of natural gas Algeria would be delivering to Germany from its output of more than 100 billion cubic metres per annum.

Sonatrach, the national oil and gas company with two LNG export plants at Arzew and Skikda on the Mediterranean Coast as well as gas pipelines connected to Spain and Italy, said the deal was signed at a ceremony chaired by Algeria's Minister of Energy and Mines Mohamed Arkab.

The signing of the VNG natural gas deal was also witnessed by the visiting German Vice-Chancellor and Federal Minister of Economic Affairs and Climate Action, Robert Habeck, who is a member of the left-wing Green Party in the three-party German coalition government.

Rachid Hachichi, the Chief Executive of Sonatrach and his VNG counterpart Ulf Heitmüller spoke at the signing ceremony.

“I must express my satisfaction with the strengthening of the energy partnership with Europe through this historic contract with the company VNG, which will lead to the start of natural gas deliveries to Germany,” stated Hachichi.

Ulf Heitmüller, the CEO of VNG, said he was delighted to have been able to conclude a medium-term gas supply contract with Sonatrach.

“VNG thus becomes the first German company to purchase gas via pipeline from Algeria,” Heitmüller added.

“This contract lays the foundations for a relationship of trust in terms of supply, opens new perspectives and strengthens the German-Algerian energy partnership,” stated the VNG CEO.

VNG's Heitmüller added that Algerian natural gas would now be “an essential part” of guaranteed energy security for Germany.

“The purchase of Algerian gas via pipeline to Germany constitutes an additional diversification of VNG's purchasing portfolio, thus strengthening its position as a reliable partner towards its customers and making the company an important contributor to security of supplies,” Heitmüller declared.

TC ENERGY, the North American natural gas pipelines operator, reported record results with rising earnings from US and Mexican pipelines amid the

completion of the Coastal GasLink to LNG Canada in the province of British Columbia.

TC Energy reported fourth-quarter net income of C\$1.46 billion (US\$1.08Bln) versus C\$1.44Bln in losses reported in the same three months of 2022 related to Coastal GasLink delays.

Annual net income for the Calgary, Alberta-based company jumped to C\$2.83Bln (US\$2.09Bln) from C\$641million for all of 2022.

“The Coastal GasLink project and the pipeline was ready to deliver natural gas to the LNG Canada facility in the fourth quarter of 2023,” stated TC Energy.

TC Energy also sold 40 percent non-controlling equity interests in 2023 in US assets, Columbia Gas Transmission and Columbia Gulf Transmission.

The sale amount was partially offset by increased capital expenditures on the US Southeast Gateway pipeline project.

TC Energy has five divisions and the biggest annual earner was US National Gas Pipelines with C\$3.35Bln (US\$2.48Bln) compared with C\$2.61Bln in the previous year.

However, Canadian Natural Gas Pipelines posted a C\$90M loss for 2023 versus even bigger losses of C\$1.44Bln in the previous year related to schedule changes and rising costs of the Coastal GasLink running from the Montney Shale basin of northwest BC to the Shell-run LNG export plant on the coast at Kitimat.

The Canada LNG project has started the commissioning process and anticipates shipping its first cargo by the end of 2024. The final cost estimate of the Coastal GasLink is around US\$10.75Bln.

Annual earnings for the remaining three divisions of TC Energy were Mexican Natural Gas Pipelines at C\$796M annually, up from C\$491M in 2022, Liquids Pipelines, down to C\$1.01Bln from C\$1.12Bln and Power and Energy Solutions earnings reached C\$1Bln, up from C\$833M in 2022.

“By remaining focused on a clearly defined set of priorities emphasizing project execution, safety and operational excellence, we delivered record operational performance,” said François Poirier, TC Energy's President and Chief Executive.

“TC Energy had one of the most transformational years in 2023 as we reached mechanical completion on the Coastal GasLink pipeline project, announced our intention to spin off the Liquids Pipelines business and enhanced

our financial strength through our asset divestiture program,” Poirier explained.

TC Energy’s Board approved a dividend increase of 3.2 percent for the quarter to March 2024, equivalent to C\$3.84 per common share on an annualized basis.

“This represents our twenty-fourth consecutive year of dividend growth,” Poirier added.

TC Energy said that there was 16 percent growth in fourth-quarter gross earnings of C\$3.1Bln compared with \$2.7Bln billion in the 2022 quarter.

Gross earnings for all of 2023 grew by 11 percent for to C\$11.0Bln from C\$9.9Bln in 2022.

“While our Natural Gas Pipelines business is not exposed to material volumetric or commodity price risks, strong utilization rates demonstrate the demand for our services and the longer-term criticality of our assets,” stated Poirier.

TC Energy said that its Nova Gas Transmission Limited (NGTL) System had deliveries in the fourth quarter averaging 14.5 billion cubic feet per day in Canada, largely consistent with the fourth quarter 2022.

“US Natural Gas Pipelines deliveries to power generators continued to grow, setting a record of 2.8 Bcf per day during the fourth quarter of 2023, up 16 percent relative to fourth quarter 2022,” the company added.

Daily average flows on TC Energy’s US Natural Gas Pipelines to all customers in the fourth quarter were 27.7 Bcf per day, in line with the prior-year quarter 2022.

The company noted that its Gas Transmission Northwest (GTN) system achieved an all-time delivery record of 3.1 Bcf on November 11, 2023.

TC Energy added that its Keystone Pipeline System, an oil pipeline running from Canada to the US, achieved around 92 percent operational reliability during the fourth quarter of 2023 amid “continued strong demand” across the Keystone System.

TEXAS LNG, the liquefied natural gas export project to be constructed by the New York-based Glenfarne Group, has selected Gulf LNG Tugs of Texas to assist LNG carriers arriving and departing from the fully permitted facility at the Port of Brownsville.

Gulf LNG Tugs is a consortium of Suderman & Young Towing Company, Bay-Houston Towing and Moran Towing Corp. Under a long-term agreement the

group will build, deliver and operate tugboats that “will be among the most modern, low-emissions tugboats available” to serve the Texas LNG plant.

The Texas LNG project aims to construct a medium-sized plant with 4 million tonnes per annum of output.

“The Texas LNG team undertook a comprehensive process to identify a marine service provider that not only matches our commitment to environmental stewardship, but also provides our customers with reliable, cost-effective marine services,” explained Brendan Duval, Chief Executive and Founder of Glenfarne Energy Transition.

“We are pleased to have Gulf LNG Tugs on board as a partner and look forward to the jobs and local content they will bring to both Texas LNG and the local Rio Grande Valley community,” Duval stated.

The Gulf LNG Tugs partners said they were pleased to be providing marine services in a long-term partnership with Texas LNG.

“We are proud to be the exclusive tug operator for LNG vessels to yet another successful LNG project in the Port of Brownsville and look forward to expanding our operations in the port and our presence in the Rio Grande Valley community,” they added.

The Texas LNG developers said the project was ideally situated for “consistent and reliable maritime operations” with low probability of storm impact, consistent operating temperatures and a location in a protected port.

Texas LNG earlier in January 2024 announced the signing of a Heads of Agreement with EQT Corp., the leading Appalachia shale-gas producer for tolling of 500,000 tonnes per annum of feed gas.

Glenfarne said that the company was in advanced stages of negotiations for the remaining volumes from the project.

Glenfarne is also the sole owner of a second project, Magnolia LNG, proposed for development in Lake Charles in Louisiana with plans to export 8.8 MTPA of LNG.

The FERC had previously approved construction of the Magnolia LNG plant proposed for a 115-acre site near the Calcasieu Ship Channel.

The Magnolia development was owned at one time by an Australian-listed company LNG Ltd that ceased trading amid financial difficulties and the assets were acquired by Glenfarne.

TOTALENERGIES reported declines in annual and quarterly net profits as commodity prices plummeted compared with the previous year while the French major sold over 44 million tonnes of liquefied natural gas and opened the Le Havre floating LNG regasification terminal in France while being further boosted by progress in other oil and gas projects.

TotalEnergies posted a 35 percent drop in adjusted net operating income for all of 2023 to \$25.10 billion from \$38.47Bln in 2022.

“In an uncertain environment, the balanced transition strategy of TotalEnergies, which combines growth in Oil & Gas and in particular in LNG and Integrated Power, delivered strong results in 2023 in line with its objectives,” said Chairman and Chief Executive Patrick Pouyanné.

“During the fourth quarter, TotalEnergies generated adjusted net income of \$5.2Bln and cash flow of \$8.5Bln and International Financial Reporting Standards (IFRS) net income was \$5.1Bln,” stated Pouyanné.

For all of 2023 TotalEnergies reported adjusted net income of \$23.2Bln and cash flow of \$35.9Bln and 2023 IFRS net income was \$21.4Bln (€19.8Bln), up 4 percent year-on-year.

“This year the company once again achieved top tier 20 percent return on equity and 19 percent return on average capital employed,” said CEO Pouyanné.

TotalEnergies said it invested \$16.8Bln, including 35 percent on low-carbon energies and mainly in power.

The company said that its ordinary dividends increased by 7.1 percent and the company completed \$9Bln in share buy-backs of which \$1.5Bln was linked to the Canadian asset disposals.

In the company’s Integrated LNG division income declined 44 percent on an annual basis to \$6.20Bln from \$11.17Bln in the previous year.

Overall LNG sales fell by 8 percent to 44.3 million tonnes from 48.1MT in 2022 and on a quarterly basis declined by 6 percent to \$11.8MT from 12.7MT, but were higher than the 10.5MT logged in the previous 2023 quarter to September.

“Hydrocarbon production for LNG (excluding Novatek in Russia) was up 7 percent quarter-to-quarter, reflecting lower unplanned shutdowns,” said the company.

For full-year 2023, hydrocarbon production for LNG (excluding Novatek) was up 9 percent compared with 2022 due

to increased supply to Nigeria LNG in West Africa, higher availability of Ichthys LNG in the Northern Territory of Australia and Snøvit in Norway.

“In the fourth quarter 2023, LNG sales increased 13 percent quarter-to-quarter, mainly due to higher production and higher spot volumes,” said TotalEnergies.

“For full-year 2023, LNG sales were down mainly due to lower spot volumes related to lower demand in Europe as a result of milder winter weather and high inventories,” explained the company.

Fourth-quarter earnings for the company’s Integrated LNG fell 40 percent to \$1.45Bln versus \$2.40Bln in the same three months of 2022, though were higher than the \$1.34Bln reported in the previous 2023 quarter to September.

The company’s natural gas price realisations dipped significantly from the previous year to \$2.70 per million British thermal units in 2023 from \$6.50 per MMBtu for the US benchmark Henry Hub.

TotalEnergies’ Japan-Korea Marker price for spot LNG cargoes crashed to \$13.8 per MMBtu from \$33.80 per MMBtu in 2022.

The French company also noted that the UK National Balancing Point natural gas price fell by the most and was down 61 percent to \$12.60 per MMBtu from \$32.40 per MMBtu.

In the fourth-quarter TotalEnergies realised an average JKM spot LNG cargo price of \$15.20 per MMBtu compared with \$30.50 per MMBtu in the prior-year quarter, though was higher than the \$12.50 per MMBtu averaged in the previous 2023 quarter.

In LNG highlights, the company’s Integrated LNG division commissioned the floating regasification terminal in the Port of Le Havre in France.

TotalEnergies also extended its partnership with Oman LNG by 10 years and with the Qalhat LNG export plant in Oman by five years.

“Integrated LNG results remain robust with fourth quarter adjusted net operating income and cash flow of 8 percent and 7 percent quarter-over-quarter, respectively, and driven by higher production and strengthening prices,” said TotalEnergies.

“For full year 2023, Integrated LNG generated annual adjusted net operating income of \$6.2Bln and cash flow of \$7.3Bln, which is lower than the exceptional results in 2022 but higher than 2021 thanks to growth in the portfolio,” the company stated.

During the fourth quarter, the company's Integrated Power division continued its profitable growth with higher adjusted net operating income and cash flow of \$527M and \$705M respectively.

Full-year 2023 cash flow totalled \$2.2Bln, which is more than double that recorded in 2022.

Integrated Power achieved return on average capital employed (ROACE) of 9.8 percent in 2023, "demonstrating the relevance" of the company's integrated business model.

TotalEnergies announced several acquisitions, further enhancing its Integrated Power business in the US and in Europe, including 1.5 gigawatts of flexible combined-cycle gas turbine (CCGT) gas-fired capacity in Texas and a renewable energy aggregator with 9 GW of capacity.

In the Upstream division, TotalEnergies said it closed the sale of Surmont oil sands to US major ConocoPhillips for up to \$3.3Bln and other Canadian assets to Suncor of Canada for around \$1.3Bln.

TotalEnergies noted that there was additionally a production start-up of the second phase of the Mero field in Brazil.

"The company also launched an innovative subsea technology to separate and reinject carbon-dioxide-rich gas at the Mero field," it added.

Other Upstream highlights included the acquisition of an additional interest

in Namibia block 2913B and block 2912 offshore the southwest African nation.

TotalEnergies was also awarded a new offshore exploration license in Suriname in South America.

WILLIAMS Companies, the North American pipeline natural gas and storage and gathering operator, increased quarterly and annual earnings because of a litigation gain from US peer Energy Transfer as well as from positive returns from derivatives as it also pledged to supply additional feed-gas for LNG exports with multiple projects making regulatory progress.

The Tulsa, Oklahoma-based company reported fourth-quarter net profits of \$1.14 billion compared with \$668 million in the same three months of 2022.

Full-year net income surged to \$3.27Bln from \$2.04Bln in the previous year.

"In addition to outstanding financial results in 2023, we acquired strategic natural gas transmission, gathering and storage assets in the Rockies and on the Gulf Coast, enhancing our footprint in key areas and adding highly contracted take-or-pay transmission and fee-based storage assets to our business," explained President and Chief Executive Alan Armstrong.

"We also continue to expand our existing infrastructure with 18 high-return projects in execution, including approximately 3.1 Bcf per day of

expansions on Transco coming online over the next few years," added the CEO.

"With the build-out of electrification and renewables, as well as previously permitted LNG export growth, Williams will be there to provide additional natural gas baseload to ensure reliability," stated Armstrong.

Williams, which has 33,000 miles of pipelines to move about one third of the nation's natural gas, reported steady annual revenues of \$10.90Bln versus \$10.96Bln in 2022.

"Net income in the fourth-quarter increased by \$478m compared to the prior year driven by a \$534M gain related to the net cash received from the favorable resolution of litigation with Energy Transfer," said Williams.

"The improvement also reflects a favorable change of \$147M in net unrealized gains-losses on commodity derivatives and higher service revenues driven by recent acquisitions and expansion projects," the company stated.

Cash flow from operations (CFFO) jumped by 24 percent to \$6.05Bln compared with 2022.

The company said that transmission projects would drive business growth in 2024-2025 after strategic acquisitions added "highly contracted take-or-pay transmission and fee-based" storage assets on the Gulf Coast.

Williams acquired a portfolio of 115 billion cubic feet of natural gas storage, positioning the company as the largest

storage owner on the Gulf Coast as storage needs rise and natural gas volatility continues.

Williams confirmed that it had received Federal Energy Regulatory Commission certificates for Transco's Commonwealth Energy Connectors, the Southside Reliability Enhancement, the Southeast Energy Connector and the Texas-to-Louisiana Energy Pathway.

"Full-year net income increased \$1.2Bln compared to the prior year reflecting a favorable change of \$909M in net unrealized gains/losses on commodity derivatives, the previously described \$534M net litigation gain, and higher service revenues driven by recent acquisitions, expansion projects and increased Northeast gathering and processing (G&P) business volumes and rates," the company explained.

The improvement also included a \$129M gain on the sale of the Bayou Ethane system in 2023.

Williams has operations in four main business segments, Transmission & Gulf of Mexico, Northeast G&P, West operations and Gas & Natural Gas Liquids Marketing Services.

The annual adjusted gross earnings for each division all increased on an annual basis.

The gross earnings amounted to \$2.98Bln for Transmission & GoM, \$1.95Bln for Northeast G&P, \$1.23Bln for the West earnings and \$300M for Gas and NGL Marketing. ■

LNG Journal Subscription Package

Your LNG Journal subscription includes broad coverage of LNG across the globe - from trade and shipments through to LNG prices, plus in-depth technical coverage.

With over 20 years of LNG reporting experience, we remain the market leading source of information for decision makers in the LNG industry.

Sign up now for an Online Subscription at only US\$1190; €920 or £830

Discount options are available for multi-users

Contact us for more information or to arrange a free trial

Subscription Contacts

For new subscriptions or general subscription queries please contact:

Stephan Venter | venter@lngjournal.com
+44 207 017 3407

To renew an existing subscription or to upgrade your package, please contact:

Gabi Weck | gabi@lngjournal.com



Explanatory Notes

■ The tables do not include the following types of LNG facilities:

- ♦ Small marine satellite terminals receiving LNG from liquefaction plants in their own country (such as exist in Norway) or which receive LNG transhipped from nearby reception terminals in their own country (such as in Japan)

♦ Satellite LNG storage facilities that receive LNG transported only by road or rail

■ Expansions of LNG reception terminals are only shown if they involve new storage tanks

■ Where there is a blank in the table the information is uncertain or unknown.

In addition to our own database, the information in these tables has been derived and cross-referenced from multiple sources, including GEM, IEEJ, IGU, GIE, GIIGNL and facility operators/ developers.

Comments, corrections or additional information would be most welcome. They should be sent to alexander@lngjournal.com

Conventional LNG Terminals

Country	Location (Project)	Owners	Start up	Nom. Capacity (MTPA)	Storage Tanks	Capacity
Belgium	Zeebrugge	Fluxys	1987	6.6	5	566,000
Canada	St. John (Canaport) LNG	Repsol	2009	7.1	3	480,000
Chile	Mejillones LNG	Tractebel Engie, Ameris Capital AGF	2010	1.5	1	187,000
	Quintero	ENAP, Metrogas, Enagas	2009	3.8	3	334,000
China	Beihai LNG	PipeChina	2013	6.0	4	640,000
	Caofeidian LNG	PetroChina	2012	10.0	8	1,280,000
	Caofeidian Xintian LNG	China Suntien Green Energy Corp.	2023	5.0	2	—
	Dalian LNG	PipeChina	2011	6.0	3	480,000
	Dongguan LNG	JOVO Energy	2010	1.5	2	160,000
	Fujian LNG	CNOOC	2008	6.3	6	960,000
	Guangdong Dapeng LNG	CNOOC	2006	6.8	4	640,000
	Hainan LNG	PipeChina	2014	3.0	2	320,000
	Hainan Transfer Station	PetroChina	2020	0.6	2	40,000
	Jiangsu LNG	PetroChina	2011	10.0	5	1,080,000
	Jieyang LNG	PipeChina	2018	4.2	3	480,000
	Nansha LNG	Guangzhou Gas	2023	1.0	2	160,000
	Pinghu LNG	Zhejiang Hangjiaxin Clean Energy	2022	1.0	2	200,000
	Qidong LNG	Guanghui Energy	2009	4.0	5	620,000
	Qingdao LNG	Sinopec	2006	7.0	6	960,000
	Shanghai (Yangshan) LNG	CNOOC	2009	3.0	5	895,000
	Shanghai Peak Shaving	Shenergy	2008	1.5	5	320,000
	Shenzhen Peak Shaving	Hua'an	2012	0.8	1	80,000
	Shenzhen Diefu LNG	PipeChina	2018	4.0	4	640,000
	Tianjin - Nangang LNG	Sinopec	2018	6.0	4	640,000
	Tianjin LNG	PipeChina	2013	6.0	7	397,000
	Tianjin Binhai LNG	Beijing Gas	2023	5	10	—
	Wenzhou LNG	Zhejiang Energy, Sinopec	2023	3.0	4	—
	Yancheng LNG	CNOOC	2022	3.0	4	880,000
	Zhejiang LNG	CNOOC	2018	6.0	6	960,000
	Zhoushan LNG	ENN	2018	5.0	4	640,000
	Zhuhai LNG	CNOOC	2014	3.4	3	480,000
Dominican Republic	Andres LNG	AES Andres	2003	1.9	1	160,000
France	Dunkerque Le Clijton	EDF, Fluxys, TotalEnergies	2016	9.5	3	600,000
	Fos-sur-Mer	TotalEnergies, Elengy	2010	9.2	4	410,000
	Montoir-de-Bretagne	Elengy	1980	8.0	3	360,000
Greece	Revithoussa	DESFA	2000	7.1	3	225,000
India	Cochin	Petronet	2013	5.0	2	368,000
	Dabhol	GAIL, NTPC	2007	5.0	3	480,000
	Dahej	Petronet	2004	17.5	6	932,000
	Ennore LNG	IndianOil LNG	2019	5.0	2	360,000
	Hazira	Shell, TotalEnergies	2005	5.0	2	320,000
	Mundra LNG	Adani, GSP	2019	5.0	2	320,000
	Dhamra LNG	Adani, TotalEnergies	2023	6.5	2	360,000
Indonesia	Arun Conversion	Pertamina	2015	3.0	4	508,000
Italy	Panigaglia	Snam	1963	2.5	2	100,000
	Rovigo Adriatic LNG	QatarEnergy, ExxonMobil, Snam	2009	6.6	2	250,000
Jamaica	Montego Bay	New Fortress Energy	2020	0.5	7	7,000
Japan	Chita	JERA, Toho Gas	1977	24.0	14	1,560,000
	Fukuoka	Saibu Gas	1993	0.8	1	70,000
	Futtsu	JERA	1985	20.0	10	1,110,000
	Hachinohe	ENEOS	2015	1.6	2	280,000
	Hatsukaichi	Hiroshima Gas	1996	0.9	2	170,000
	Hibiki LNG	Saibu Gas, Kitakyushu Gas	2014	4.0	2	360,000
	Higashi-Ogishima	Tokyo Electric	1984	15.0	9	540,000
	Himeji	Kansai Electric, Osaka Gas	1979	12.9	15	1,360,000
	Hitachi LNG	JERA	2015	2.2	2	230,000
	Ishikari LNG	Hokkaido Gas	2012	1.4	1	180,000
	Joetsu LNG	JERA	2012	2.3	3	540,000
	Kagoshima	JERA	1996	0.2	1	86,000
	Kawagoe	Chubu Electric	1997	8.0	3	480,000
	Mizushima	Chugoku Electric, ENEOS	2006	1.7	2	320,000
	Nagasaki LNG	Saibu Gas	2003	0.1	1	35,000
	Nakagusuku LNG	Okinawa Electric	2012	0.7	2	280,000
	Negishi	TEPCO, JERA	1969	11.0	14	1,180,000
	Niigata	Tohoku Electric	1984	10.0	8	720,000

Conventional LNG Terminals (Continued)

Country	Location (Project)	Owners	Start up	Nom. Capacity (MTPA)	Storage Tanks	Storage Capacity
Japan (continued)	Ogishima	JERA	1998	3.0	4	850,000
	Oita	Kyushu Electric	1990	5.1	5	460,000
	Sakai	Kansai Electric	2006	6.4	4	420,000
	Sakaide	Shikoku Electric, Cosmo Oil, Shikoku-Gas	2010	1.2	1	180,000
	Senboku	Osaka Gas	1972	12.5	20	1,675,000
	Shin Sendai	Tohoku Electric	2016	1.0	2	320,000
	Sodegaura	JERA	1973	29.4	35	2,660,000
	Sodeshi Shimizu	Shizuoka Gas, ENEOS	1996	2.9	3	337,200
	Soma LNG	JAPEX	2018	1.5	2	460,000
	Tobata Ward	Kita-Kyushu LNG	1977	7.6	8	480,000
	Toyama LNG	Hokuriku Electric	2018	1.8	1	180,000
	Yanai	Chugoku Electric	1990	2.4	6	480,000
	Yokkaichi	Chubu Electric	1987	7.2	2	320,000
Kuwait	Al Zour LNG	KIPIC	2022	22.0	8	1,800,000
Malaysia	Pengerang LNG	Petronas	2017	3.5	2	400,000
Mexico	Energia Costa Azul	Sempra	2008	7.6	2	320,000
	Manzanillo	Samsung, KOGAS, Mitsui	2012	3.8	2	300,000
Netherlands	Maasvlakte Gate Terminal	Gasunie	2011	8.9	3	540,000
Panama	AES Costa Norte LNG	AES	2018	1.5	1	130,000
Philippines	PHLNG	AG&P	2023	5.0	1	137,512
Poland	Swinoujscie LNG	Polskie LNG	2015	3.6	2	320,000
Portugal	Sines	REN	2004	5.6	3	390,000
Puerto Rico	Penuelas	EcoElectrica	2000	1.4	1	160,000
Singapore	Singapore LNG	Singapore LNG Corp.	2013	11.0	4	800,000
South Korea	Boryeong	GS Energy	2017	10.8	6	1,200,000
	Gwangyang	POSCO Energy	2005	7.1	5	730,000
	Incheon	KOGAS	1996	54.4	23	3,480,000
	Pyeongtaek	KOGAS	1986	41.0	23	3,360,000
	Samcheok	KOGAS	2014	11.6	12	2,400,000
	Tongyeong	KOGAS	2002	26.6	17	2,600,000
	Jeju Island	KOGAS	2019	1.1	2	90,000
Spain	Bahia de Bizkaia LNG	BP, Enagás, EVE	2003	6.9	3	450,000
	Barcelona	Enagás	1969	12.6	6	760,000
	Cartagena	Enagás	1989	8.7	5	587,000
	Huelva	Enagás	1988	8.7	5	619,500
	Mugardos	Reganosa	2007	2.6	2	300,000
	Sagunto	Enagás	2006	6.4	4	600,000
	El Musel	Enagás	2023	5.8	2	300,000
Taiwan	Taichung	CPC	2009	7.0	6	960,000
	Yung-An	CPC	1990	10.5	6	690,000
Thailand	Map Ta Phut LNG	PTT	2011	19.0	6	940,000
Turkey	Izmir	EgeGaz	2006	10.6	2	280,000
	Marmara Ereglisi	BOTAS	1994	4.2	3	255,000
UK	Dragon LNG	Shell, Ancala Partners	2009	6.5	2	320,000
	Isle of Grain	National Grid	2005	14.8	8	1,000,000
	South Hook LNG	QatarEnergy, ExxonMobil, TotalEnergies	2009	15.6	5	775,000
United States	Everett Marine Terminal	Constellation Energy	1971	5.1	2	155,000
Vietnam	Thi Vai LNG	PetroVietnam Gas	2023	1.0	1	180,000

FSRU Terminals

Country	Location (Project)	Owners	Start up
Argentina	Escobar GasPort	Excelerate/Enarsa	2011
	Bahia Blanca	YPF	2023
Bangladesh	Moheshkhali	Excelerate, PetroBangla	2018
	Cox's Bazar	Summit Power International, Excelerate Energy	2019
Brazil	Pecem, FSRU	Petrobras	2009
	Guanabara Bay FSRU	Petrobras	2009
	Salvador, Bahia FSRU	Petrobras	2013
	Porto Sergipe FSRU	Golar LNG/Stonepeak	2020
	Porto do Acu FSRU	GNA	2020
China	Tianjin FSRU	CNOOC, Hoegh, various	2013
Croatia	Hrvatska LNG	Hrvatska Elektroprivreda Plc, Plinacro Ltd	2021
Colombia	Cartagena FSRU	Promigas, Sociedad Portuaria El Cayao	2016
Egypt	Ain Sokhna, Suez	EGAS, BW Gas	2015
El Salvador	Acajutla	Energía del Pacífico	2022
Finland	Inkoo FSRU	Gasgrid Finland	2022
France	Le Havre	TotalEnergies	2023
Germany	Wilhelmshaven FSRU	Uniper	2022
	Lubmin FSRU	Deutsche ReGas	2022
	Brunsbüttel	RWE	2023
Ghana	Tema LNG	Helios/GNPC	2021
Greece	Revithoussa FSU	DESFA	2022
	Alexandroupolis	Gastrade	2024
Hong Kong, China	FSRU Bauhinia	CLP Power	2023

Country	Location (Project)	Owners	Start up
India	Jaigarh (Mothballed)	H-Energy	2022
Indonesia	Lampung	Hoegh LNG, PGN LNG	2014
	Nusantara (Jakarta Bay)	Golar LNG, Pertamina	2012
	Benoa LNG	PT Pertagas Niaga	2016
	Amurang	Karadeniz	2020
	Jawa Satu FSRU	Pertamina	2021
Italy	Livorno	OLT Offshore LNG Toscana	2013
	Piombino	Snam	2023
Jamaica	Old Harbour	Golar FSRU, New Fortress	2019
Jordan	Aqaba, Jordan	Golar LNG	2015
Lithuania	Klaipeda	Klaipedos Nafta Hoegh LNG	2014
Malaysia	Malacca FSRU	Petronas	2012
Malta	FSU Armada Mediterrana	ElectroGas	2016
Myanmar	Thanlyin	CNTIC Vpower	2020
Netherlands	Eemshaven	Gasunie	2022
Pakistan	Port Qasim	Excelerate, Engro Corp	2015
	Port Qasim	BW-Mitsui, PGP Consortium	2017
Philippines	PHLNG	AG&P International	2023
	FGEN Batangas LNG	First Gen Corp.	2023
Russia	Kaliningrad FSRU	Gazprom	2020
Senegal	Dakar	KarMOL	2023
Turkey	Iskenderun & Saros FSRUs	BOTAS	2016 & 2023
	Aliaga (ETKI LNG)	Etki Liman	2017
	Ruwais, Abu Dhabi	Gasco (UAE)	2016
UAE	Jebel Ali Port, Dubai	DSA (UAE)	2010

Future LNG Import Projects

Country	Location/Project	Owners	Start up	Nom. Capacity (MTPA)	Storage Tanks	Capacity	Status
Albania	Port of Vlora FSRU	Excelerate Energy, ExxonMobil	–	3.5	–	–	Speculative
Antigua and Barbuda	Antigua Power LNG	Antigua Power Co Ltd, Eagle LNG Partners	2023	–	–	–	Speculative
Australia	Port Phillip Bay FSRU	Vopak	2024	–	–	–	Speculative
	Geelong FSRU	Viva Energy	2024	–	–	–	Speculative
	Adelaide FSRU	Venice Energy	2024	–	–	–	Speculative
	Port Kembla FSRU	Squadron Energy	2023	1.9	1	170,000	U. Construction
Bangladesh	Matarbari LNG	Petrobangla	2028	7.5	–	–	Speculative
	Payra FSRU	Excelerate Energy	2028	–	–	–	Speculative
Belgium	Zeebrugge Exp. I	Fluxys	2024	4.6	–	–	U. Construction
	Zeebrugge Exp. II	Fluxys	2026	1.3	–	–	U. Construction
Brazil	Tergás Rio Grande LNG	Grupo Cobra	2024	1.61	–	–	Speculative
	Geramar FSRU	–	2026	–	–	–	Speculative
	Porto Norte Fluminense FSRU	Porto Norte Fluminense SA	2027	5.64	–	–	Speculative
	Imetame LNG	Imetame	2025	–	–	–	Speculative
	Terminal Gás Sul	New Fortress Energy	2024	–	–	–	U. Construction
China	Penglai LNG	Shandong Penglai Baota Ina Natural Gas Co., Ltd.	2026	2.8	–	–	Proposed
	Wuhan LNG	Hubei Minsheng Petroleum Liquefied Gas Co., Ltd.	2035	1.86	–	–	Speculative
	Zhiwan Island LNG	Macau Gas Co.	–	5	–	–	Speculative
	Yueyang LNG	Yueyang LNG Co., Ltd.	2023	2	–	–	U. Construction
	Yangjiang LNG	Guangdong Yangjiang Hailing Bay LNG Co., Ltd.	2023	2.8	–	–	U. Construction
	Rudong LNG (Jiangsu Guoxin)	Jiangsu Guoxin LNG Co., Ltd.	2024	2.95	–	–	U. Construction
	Jiangyin LNG (Garson Gas)	Jiangsu Jiasheng Gas Co., Ltd.	2023	3	–	–	U. Construction
	Huizhou LNG	Guangdong Huizhou LNG Co., Ltd.	2023	4	–	–	U. Construction
	Longkou	PipeChina	2024	5	6	1,420,000	U. Construction
	Yingkou LNG	China Urban Rural Energy	2025	6.5	4	800,000	U. Construction
	Yancheng LNG Expansion	CNOOC	2023	3	–	1,620,000	U. Construction
	Yantai LNG	China Urban Rural Energy	–	5.9	5	1,000,000	U. Construction
	Zhangzhou LNG	PipeChina	2024	3	3	–	U. Construction
Colombia	Buenaventura FSRU	Unidad de Planeación Minero Energética (UPME)	2024	–	–	–	Speculative
Cyprus	Vasilikos FSRU	DEFA	2024	0.6	–	–	U. Construction
Ecuador	Jambelí FSRU	Sycar LLC	2025	0.38	–	–	Proposed
Estonia	Paldiski LNG	Espa	2024	1.8	–	–	Proposed
Germany	Stade LNG	Buss Group, Dow Chemical, Fluxys, Partners Group	2026	9.78	–	–	Proposed
	TES Wilhelmshaven LNG	Tree Energy Solutions	2025	11.76	–	–	Proposed
	Stade FSRU	German company Hanseatic Energy Hub	2023	3.5	–	–	U. Construction
Greece	Dioriga FSRU	Motor Oil	2024	1.91	–	–	Proposed
	Argo FSRU	Mediterranean Gas	2023	3.38	–	–	Proposed
	Thessaloniki FSRU	Edison, Hellenic Petroleum	2025	5.37	–	–	Proposed
India	Jaigarh LNG	H-Energy	–	8	–	–	Speculative
	Kakinada FSU	H-Energy	2024	4	–	–	Speculative
	Kukrahati LNG	H-Energy	2024	3	–	180,000	Speculative
	Chhara LNG Terminal	Hindustan Petroleum	2025	5	–	–	U. Construction
	Karaikal LNG	AG&P	TBC	5	–	–	Speculative
Indonesia	Karimun Island LNG	Panbil Group	2024	–	–	–	Speculative
	Sengkang LNG	Energy World	–	2	–	–	U. Construction
Ireland	Mag Mell FSRU	Predator Oil & Gas	–	1.91	–	–	Speculative
Italy	Porto Torres FSRU	Snam	2023	0.5	–	–	Proposed
	Gioia Tauro LNG	Iren Group, Sorgenia	2026	8.6	–	–	Proposed
	Portovesme FSRU	Snam SpA	2024	–	–	–	Speculative
Morocco	Jorf Lasfar LNG	SIGER/ERGIS Group	2025	5.15	–	–	Speculative
Mozambique	Matola FSRU	Gigajoule, TotalEnergies, CTB, Matola Gas Co.	2025	0.5	–	–	Speculative
Myanmar	Mee Laung Gyaing FSRU	Supreme Group, ZHEFU Hydropower	2023	–	–	–	Speculative
	Ahlone LNG	TTCL	2024	–	–	–	Speculative
	Thilawa LNG	Eden Group, Marubeni Corp., Mitsui, Sumitomo Corp.	2026	–	–	–	Speculative
Pakistan	Tabeer Energy FSRU	Mitsubishi	–	5.7	–	–	Speculative
Philippines	Vires FSRU	Argo Group	–	3	–	–	Speculative
	Pagbilao Power	Energy World	–	3	2	260,000	U. Construction
Poland	Gdańsk FSRU	PGNiG	2028	8.82	–	–	Speculative
South Africa	Richards Bay FSRU	South Africa Department of Public Enterprises	2027	1	–	–	Speculative
South Korea	Dangjin LNG	POSCO	2027	3.5	–	–	Proposed
	Hanyang LNG	Hanyang Group	2024	–	–	–	Speculative
Sri Lanka	New Fortress Colombo LNG	New Fortress Energy	–	0.71	–	–	Speculative
Taiwan	Hsieh-Ho LNG	Taipower	2025	1.8	–	–	Proposed
	Taichung (TaiPower) LNG	Taipower	2025	3	–	–	Proposed
Thailand	Chana LNG	–	2028	2	–	–	Speculative
Vietnam	Hai Linh	Hai Linh Co. Ltd.	2020	3	3	219,000	Mothballed
	Mui Ke Ga FSRU	B.Grimm Power, Energy Capital Vietnam, Gunvor	2025	1.5	–	–	Proposed
	Son My LNG	AES, PetroVietnam	2026	3.6	–	–	Proposed
	Thai Binh FSRU	–	2026	0.5	–	–	Speculative
	South West FSRU	–	2030	1	–	–	Speculative
	Bac Lieu LNG	Delta Offshore Energy	–	2	–	–	Speculative
	Cat Hai FSRU	Chubu Electric, ExxonMobil, Government of Hai Phong, TEPCO	2030	3	–	–	Speculative
	Khanh Hoa LNG	Millenium Energy	2030	3	–	–	Speculative
	Long Son LNG	EVN	2025	4.4	–	–	Speculative
	Tien Lang FSRU	ExxonMobil, Chubu Electric Power, Tokyo Electric Power Co.	2026	–	–	–	Speculative
	Ca Na LNG	Novatek	2024	–	–	–	Speculative
	Chan May LNG	Chan May LNG	2024	–	–	–	Speculative
	Vung Ang LNG	KG Electric Power Corp., PECC2, Siemens	2026	–	–	–	Speculative
	Hai Lang LNG	T&T Group, Hanwa, KOGAS, KOSPO	2026	1.5	2	160,000	U. Construction

LNG Export Plants

Country	Location/Project	Shareholders	Start up	Liquefaction		Storage	
				Trains	Nom. capacity (MTPA)	No. of tanks	Capacity m ³
UAE	Das Island	ADNOC, Mitsui, BP, TotalEnergies	1977/1994	3	5.7	3	240,000
Algeria	Arzew	Sonatrach	1964-2014	13	20.8	6	920,000
	Skikda	Sonatrach	1980/2013	4	7.9	5	308,000
Angola	Soyo	Sonangol, Chevron, BP, Eni, TotalEnergies	2012	1	5.2	2	370,000
Australia	NWS LNG	BP, Chevron, MIMI, Shell, Woodside Energy, CNOOC	1989-2004	5	16.3	6	520,000
	Darwin LNG	Santos, Eni, INPEX, JERA, Tokyo Gas	2006	1	3.7	1	188,000
	Australia Pacific LNG	ConocoPhillips, Origin, Sinopec	2016	2	9.0	2	320,000
	Gladstone LNG	Santos, Petronas, TotalEnergies, KOGAS	2015-2016	2	7.8	2	280,000
	Gorgon LNG	Chevron, Shell, ExxonMobil, Osaka Gas, Tokyo Gas, JERA	2016-2017	3	15.6	2	360,000
	Pluto LNG	Woodside Energy, Kansai Electric, Tokyo Gas	2012	1	4.9	2	240,000
	Queensland C. LNG	Shell, CNOOC	2014	2	4.5	2	280,000
	Wheatstone LNG	Chevron, KUFPEC, Woodside Petroleum, Kyushu Electric Power Co., PEW	2017	2	8.9	2	300,000
	Ichthys LNG	INPEX, TotalEnergies, CPC, Tokyo Gas, Osaka Gas, Kansai Electric, JERA, Toho Gas	2018	2	8.9	2	330,000
	Prelude FLNG	Shell, INPEX, CPC, KOGAS	2018	1	3.6	6	228,000
Brunei	Brunei LNG	Gov. of Brunei, Shell, Mitsubishi	1972-74	5	7.2	3	195,000
Cameroon	Cameroon FLNG	Golar LNG	2018	4	2.4	1	125,000
Egypt	Damietta	Eni, EGAS, EGPC	2004	1	5.0	2	300,000
	Idku	EGPC, EGAS, Shell, Petronas, TotalEnergies	2005	1	7.2	2	280,000
Equ. Guinea	EG LNG	Marathon, Sonagas, Marubeni	2007	1	3.4	2	272,000
Indonesia	Bontang (E-H)	Pertamina, VICO, JILCO, TotalEnergies	1990-1998	4	11.5	5	635,000
	Dongi-Senoro	Medco Energi, Pertamina, Mitsubishi	2015	1	2.0	1	170,000
	Tangguh	BP, Mitsubishi, Inpex, CNOOC, JX Nippon, KG Mitsui, LNG Japan	2008-2023	3	11.4	2	340,000
Malaysia	Malaysia LNG	Petronas, Shell, Sarawak, Mitsubishi, Nippon Oil	1983-2016	9	29.3	6	445,000
	PFLNG Satu	Petronas	2016	1	1.2	4	177,000
	PFLNG Dua	Petronas	2020	1	1.5	4	177,000
Mozambique	Coral Sul FLNG	Eni, ExxonMobil, CNPC, GALP, KOGAS, ENH	2022	1	3.4	8	227,840
Nigeria	Bonny Island	NNPC, Shell, TotalEnergies, Eni	1999-2007	6	22.2	6	505,200
Norway	Snøhvit LNG	Equinor, TotalEnergies, Petoro, Neptune Energy, Wintershall DEA Norge	2007	1	4.2	2	250,000
Oman	Oman LNG	Oman Gov., Shell, TotalEnergies, Korea LNG, Mitsubishi, Mitsui, Partex O&G, Itochu Corp.	2000	3	10.4	4	480,000
Papua New Guinea	PNG LNG	ExxonMobil, Oil Search, Santos, JX Nippon Oil	2014	2	8.3	2	320,000
Peru	Pampa Melchorita	Hunt Oil, Shell, Marubeni, SK Group	2010	1	4.5	2	260,000
Qatar	Ras Laffan	QatarEnergy, Shell, ExxonMobil, TotalEnergies, ConocoPhillips et al.	1997-2010	14	77.4	18	2,340,000
Republic of the Congo	Congo FLNG Ph. I	Eni	2024	1	0.6	1	177,000
Russia	Sakhalin-2 LNG	Gazprom, Sakhalin Energy, Mitsubishi, Mitsui	2009	2	9.6	2	200,000
	Yamal LNG	Novatek, TotalEnergies, CNPC, Silk Road Investment Fund	2017-2019	3	17.4	4	640,000
	Portovaya LNG	Gazprom	2022	1	1.5	-	-
Trinidad & Tobago	Atlantic LNG	BP, Shell, NGC	1999-2005	4	15.3	4	640,000
USA	Sabine Pass LNG	Cheniere	2016-2022	6	30.0	5	800,000
	Corpus Christi LNG	Cheniere	2019-2021	3	15.0	3	480,000
	Freeport LNG	Freeport LNG, JERA, Osaka Gas	2019-2020	3	15.5	3	480,000
	Cameron LNG	Sempra, TotalEnergies, Mitsui, Mitsubishi	2019	3	15.0	3	480,000
	Calcasieu Pass LNG	VentureGlobal	2022-2023	18	11.3	2	440,000
	Cove Point LNG	BHE GT&S, Dominion Energy, Brookfield Asset Management	2017	1	5.3	7	695,000
	Elba Island LNG	Kinder Morgan, EIG Energy, Blackstone	2019-2020	10	2.5	5	560,000
Yemen	Balhaf LNG (Mothballed)	TotalEnergies, Hunt Oil, SK Innovation, Hyundai, KOGAS, Yemen Gas Corp., GASSP	2009	2	6.7	2	320,000

LNG Export Projects U. Construction

Country	Project	Project Developers	Planned Start Up	Number of Trains	Capacity In MTPA
Canada	LNG Canada	Shell, Petronas, PetroChina, Mitsubishi	2025	2	14
	Woodfibre LNG	Pacific Energy Corp., Enbridge	2027	2	2.2
Indonesia	Sengkang LNG	Energy World	2023+	4	2
Malaysia	ZLNG FLNG	Petronas	2027	1	2
Mauritania	Greater Tortue Ahmeyim FLNG	BP, Kosmos Energy	2024	–	2.52
Mexico	Costa Azul Export	Sempra Energy, TotalEnergies	2024	1	3.25
Mozambique	Mozambique LNG Ph. I	TotalEnergies, Mitsui, ONGC, ENH, PTTEP, Bharat Petroleum, Oil India	2024+	2	–
Nigeria	Nigeria LNG Expansion	Nigeria LNG	2024	1	8
Qatar	Ras Laffan Expansion I	QatarEnergy	2026	4	33
	Ras Laffan Expansion II	QatarEnergy	2027	2	16
Russia	Ust Luga LNG	RusKhimAlyans	2024+	2	13
	Arctic LNG 2 T1	Novatek et al	2024+	1	6.6
United States	Golden Pass LNG T1-2	Golden Pass LNG	2024	2	12
	Golden Pass LNG T3	Golden Pass LNG	2025	1	6.03
	Corpus Christi LNG Stage 3	Cheniere Energy	2027	7	11.48
	Plaquemines LNG Ph. I	Venture Global	2024	1	10
	Plaquemines LNG Ph. II	Venture Global	2025	1	10

Future LNG Export Projects

Country	Project	Project Developers	Estimated Start Up	Number of Trains	Capacity In MTPA
Argentina	Vaca Muerta (YPF) LNG	YPF	2024+	—	5.37
Australia	Browse FLNG	Woodside Energy, Japan Australia LNG, Shell, BP, PetroChina	—	2	11.4
	Darwin LNG Life Extension	Santos, SK E&S, JERA, INPEX, Eni SpA, Tokyo Gas	2025	1	3.7
	Pluto LNG T2	Woodside Burrup Train 2A Pty Ltd., Global Infrastructure Partners	2026	1	5
Cameroon	Etinde FLNG	Perenco, Bowleven	2023+	—	1.3
Canada	Bear Head LNG	Bear Head LNG	2027	4	12
	Cedar FLNG	Haisla Nation, Pembina Pipeline Corp.	2027	—	3
	Energie Saguenay LNG	GNL Quebec	2026	2	11
	Ksi Lisims FLNG	Ksi Lisims LNG GP Ltd.	2027	—	12
	Placentia Bay FLNG	Horizon Maritime Services, LNG Newfoundland and Labrador Ltd.	2030	—	4
	Tilbury Island LNG T1	FortisBC	2026	1	0.9
	Tilbury Island LNG T2	FortisBC	2028	1	2.5
Equatorial Guinea	Fortuna FLNG	New Fortress Energy	—	1	—
Gabon	Boudji FLNG	Petronas	—	—	—
Guinea	Guinea LNG	West Africa LNG Group	2026+	1	—
Indonesia	Abadi FLNG	INPEX Masela Ltd.	2030	—	9.5
Israel	NewMed FLNG	NewMed Energy	2026	—	5
Mauritania	New Fortress Banda LNG	New Fortress Energy	2024	—	1.4
Mexico	Mexico Pacific LNG Ph. I	AECOM Capital, DKRW Energy	2025	2	9.4
	Mexico Pacific LNG Ph. II	AECOM Capital, DKRW Energy	2026+	1	4.7
	AMIGO LNG	Epsilon LNG, LNG Alliance	2026	1	4.2
	Vista Pacifico LNG	Sempra Energy	2025+	—	4
	Lakach FLNG	New Fortress Energy	—	1	1.4
	Altamira FLNG	New Fortress Energy	—	2	2.8
Mozambique	Rovuma LNG	Eni, ExxonMobil, CNPC, ENH, Galp, KOGAS	2025+	2	15.2
Nigeria	Brass LNG	Brass LNG Ltd.	—	2	10
	Greenville LNG	Greenville LNG	—	1	1.1
	UTM Offshore FLNG	UTM Offshore	2026	—	1.52
Papua New Guinea	Papua LNG	TotalEnergies, ExxonMobil, Papua New Guinea Gov., Santos	2027	2	5.4
	PNG LNG Expansion	ExxonMobil, Kumul Petroleum, Santos, JX Nippon O&G, MRDC	2025	1	2.6
Republic of the Congo	Congo FLNG Ph. II	Eni Congo	2025	1	2.4
Russia	Yakutia LNG	A-Property, Globaltek, Zhejiang Energy	2027	—	18
	Far East LNG I	ExxonMobil, SODECO, ONGC, Rosneft	2027+	1	6.2
	Far East LNG II	ExxonMobil, SODECO, ONGC, Rosneft	2035	1	10
	Vladivostok LNG	Gazprom, INPEX, Itochu Corp., JAPEX, Marubeni Corp.	2025	3	1.5
	Arctic LNG II	Novatek	2027	—	19.8
	Obssky LNG	Novatek	2026	—	6.6
	Chernomorsky LNG	Gazprom	2025	—	1.5
	Arctic LNG III	OOO Arctic LNG 3	2032	—	19.8
	Kara LNG	Rosneft	2030	—	30
Tanzania	Tanzania LNG	Equinor, ExxonMobil, Ophir Energy, Pavilion Energy, Shell, TPDC	2027	2	10
United Arab Emirates	Ruwais (ex Fujairah) LNG	ADNOC	2027+	2	6
United States	Fourchon LNG	Energy World	—	1	2
	Alaska LNG	Alaska Gasline Development Corp.	2030	3	20.1
	Cameron LNG Expansion	Cameron LNG LLC	2026	1	6.75
	Commonwealth LNG	Commonwealth LNG	2026	6	9.3
	Corpus Christi LNG Midscale Expansion	Cheniere Energy	2031	2	3.28
	Delfin FLNG	Delfin LNG LLC	2026+	4	12
	Driftwood LNG T1-5	Tellurian	—	5	27.6
	Freeport LNG Expansion	Freeport LNG Dev.	2026	1	5.1
	Gulf LNG	KinderMorgan	—	2	10.86
	Lake Charles LNG	Energy Transfer	2026+	3	17.79
	Magnolia LNG	Glenfarne Group	—	4	8.8
	Port Arthur LNG Ph. I	PALNG Common Facilities Co., Port Arthur LNG, LLC	—	2	13.5
	Port Arthur LNG Ph. II	PALNG Common Facilities Co., Port Arthur LNG, LLC	—	2	13.5
	Texas LNG	Glenfarne Energy Transition	2027	2	4
	Rio Grande LNG Ph. I	NextDecade	2026	2	10.8
	Rio Grande LNG Ph. II	NextDecade	—	3	16.2
	Pointe LNG	Pointe LNG, Pointe Pipeline Co.	2026	3	6
	Repauno Works LNG	Delaware River Partners LLC	—	—	1.5
	Qilak LNG	Qilak Energyy	2026	—	4
	CP2 LNG Ph. I	Venture Global	2026+	9	10
	CP2 LNG Ph. II	Venture Global	2027+	9	10
	Delta LNG Ph. I	Venture Global	2028+	—	10
	Delta LNG Ph. II	Venture Global	2029+	—	10
	West Delta LNG Deepwater Port	LNG21 Group	2026+	6	6.1
	Grand Isle FLNG	New Fortress Energy	2025+	—	2.8

World LNG Carrier Fleet

LNG Carrier	Capacity m³	Registered Owner	Builder	Delivery	Flag	Power Plant	Cargo System	No. of Tanks	Original Project	Hull Number
Aamira	268,000	Nakilat SHI 1753 Inc.	Samsung	16/04/2010	M. Islnds	Diesel	TZ Mk. III	10	Qatargas IV	1753
Abadi	135,000	Tost Two (NBD) Sendirian Berhad	Mitsubishi	29/05/2002	Liberia	Steam	Moss	5	Lumut	2163
Adam LNG	162,000	Oman Shipping Co.	HHI	10/07/2014	M. Islnds	Diesel	TZ Mk. III Flex	4	Oman LNG	2584
Adamastos	170,800	Shin Doun Kisen Co. Ltd.	HHI	23/08/2021	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	3109
Adriano Knutsen	180,000	Knutsen OAS Shipping	HHI	13/07/2019	Spain	ME-GI	TZ Mk. III Flex	4	Corpus Christi	2963
Al Aamriya	210,168	J5 Nakilat No.1 Ltd.	Daewoo	04/05/2008	M. Islnds	Diesel	GT NO 96	5	RasGas III	2249
Al Areesh	148,786	Al Areesh LLC	Daewoo	01/01/2007	Bahamas	Steam	GT NO 96	4	RasGas II	2239
Al Bahiya	210,100	Nakilat DSME 2286 Inc.	Daewoo	02/12/2009	M. Islnds	Diesel	GT NO 96	5	Qatargas IV	1726
Al Bidda	137,339	Mitsui O.S.K. Lines	Kawasaki	08/11/1999	M. Islnds	Steam	Moss	5	Qatargas I	1470
Al Daayen	148,853	Seaspirit Leasing	Daewoo	21/03/2007	Bahamas	Steam	GT NO 96	4	RasGas II	2240
Al Dafna	268,000	Nakilat SHI 1726 Inc.	Samsung	03/10/2009	M. Islnds	Diesel	TZ Mk. III	10	RasGas	1726
Al Deebel	145,000	Peninsula LNG Transport No. 3	Samsung	15/11/2005	Bahamas	Steam	TZ Mk. III	4	RasGas II	1442
Al Gattara	216,200	Overseas LNG H1 Corp.	HHI	06/11/2007	M. Islnds	Diesel	TZ Mk. III	4	Qatargas II	1791
Al Ghariya	210,150	Neptora Schiffsbetriebsgesellschaft	Daewoo	13/12/2007	Bahamas	Diesel	GT NO 96	4	Qatargas II	2248
Al Gharrafa	216,200	Overseas LNG H2 Corp.	HHI	11/01/2008	M. Islnds	Diesel	TZ Mk. III	5	Qatargas II	1792
Al Ghashamiya	217,591	Nakilat SHI 1696 Inc.	Samsung	29/04/2009	M. Islnds	Diesel	TZ Mk. III	10	Qatargas III	1696
Al Ghuwairiya	263,300	Nakilat Al Ghuwairiya Inc.	Daewoo	15/12/2008	M. Islnds	Diesel	GT NO 96	5	Qatargas II	2255
Al Hamla	216,200	Overseas LNG S2 Corp.	Samsung	15/02/2008	M. Islnds	Diesel	TZ Mk. III	4	Qatargas II	1606
Al Hamra	137,000	Al Hamra Ltd.	STX	24/11/1996	Liberia	Steam	Moss	4	Das Island	1332
Al Huwaila	217,000	Al Huwaila Inc.	Samsung	06/05/2008	Bahamas	Diesel	TZ Mk. III	10	RasGas III	1643
Al Jasra	137,227	Mitsui O.S.K. Lines	Mitsubishi	05/06/2000	M. Islnds	Steam	Moss	5	Qatargas I	2117
Al Jassasiya	145,700	Venice Maritime Inc.	Daewoo	21/05/2007	Greece	Steam	GT NO 96	4	RasGas II	2243
Al Karaana	210,100	Nakilat DSME 2284 Inc.	Daewoo	06/10/2009	M. Islnds	Diesel	GT NO 96	4	Qatargas III	2284
Al Kharaitiyat	216,300	Nakilat HHI 1909 Inc.	HHI	30/06/2009	M. Islnds	Diesel	TZ Mk. III	4	Qatargas III	1909
Al Kharsaah	217,000	Al Kharsaah Inc.	Samsung	12/06/2008	Bahamas	Diesel	TZ Mk. III	10	RasGas III	1644
Al Khatiya	210,150	Nakilat DSME 2283 Inc.	Daewoo	08/07/2009	M. Islnds	Diesel	GT NO 96	4	Qatargas IV	2283
Al Khaznah	135,496	Al Khaznah Inc.	Mitsui E&S	01/07/1994	Liberia	Steam	Moss	5	Das Island	1390
Al Khor	137,354	Mitsui O.S.K. Lines	Mitsubishi	15/11/1996	M. Islnds	Steam	Moss	5	Qatargas I	2089
Al Khuwair	217,000	Al Khuwair Inc.	Samsung	27/06/2008	Bahamas	Diesel	TZ Mk. III	10	RasGas III	1646
Al Mafyar	266,000	Nakilat SHI 1697 Inc.	Samsung	28/04/2009	M. Islnds	Diesel	TZ Mk. III	5	Qatargas III	1697
Al Marrouna	149,539	Seaspirit Leasing	Daewoo	19/09/2006	Bahamas	Steam	GT NO 96	4	RasGas II	2238
Al Mayeda	266,000	Nakilat SHI 1694 Inc.	Samsung	06/01/2009	M. Islnds	Diesel	TZ Mk. III	5	Qatargas III	1694
Al Nuaman	210,100	Nakilat DSME 2285 Inc.	Daewoo	06/12/2009	M. Islnds	Diesel	GT NO 96	4	Qatargas III	2286
Al Oraiq	210,200	J5 Nakilat No.3 Ltd.	Daewoo	13/06/2008	M. Islnds	Diesel	GT NO 96	18	RasGas III	2250
Al Rayyan	137,420	Mitsui O.S.K. Lines	Kawasaki	14/03/1997	M. Islnds	Steam	Moss	5	Qatargas I	1445
Al Rekayyat	216,293	Nakilat HHI 1910 Inc.	HHI	30/06/2009	M. Islnds	Diesel	TZ Mk. III	4	Qatargas III	1910
Al Ruwais	210,150	Neptana Schiffsbetriebsgesellschaft	Daewoo	09/08/2007	Bahamas	Diesel	GT NO 96	4	Qatargas II	2245
Al Sadd	210,200	Nakilat DSME 2265 Inc.	Daewoo	07/03/2009	M. Islnds	Diesel	GT NO 96	12	Qatargas III	2265
Al Safliya	210,150	Nausola Schiffsbetriebsgesellschaft	Daewoo	12/09/2007	Bahamas	Diesel	GT NO 96	5	Qatargas II	2246
Al Sahla	216,200	J5 Nakilat No.5 Ltd.	HHI	13/06/2008	M. Islnds	Diesel	TZ Mk. III	4	RasGas III	1863
Al Samriya	263,300	Nakilat Al Samriya Inc.	Daewoo	28/02/2009	M. Islnds	Diesel	GT NO 96	5	Qatargas II	2257
Al Shamal	217,000	Al Shamal Inc.	Samsung	28/04/2008	Bahamas	Diesel	TZ Mk. III	10	RasGas III	1645
Al Sheehaniya	210,100	Nakilat DSME 2264 Inc.	Daewoo	17/02/2009	M. Islnds	Diesel	GT NO 96	12	Qatargas III	2264
Al Thakhira	145,000	Peninsula LNG Transport No. 2	Samsung	22/08/2005	Bahamas	Steam	TZ Mk. III	4	RasGas II	1441
Al Thumama	216,200	J5 Nakilat No.2 Ltd.	HHI	27/02/2008	M. Islnds	Diesel	TZ Mk. III	4	RasGas III	1862
Al Utouriya	215,000	J5 Nakilat No.8 Ltd.	HHI	01/09/2008	M. Islnds	Diesel	TZ Mk. III	4	RasGas III	1875
Al Wajbah	137,308	Mitsui O.S.K. Lines	Mitsubishi	22/06/1997	M. Islnds	Steam	Moss	5	Qatargas I	2090
Al Wakrah	137,371	Mitsui O.S.K. Lines	Kawasaki	26/11/1998	M. Islnds	Steam	Moss	5	Qatargas I	1446
Al Zubarah	137,573	Mitsui O.S.K. Lines	Mitsui E&S	30/11/1996	M. Islnds	Steam	Moss	5	Qatargas I	1411
Alexandroupoli	153,000	Gas-Fifteen Ltd.	Hanjin (Busan)	01/06/2010	Greece	TFDE	TZ Mk. III	4	–	193
Alicante Knutsen	174,000	–	Hyundai Samho	01/09/2022	France	X-DF	TZ Mk. III Flex+	4	Portfolio	8093
Alto Acrux	147,798	Bahamas LNG Shipping	Mitsubishi	17/03/2008	Bahamas	Steam	Moss	4	Darwin LNG	2219
Amadi	154,800	Brunei Gas Carriers	HHI	16/07/2015	Brunei	–	TZ Mk. III	4	Lumut	2607
Amali	148,000	BGC SPV NBD	Daewoo	01/08/2011	Brunei	–	GT NO 96	4	Lumut	2277
Amani	154,800	Brunei Gas Carriers	HHI	13/10/2014	Brunei	–	TZ Mk. III	4	Lumut	H2606
Amberjack LNG	174,000	LNGShips	HHI	17/04/2020	Malta	X-DF	TZ Mk. III Flex	–	–	3021
Amore Mio I	170,800	–	HHI	03/10/2023	M. Islnds.	MEGA	Mark III Flex	4	–	3315
Amur River	149,700	Seacrown Maritime	HHI	01/11/2007	M. Islnds	Steam	TZ Mk. III	4	Sakhalin II	1734
Arctic Aurora	155,000	Fareastern Shipping	HHI	04/07/2014	Malta	Diesel/Gas-Electric	TZ Mk. III	4	Snøhvit LNG	2580
Arctic Discoverer	142,612	Northern LNG Transport II Company S.A.	Mitsui E&S	12/02/2006	Bahamas	–	Moss	4	Hammerfest	1564
Arctic Lady	147,200	Leif Hoegh (UK) Ltd.	Mitsubishi	12/04/2006	Norway	Steam	Moss	4	Hammerfest	2185

CARRIER FLEET

Arctic Princess	147,200	R.B. Quadrangle Leasing	Mitsubishi	13/01/2006	Norway	Steam	Moss	4	Hammerfest	2184
Arctic Voyager	142,759	Lloyds TSB Equipment Leasing (No.1)	Kawasaki	14/07/2006	Bahamas	Steam	Moss	4	Hammerfest	1532
Aristarchos	174,000	Dias Gas Carrier Corp.	HHI	15/06/2021	Malta	X-DF	TZ Mk. III Flex	4	–	3107
Aristidis I	174,000	Atrotos Gas Carrier Corp.	HHI	04/01/2021	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	3106
Aristos I	174,000	Xiang Ch25 HK International	HHI	13/11/2020	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	3105
Arkat	148,000	BGC SPV NBD	Daewoo	18/02/2011	Brunei	–	GT NO 96	4	Lumut	2273
Arrow Spirit	154,982	Luster Maritime S.A. et al	Koyo Dockyard	08/02/2008	Panama	Steam	TZ Mk. III	4	Portfolio	2258
Aseem	155,003	India LNG Transport Company No.3 S.A.	Samsung	16/11/2009	Malta	Diesel	TZ Mk. III	4	RasGas	1686
Asia Endeavour	154,948	Chevron Global Tech Services Co.	Samsung	17/06/2015	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Gorgon	1942
Asia Energy	154,948	Chevron Global Tech Services Co.	Samsung	03/10/2014	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Gorgon	1921
Asia Excellence	154,948	Chevron Global Tech Services Co.	Samsung	20/01/2015	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Gorgon	1941
Asia Integrity	154,948	Chevron Global Tech Services Co.	Samsung	27/02/2017	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Wheatstone	2069
Asia Venture	154,948	Chevron Global Tech Services Co.	Samsung	06/07/2017	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Wheatstone	2070
Asia Vision	154,948	Chevron Global Tech Services Co.	Samsung	11/07/2014	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Gorgon	1920
Asklipios	174,000	Sea 199 Leasing Co Ltd.	HHI	29/09/2021	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	3110
Asterix I	174,000	Sea 335 Leasing Co Ltd	HHI	12/02/2023	Greece	X-DF	TZ Mk. III Flex	4	Portfolio	3111
Attalos	170,800	Sea 200 Leasing Co. Ltd.	HHI	13/08/2021	Malta	X-DF	TZ Mk. III Flex	4	–	3108
Barcelona Knutsen	173,400	Norspan LNG V AS	Daewoo	21/01/2010	Spain	Diesel/Gas-Electric	GT NO 96	4	Portfolio	2267
Beidou Star	172,000	Mitsui O.S.K. Lines	Hudong Zhonghua	14/09/2015	H.K., China	Diesel	GT NO 96	4	PNG LNG	H1672A
Berge Arzew	138,088	Sonatrach Berge Arzew Corp.	Daewoo	29/07/2004	Bahamas	Steam	GT NO 96	4	Arzew	2217
Bilbao Knutsen	138,000	Norspan LNG AS	Izar	29/01/2004	Spain	Steam	GT NO 96	4	Portfolio	321
Bishu Maru	164,700	"K" Line - Kawasaki Kisen Kaisha	Kawasaki	12/12/2017	Panama	TFDE	Moss	4	Wheatstone	1713
Bonito LNG	174,000	LNGShips	HHI	19/05/2020	Malta	–	TZ Mk. III Flex	–	–	3022
Boris Davydov	172,410	Arctic LNG 4 Ltd.	Daewoo	23/12/2018	Cyprus	TFDE - Azipod	GT NO 96 GW	4	Yamal	2428
Boris Vilkitsky	172,410	Arctic LNG 1 Ltd.	Daewoo	04/06/2017	Cyprus	TFDE - Azipod	GT NO 96 GW	4	Yamal	2421
British Achiever	173,644	BP	Daewoo	06/11/2018	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2442
British Contributor	173,644	BP	Daewoo	16/12/2018	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2443
British Listener	173,644	BP	Daewoo	31/01/2019	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2444
British Mentor	173,644	BP	Daewoo	15/03/2019	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2445
British Partner	173,400	BP	Daewoo	18/06/2018	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2441
British Sponsor	173,644	BP	Daewoo	01/05/2019	U.K.	ME-GI	GT NO 96 GW	4	Freeport	2446
Broog	137,529	Mitsui O.S.K. Lines	Mitsui E&S	27/04/1998	M. Islnds	Steam	Moss	5	Qatargas I	1412
Bu Samra	266,000	Nakilat Bu Samra Inc.	Samsung	06/12/2008	M. Islnds	–	TZ Mk. III	5	Qatargas II	1677
Bushu Maru	180,000	Mitsui O.S.K. Lines	Mitsubishi	08/07/2019	Bahamas	Reheat Steam Turbine	TZ Mk. III Flex	4	Sabine Pass	2327
BW Boston	138,059	Partrederiet BW Gas GDF Suez EMT DA	Daewoo	23/01/2003	Norway	Steam	GT NO 96	4	Atlantic LNG	2207
BW Brussels	162,400	Ines LNG	Daewoo	03/08/2009	Singapore	Diesel/Gas-Electric	GT NO 96	4	Balhaf	2259
BW Cassia	174,000	MP-SGP Pte Ltd	Daewoo	02/10/2022	Singapore	ME-GI	–	4	–	2510
BW Enn Snow Lotus	174,000	BW LNG II Pte Ltd	Daewoo	11/09/2022	Singapore	ME-GI	–	4	–	2509
BW Everett	138,028	BW Gas SLNG	Daewoo	16/06/2003	Singapore	Steam	GT NO 96	4	Atlantic LNG	2212
BW Helios	174,000	Selene Navigation Pte Ltd.	Daewoo	25/05/2021	Singapore	ME-GI	GT NO 96 GW	4	–	2497
BW Lesmes	174,000	BW Gas AS	Daewoo	26/03/2021	Singapore	ME-GI	GT NO 96 GW	4	Portfolio	2496
BW Lilac	173,400	BW Maritime	Daewoo	17/03/2018	Malta	ME-GI	GT NO 96 GW	4	–	2436
BW Magna	173,000	BW Group	Daewoo	11/03/2019	Singapore	ME-GI	GT NO 96	4	–	2488
BW Magnolia	173,400	Helen Navigation Pte Ltd.	Daewoo	28/02/2020	Singapore	–	GT NO 96 GW	–	–	2490
BW Pavilion Aranda	173,400	BW Group	Daewoo	10/09/2019	Singapore	ME-GI	GT NO 96 GW	4	Portfolio	2489
BW Pavilion Aranthera	173,400	BW Diamond LNG Pte Ltd	Daewoo	04/07/2020	Singapore	–	GT NO 96 GW	–	–	2491
BW Pavilion Leeara	158,629	BW LPG FPSOI	HHI	01/06/2015	Singapore	Diesel/Gas-Electric	TZ Mk. III Flex	4	Portfolio	2572
BW Pavilion Vanda	155,000	BW LPG FPSOI	HHI	12/02/2015	Singapore	–	TZ Mk. III Flex	4	Portfolio	2571
BW Tatiana	135,269	Shell Tankers Singapore	Mitsubishi	27/12/2002	Panama	Steam	Moss	5	Atlantic LNG	2173
BW Tulip	173,400	BW Maritime	Daewoo	01/12/2017	Singapore	ME-GI	GT NO 96 GW	4	–	2435
Cadiz Knutsen	138,826	Norspan LNG II AS	Navantia	13/04/2004	Spain	Steam	GT NO 96	4	Portfolio	103
Cape Ann	145,130	SRV Joint Gas Two Ltd.	Samsung	25/04/2010	Norway	Diesel/Gas-Electric	TZ Mk. III	4	Jaigarh LNG	1689
Castillo de Caldelas	176,300	Empresa Naviera Elcano	Imabari Shipbuilding	13/06/2018	Malta	ME-GI	TZ Mk. III Flex	–	Portfolio	8188
Castillo De Merida	176,300	Empresa Naviera Elcano	Imabari Shipbuilding	31/03/2018	Malta	ME-GI	TZ Mk. III Flex	4	Portfolio	8177
Castillo de Santisteban	170,000	Naviera Trans Gas AIE	STX	20/06/2010	Malta	Diesel Electric	GT NO 96	4	Portfolio	3008
Castillo de Villalba	138,000	Empresa Naviera Elcano	Navantia Cadiz	29/09/2003	Spain	Steam	GT NO 96	4	Portfolio	87
Celsius Canberra	180,000	Xiang CH27 HK International	Samsung	–	M. Islnds	X-DF	TZ Mk. III Flex	–	US Portfolio	2298
Celsius Carolina	180,000	Oriental Fleet LNG 03 Ltd.	Samsung	13/08/2021	M. Islnds	X-DF	TZ Mk. III Flex	4	US Portfolio	2314
Celsius Charlotte	180,000	Xiang CH28 HK International	Samsung	14/06/2021	M. Islnds	X-DF	TZ Mk. III Flex	4	US Portfolio	2313
Celsius Copenhagen	180,000	Greenheart Gas Shipco I LLC	Samsung	01/11/2020	M. Islnds	X-DF	TZ Mk. III Flex	4	Portfolio	2297
Celsius Geneva	176,400	Xiang H14 International	Samsung	15/07/2023	M. Islnds	ME-GI	TZ Mk. III Flex	4	Portfolio	2459
Celsius Giza	180,000	–	Samsung	01/11/2023	Marshall Isl.	ME-GI	Mark III Flex	4	Portfolio	2460
Celsius Glarus	176,400	–	Samsung	04/01/2024	Marshall Isl.	ME-GI	Mark III Flex	4	Portfolio	2461
CESI Beihai	174,000	COSCO Shipping Energy Transportation Co.	Hudong Zhonghua	12/06/2017	H.K., China	–	GT NO 96	4	APLNG	1717A

CESI Gladstone	174,000	China Shipping Co.	Hudong Zhonghua	31/10/2016	H.K., China	–	GT NO 96	4	APLNG	1715A
CESI LianYungAng	174,000	COSCO Shipping Energy Transportation Co.	Hudong Zhonghua	07/06/2018	H.K., China	Diesel-Electric	GT NO 96	4	APLNG	1720A
CESI Qingdao	174,000	China Shipping Co.	Hudong Zhonghua	04/02/2017	H.K., China	–	GT NO 96	4	APLNG	1716A
CESI Tianjin	174,000	COSCO Shipping Energy Transportation Co.	Hudong Zhonghua	17/07/2017	H.K., China	TFDE	GT NO 96	4	APLNG	1718A
CESI Wenzhou	174,000	COSCO Shipping Energy Transportation Co.	Hudong Zhonghua	04/02/2018	H.K., China	Diesel-Electric	GT NO 96	4	APLNG	1719A
Cheikh Bouamama	75,558	Skikda LNG Transport Corp.	Universal SB	19/07/2008	Bahamas	Steam	TZ Mk. III	4	Arzew/Skikda	88
Cheikh el Mokrani	75,759	Mediterranean LNG Transport Corp.	Japan Marine United	10/06/2007	Bahamas	Steam	TZ Mk. III	4	Skikda	55
Christophe De Margerie	170,000	DY Shipping Limited	Daewoo	09/11/2016	Panama	Diesel/Gas-Electric	GT NO 96 GW	–	Yamal	2418
Clean Cajun	180,000	Platia Shipping Ltd.	HHI	01/05/2022	Malta	X-DF	Membrane	4	–	3137
Clean Copano	180,000	Psili Shipping Ltd	HHI	30/07/2022	Malta	X-DF	Membrane	4	–	3138
Clean Destiny	196,000	–	HHI	01/12/2023	Panama	ME-GI	Mark III Flex Plus	4	–	3291
Clean Energy	149,700	Pegasus Shipholding	HHI	02/03/2007	M. Islnds	Steam	TZ Mk. III	4	Portfolio	1748
Clean Horizon	162,000	Dynagas	HHI	10/04/2015	Malta	Diesel/Gas-Electric	TZ Mk. III Flex	4	Portfolio	2566
Clean Ocean	162,000	Dynagas	HHI	21/05/2014	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Sabine Pass	2558
Clean Planet	162,000	Dynacom Tankers Management	HHI	29/08/2014	M. Islnds	Diesel Electric	TZ Mk. III Flex	4	Yamal	H2565
Clean Resolution	196,000	–	HHI	25/09/2023	Panama	ME-GI	Mark III Flex Plus	4	–	3290
Clean Vision	162,000	Olinda	HHI	11/08/2015	Malta	Diesel/Gas-Electric	TZ Mk. III Flex	4	Portfolio	2567
CNTIC VPower Energy	127,500	Shell Tankers Australia	Mitsubishi	01/01/1992	Liberia	Steam	Moss	4	North West Shelf	2041
Cobia LNG	174,000	Cardiff LNG ETA Owning LLC	HHI	28/02/2021	Malta	X-DF	TZ Mk. III Flex	4	–	3038
Condor LNG	145,000	Cardiff LNG FI Owning Ltd	Samsung	28/08/2006	Greece	Steam	TZ Mk. III	4	Idku	1555
Cool Discoverer	174,000	Serendipity Maritime Ltd.	HHI	28/09/2020	Malta	X-DF	TZ Mk. III Flex	–	–	S970
Cool Explorer	160,000	Thenamaris Ships Management Inc.	Samsung	01/01/2015	Malta	–	TZ Mk. III Flex	4	Spot	2049
Cool Racer	174,000	Eloquent Shipping Ltd	HHI	10/02/2021	Malta	X-DF	TZ Mk. III Flex	4	–	3126
Cool Rider	155,000	RBSSAF (19) Ltd.	HHI	02/05/2007	Malta	–	TZ Mk. III	4	Portfolio	1777
Cool Rover	155,000	RBSSAF (19) Ltd.	HHI	20/06/2008	Malta	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	1779
Cool Runner	160,000	Thenamaris Ships Management Inc.	Samsung	27/03/2014	Malta	Diesel Electric	TZ Mk. III Flex	4	Wheatstone	H2046
Cool Voyager	160,000	Energy Shipping & Trading	Samsung	31/10/2013	Malta	TFDE	TZ Mk. III Flex	4	Wheatstone	–
Corcovado LNG	160,162	Drytank	Daewoo	03/04/2014	Malta	Diesel Electric	GT NO 96 L03	4	Spot	H2297
Cubal	160,276	Mint LNG IV	Samsung	12/01/2012	Bahamas	–	TZ Mk. III	4	Soyo	1813
Cygnus Passage	145,400	Cygnus LNG Shipping	Mitsubishi	06/01/2009	Bahamas	Steam	Moss	4	Sakhalin II	2235
Dapeng Moon	147,200	Yue Gang LNG Ship Management Co.	Hudong Zhonghua	17/07/2008	H.K., China	Steam	GT NO 96	4	Pluto	1309
Dapeng Princess	79,960	–	Hudong Zhonghua	19/02/2023	Singapore	DFDE	GTT 96	4	–	H1837A
Dapeng Star	147,210	Yue Peng LNG Shipping Co.	Hudong Zhonghua	04/11/2009	H.K., China	Steam	GT NO 96	4	Pluto	1379
Dapeng Sun	147,200	Yue Peng LNG Shipping Co.	Hudong Zhonghua	03/04/2008	H.K., China	Steam	GT NO 96	4	North West Shelf	1308
Diamond Gas Crystal	174,000	Diamond LNG Shipping 5 Pte Ltd.	Hyundai Samho	28/06/2021	Singapore	X-DF	TZ Mk. III Flex	4	–	8030
Diamond Gas Metropolis	174,000	Diamond LNG Shipping 4 Ltd.	HHI	03/11/2020	Bahamas	–	TZ Mk. III Flex	4	–	8029
Diamond Gas Orchid	165,000	NYK Line	Mitsubishi	02/06/2018	Bahamas	STaGE	Sayaringo	4	Cameron	2325
Diamond Gas Rose	165,000	NYK Line	Mitsubishi	02/08/2018	Bahamas	STaGE	Sayaringo	4	Cameron	2325
Diamond Gas Sakura	165,000	Tokyo Gas	Japan Marine United	17/05/2019	Singapore	STaGE	Sayaringo	4	Cameron	2332
Diamond Gas Victoria	174,000	Diamond LNG Shipping 6 Pte Ltd.	Hyundai Samho	30/06/2021	Singapore	X-DF	TZ Mk. III Flex	4	–	8031
Disha	136,025	India LNG Transport Company No.1 Ltd.	Daewoo	25/12/2003	Malta	Gas Turbine	GT NO 96	4	RasGas	2210
Doha	137,262	Mitsui O.S.K. Lines	Mitsubishi	03/06/1999	M. Islnds	Steam	Moss	5	Qatargas I	2091
Dorado LNG	174,000	Hai Kuo Shipping 2052G Ltd.	Samsung	25/12/2020	Malta	X-DF	TZ Mk. III Flex	–	–	2276
Duhail	210,150	Nauranto Schiffsbetriebsgesellschaft	Daewoo	04/12/2007	Bahamas	Diesel	GT NO 96	4	Qatargas II	2247
Dukhan	137,661	Qatar LNG Transport	Mitsui E&S	29/09/2004	Liberia	Steam	Moss	5	Qatargas II	1561
East Energy	122,255	Bonny Gas Transport	STX	11/08/1982	Bermuda	Steam	Membrane	4	NLNG	26B
Eduard Toll	172,410	Teekay Corp.	Daewoo	22/09/2017	Bahamas	TFDE - Azipod	GT NO 96 GW	4	Yamal	2423
Ejnan	145,000	Peninsula LNG Transport No. 3	Samsung	16/01/2007	Bahamas	Steam	TZ Mk. III	4	RasGas II	1594
Ekaputra 1	136,400	Cometco Shipping Inc.	Mitsubishi	01/01/1989	Indonesia	Steam	Moss	5	Bontang	2011
Elisa Aquila	174,000	Caroline 82 SASU	Hyundai Samho	04/03/2022	France	X-DF	TZ Mk. III Flex	4	Portfolio	S917
Elisa Larus	174,000	Caroline 77 SASU	Hyundai Samho	18/05/2020	France	X-DF	TZ Mk. III Flex	4	Portfolio	S970
Energos Grand	145,700	Golar Grand Corp.	Daewoo	01/01/2006	M. Islnds	Steam	GT NO 96	4	Gorgon	2226
Energy Advance	147,624	Tokyo LNG Tanker Co. & . Toho LNG Shipping Co	Kawasaki	20/03/2005	Japan	Steam	Moss	4	Portfolio	1521
Energy Atlantic	156,000	Alpha Tankers	STX	28/09/2015	Malta	TFDE	GT NO 96 L03	4	Sabine Pass	1670
Energy Confidence	153,000	Tokyo LNG Tanker Co. & NYK	Kawasaki	20/04/2009	Japan	Steam	Moss	4	Darwin LNG	1611
Energy Endeavour	173,400	Rossini Navigation SA	Daewoo	01/01/2021	M. Islnds	ME-GI	GT NO 96 GW	–	–	2484
Energy Endurance	170,614	–	Hyundai Samho	31/01/2024	Liberia	X-DF	–	4	–	8106
Energy Fidelity	174,000	–	Hyundai Samho	13/04/2023	M. Islnds	X-DF	–	4	–	8105
Energy Frontier	147,599	Tokyo LNG Tanker Co.	Kawasaki	01/09/2003	Japan	Steam	Moss	4	Sakhalin II	1520
Energy Glory	165,000	NYK Line	Japan Marine United	21/03/2019	Japan	TFDE	TZ Mk. III Flex+	4	Cove Point	5071
Energy Horizon	177,000	Tokyo LNG Tanker Co. & NYK	Kawasaki	31/08/2011	Japan	Steam	Moss	4	Pluto	1664
Energy Innovator	165,000	Tokyo Gas	Japan Marine United	22/06/2019	Japan	TFDE	TZ Mk. III Flex+	4	Cove Point	5072
Energy Integrity	173,400	Mozart Navigation SA	Daewoo	14/05/2021	M. Islnds	ME-GI	GT NO 96 GW	4	–	2485

Energy Intelligence	173,400	Strauss Navigation SA	Daewoo	30/06/2021	M. Islnds	ME-GI	GT NO 96 GW	4	–	2500
Energy Liberty	165,000	Mitsui O.S.K. Lines	Japan Marine United	11/10/2018	Japan	TFDE	TZ Mk. III Flex+	4	Cove Point	5070
Energy Navigator	145,000	Tokyo LNG Tanker Co.	Kawasaki	22/05/2008	Japan	Steam	Moss	4	Sakhalin II	1600
Energy Pacific	173,400	Ravel Navigation SA	Daewoo	24/08/2020	M. Islnds	ME-GI	GT NO 96 GW	–	–	2483
Energy Progress	147,558	Jovial Shipping Navigation	Kawasaki	24/11/2006	Japan	Steam	Moss	4	Darwin LNG	1540
Energy Spirit	74,100	GDF Armateur 2	STX	23/01/2004	Singapore	Diesel/Gas-Electric	CS1	4	Portfolio	32M
Energy Universe	166,571	Tokyo LNG Tanker Co.	Japan Marine United	03/08/2019	Panama	TFDE	TZ Mk. III Flex	4	Cove Point	5073
Enshu Maru	164,700	Mitsui O.S.K. Lines	Kawasaki	12/08/2018	Panama	Reheat Steam Turbine	Moss	4	Wheatstone	1720
Esshu Maru	153,000	Mitsui O.S.K. Lines	Mitsubishi	16/12/2014	Bahamas	–	Sayaendo	4	Portfolio	–
Etyfa Prometheas	135,269	Shell Bermuda (Overseas) Ltd.	Mitsubishi	02/10/2002	Singapore	Steam	Moss	5	Peru LNG	2172
Excalibur	138,034	Exmar Excalibur Shipping Co.	Daewoo	22/05/2002	Belgium	Steam	GT NO 96	4	Portfolio	2206
Extremadura Knutsen	174,000	Caroline 86 SASU	Hyundai Samho	17/02/2023	France	X-DF	Mark III Flex	4	Portfolio	8096
Fedor Litke	172,410	Arctic LNG 2 Ltd.	Daewoo	18/05/2017	Cyprus	TFDE - Azipod	GT NO 96 GW	4	Yamal	2422
Ferrol Knutsen	174,000	Caroline 85 SASU	Hyundai Samho	01/01/2023	France	X-DF	Mark III Flex	4	Portfolio	8095
Flex Amber	174,000	Bund 10 Holding Ltd	HHI	17/10/2020	M. Islnds	X-DF	TZ Mk. III Flex	–	Wheatstone	8011
Flex Artemis	174,000	Flex LNG Rreliance Ltd.	Daewoo	20/08/2020	M. Islnds	ME-GI	NO-96-GW+FRS	–	Portfolio	2479
Flex Aurora	174,000	Flex LNG Aurora Ltd.	HHI	25/06/2020	M. Islnds	X-DF	TZ Mk. III Flex	–	Portfolio	8010
Flex Constellation	173,400	Frontline	Daewoo	10/06/2019	M. Islnds	ME-GI	NO-96-GW+PRS	4	Portfolio	H2470
Flex Courageous	173,400	Frontline	Daewoo	27/08/2019	M. Islnds	ME-GI	NO-96-GW+PRS	4	–	2471
Flex Endeavour	172,400	Flex LNG	Daewoo	14/01/2018	M. Islnds	ME-GI	NO-96-GW+PRS	4	Corpus Christi LNG	2447
Flex Enterprise	172,400	Flex LNG	Daewoo	01/01/2018	M. Islnds	ME-GI	NO-96-GW+PRS	4	Wheatstone	2448
Flex Freedom	173,400	Flex Freedom Ltd.	Daewoo	01/01/2021	M. Islnds	ME-GI	NO-96-GW+FRS	–	–	2492
Flex Rainbow	174,000	Flex LNG	Samsung	14/06/2018	M. Islnds	ME-GI	TZ Mk. III Flex	4	Portfolio	2108
Flex Ranger	174,101	Flex LNG	Samsung	24/06/2018	M. Islnds	ME-GI	TZ Mk. III Flex	4	–	2107
Flex Resolute	173,400	Flex LNG Resolute Ltd.	HHI	04/09/2020	M. Islnds	ME-GI	NO-96-GW+FRS	4	Portfolio	2480
Flex Vigilant	174,000	Flex Vigilant Ltd.	HHI	31/05/2021	M. Islnds	X-DF	TZ Mk. III Flex	4	Portfolio	8013
Flex Volunteer	174,000	Flex Volunteer Ltd.	HHI	20/01/2021	M. Islnds	X-DF	TZ Mk. III Flex	4	Portfolio	8012
Fraiha	210,100	J5 Nakilat No.6 Ltd.	Daewoo	20/08/2008	M. Islnds	Diesel	GT NO 96	18	RasGas III	2252
Fuji LNG	149,172	Aletheia Owning Co.	Kawasaki	31/03/2004	Malta	Steam	Moss	4	Sabine Pass	1527
Fuwairit	138,200	Camartina Shipping Co.	Samsung	13/01/2004	Bahamas	Steam	TZ Mk. III	4	RasGas II	1406
Gail Bhuwan	180,000	Primavera Montana SA	Daewoo	10/02/2021	Cyprus	X-DF	GT NO 96 GW	4	Portfolio	2499
GAIL Urja	170,520	–	Daewoo	10/12/2023	M. Islnds.	–	–	4	–	2520
GasLog Galveston	174,000	Gas-Thirty Three Ltd.	Samsung	05/01/2021	Bermuda	X-DF	TZ Mk. III Flex+	4	US Portfolio	2301
GasLog Geneva	174,000	GasLog	Samsung	04/10/2016	Bermuda	TFDE	TZ Mk. III Flex	4	Portfolio	2102
GasLog Genoa	174,000	GasLog	Samsung	31/03/2018	Bermuda	X-DF	TZ Mk. III Flex	4	Portfolio	2130
GasLog Georgetown	174,000	Gas-Thirty Two Ltd.	Samsung	16/11/2020	Bermuda	–	TZ Mk. III Flex+	4	Portfolio	2300
GasLog Gibraltar	174,000	Gas-Fourteen Ltd.	Samsung	04/11/2016	Bermuda	TFDE	TZ Mk. III Flex	4	Portfolio	2103
GasLog Gladstone	174,000	GasLog	Samsung	14/03/2019	Bermuda	X-DF	TZ Mk. III Flex+	4	Portfolio	2131
GasLog Glasgow	174,000	GasLog	Samsung	25/07/2016	Bermuda	TFDE	TZ Mk. III Flex	4	Portfolio	2073
GasLog Greece	174,000	GasLog	Samsung	29/03/2016	Bermuda	TFDE	TZ Mk. III Flex	4	Portfolio	2072
GasLog Hong Kong	174,000	GasLog	HHI	25/03/2018	Bermuda	X-DF	TZ Mk. III Flex	4	Portfolio	2801
GasLog Houston	174,000	GasLog	HHI	01/12/2018	Bermuda	X-DF	TZ Mk. III Flex	4	GoM	2800
GasLog Salem	155,000	GasLog	Samsung	06/05/2015	Bermuda	TFDE	TZ Mk. III	4	Portfolio	2044
GasLog Santiago	155,000	Gas-Four Ltd.	Samsung	28/03/2013	Bermuda	TFDE	TZ Mk. III	4	Portfolio	1947
GasLog Saratoga	155,000	GasLog	Samsung	19/12/2014	Bermuda	TFDE	TZ Mk. III	4	Spot	2043
GasLog Savannah	155,000	Gas-One Ltd.	Samsung	31/05/2010	Bermuda	TFDE	TZ Mk. III	4	Portfolio	1641
GasLog Seattle	155,000	Gas-Seven Ltd.	Samsung	28/10/2013	Bermuda	TFDE	TZ Mk. III	4	Portfolio	2041
GasLog Shanghai	155,000	Gas-Three Ltd.	Samsung	05/02/2013	Bermuda	TFDE	TZ Mk. III	4	Portfolio	1946
GasLog Singapore	155,000	Gas-Two Ltd.	Samsung	06/08/2010	Bermuda	TFDE	TZ Mk. III	4	Portfolio	1642
GasLog Skagen	155,000	Gas-Six Ltd.	Samsung	01/08/2013	Bermuda	TFDE	TZ Mk. III	4	Portfolio	2017
GasLog Sydney	155,000	Gas-Five Ltd.	Samsung	06/06/2013	Bermuda	–	TZ Mk. III	4	Portfolio	2016
GasLog Wales	180,000	GasLog	Samsung	11/05/2020	Bermuda	X-DF	TZ Mk. III Flex+	4	Portfolio	2274
GasLog Warsaw	180,000	GasLog	Samsung	31/07/2019	Greece	X-DF	TZ Mk. III Flex+	4	Portfolio	2212
GasLog Wellington	176,400	GAS-Thirty Four Ltd.	Samsung	15/06/2021	Bermuda	X-DF	TZ Mk. III Flex+	4	US Portfolio	2311
GasLog Westminster	180,000	Gas-Thirty Ltd.	Samsung	15/07/2020	Bermuda	X-DF	TZ Mk. III Flex	–	Portfolio	2262
GasLog Winchester	176,400	Gas-Thirty Five Ltd.	Samsung	24/08/2021	Bermuda	X-DF	TZ Mk. III Flex+	4	US Portfolio	2312
GasLog Windsor	180,000	GasLog	Samsung	02/04/2020	Bermuda	X-DF	TZ Mk. III Flex	4	Portfolio	2213
Georgiy Brusilov	172,410	Arctic LNG 3 Ltd.	Daewoo	11/11/2018	Cyprus	TFDE - Azipod	GT NO 96 GW	4	Yamal	2427
Georgiy Ushakov	172,652	Teekay Corp.	Daewoo	16/09/2019	Bahamas	ME-GI	GT NO 96 GW	4	Yamal	2433
Ghasha	137,000	Ghasha Inc.	Mitsui E&S	01/06/1995	Liberia	Steam	Moss	5	Das Island	1392
Gigira Laitebo	177,419	Cleopatra LNG Shipping Co.	HHI	09/02/2010	Bahamas	–	TZ Mk. III	4	RasGas	1876
Global Energy	173,400	–	Daewoo	22/05/2020	M. Islnds	ME-GI	GT NO 96 GW	–	Portfolio	2478
Global Sea Spirit	169,932	Global Sea Spirit Inc	Daewoo	20/10/2021	M. Islnds	ME-GI	GT NO 96 GW	4	US Portfolio	2502
Global Sealine	174,000	Jackar Shiptrade SA	Daewoo	27/12/2021	M. Islnds	ME-GI	–	–	US Portfolio	2503
Global Star	173,400	Hai Kuo Shipping 2119G Ltd.	Daewoo	06/01/2021	M. Islnds	ME-GI	GT NO 96 GW	4	Portfolio	2487
Golar Arctic	140,648	Golar LNG 2216 Corp.	Daewoo	16/10/2003	M. Islnds	Steam	GT NO 96	4	Jamaica LNG	2216
Golar Bear	160,000	Golar LNG	Samsung	15/09/2014	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Spot	2027

Golar Celsius	160,000	Golar Hull M2026 Corp.	Samsung	08/10/2013	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Spot	2026
Golar Crystal	159,800	Golar LNG	Samsung	22/09/2014	M. Islnds	–	TZ Mk. III Flex	4	Portfolio	2022
Golar Glacier	162,000	Golar LNG	Hyundai Samho	10/11/2014	M. Islnds	TFDE	TZ Mk. III Flex	4	Spot	–
Golar Kelvin	162,000	Golar LNG	Hyundai Samho	12/01/2015	M. Islnds	–	TZ Mk. III Flex	4	Spot	S659
Golar Maria	145,700	Golar LNG 2234 LLC	Daewoo	16/06/2006	M. Islnds	Steam	GT NO 96	4	Spot	2234
Golden Isaia	145,000	Lloyds TSB Leasing No.8 Ltd.	Samsung	26/02/2007	Indonesia	Steam	TZ Mk. III	4	Punta Europa	1585
Grace Acacia	149,700	Algawin Shipping Inc.	HHI	13/02/2007	Bahamas	Steam	TZ Mk. III	4	Spot	1728
Grace Barleria	149,700	NYK LNG Shipmanagement	HHI	05/04/2007	Japan	–	TZ Mk. III	4	Portfolio	1729
Grace Cosmos	150,000	Algahunt Shipping Inc.	HHI	13/02/2008	Bahamas	Steam	TZ Mk. III	4	Portfolio	1730
Grace Dahlia	177,000	NYK Line	Kawasaki	16/09/2013	Japan	Steam	Moss	4	Spot	1665
Grace Emilia	174,000	Akizuki Maritima SA	Hyundai Samho	31/10/2021	Bahamas	X-DF	TZ Mk. III	4	Portfolio	8032
Grace Freesia	174,000	Okusankichi Maritima SA	Hyundai Samho	27/03/2022	Bahamas	X-DF	–	4	Portfolio	8033
Grand Aniva	145,000	NYK-SCF LNG Shipping No. 1	Mitsubishi	04/01/2008	Cyprus	Steam	Moss	4	Sakhalin II	2230
Grand Elena	145,580	NYK-SCF LNG Shipping No. 1	Mitsubishi	17/10/2007	Cyprus	Steam	Moss	4	Sakhalin II	2229
Grand Mereya	147,000	Ice Gas LNG Shipping Co.	Mitsui E&S	16/03/2008	Cyprus	Steam	Moss	4	Sakhalin II	1681
Grazyna Gesicka	174,000	Knutsen OAS Shipping c/o SNC Diderot Financement 33	HHI	02/05/2023	France	X-DF	–	4	Portfolio	3244
Gui Ying	170,701	Fortune Power Shipping Ltd.	Hudong Zhonghua	08/10/2021	Singapore	X-DF	GT NO 96 L03+	4	–	H1828A
Hanjin Muscat	138,366	Pluto Lease Corp.	Hanjin (Busan)	30/07/1999	South Korea	Steam	GT NO 96	4	Oman LNG	54
Hanjin Pyeongtaek	130,636	Hanjin Shipping Co.	Hanjin (Busan)	26/09/1995	South Korea	Steam	GT NO 96	4	Bontang	16
Hanjin Ras Laffan	138,214	KSH International	Hanjin (Busan)	20/07/2000	South Korea	Steam	GT NO 96	4	RasGas I	62
Hanjin Sur	138,333	KSG International	Hanjin (Busan)	27/02/2000	South Korea	Steam	GT NO 96	4	Oman LNG	61
Hellas Athina	170,520	Kronos Shipping LLC	Hyundai Samho	01/09/2021	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	8040
Hellas Diana	174,000	Zeus Shipping LLC	Hyundai Samho	31/03/2021	Malta	X-DF	TZ Mk. III Flex	4	Portfolio	8039
Hoegh Gandria	160,000	Golar Hull M2021 Corp.	Samsung	13/09/2013	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Spot	2021
HongKong Energy	138,000	Chevron LNG Shipping Co.	Daewoo	20/02/2004	M. Islnds	Steam	GT NO 96	4	North West Shelf	2214
Huelva Knutsen	174,000	Sea 201 Leasing Co Ltd	Hyundai Samho	13/10/2022	Norway	X-DF	TZ Mk. III Flex+	4	Portfolio	8094
Hyundai Aquapia	137,415	H&S Shipping	HHI	04/05/2000	M. Islnds	Steam	Moss	4	Oman LNG	1156
Hyundai Cosmopia	137,415	H&B Shipping	HHI	08/02/2000	M. Islnds	Steam	Moss	4	RasGas I	1074
Hyundai Ecopia	149,745	KLT 1 International	HHI	30/11/2008	Panama	–	TZ Mk. III	4	Balhaf	1903
Hyundai Greenpia	125,000	Hyundai Merchant Marine	HHI	01/05/1996	South Korea	Steam	Moss	4	MLNG	853
Hyundai Oceanpia	135,000	H&T Shipping	HHI	19/06/2000	M. Islnds	Steam	Moss	4	Oman LNG	1157
Hyundai Peacepia	174,000	Hyundai LNG Shipping	Daewoo	08/06/2017	Panama	ME-GI	GT NO 96 GW	4	Sabine Pass	2452
Hyundai Princepia	174,000	Hyundai LNG Shipping	Daewoo	11/05/2017	Panama	ME-GI	GT NO 96 GW	4	Sabine Pass	2451
Hyundai Technopia	137,415	H&K Shipping	HHI	31/07/1999	M. Islnds	Steam	Moss	4	RasGas I	1073
Hyundai Utopia	125,182	Hyundai Merchant Marine	HHI	01/06/1994	South Korea	Steam	Moss	4	Donggi Senoro	760
Iberica Knutsen	138,000	Norspan LNG III AS	Daewoo	08/08/2006	Norway	Ultra Steam Turbine	GT NO 96	4	Portfolio	2236
Ibra LNG	147,000	SNC Corentin	Samsung	19/07/2006	Panama	Steam	TZ Mk. III	4	Oman LNG	1573
Ibri LNG	147,569	Dune LNG Carrier	Mitsubishi	01/07/2006	Panama	Steam	Moss	4	Oman LNG	2215
Ignacy Lukasiewicz	170,520	–	Hyundai Samho	31/10/2023	Panama	X-DF	–	4	Swinoujscie LNG	8149
Isabella	169,932	Kasimia Marine Co.	Daewoo	22/07/2021	Greece	ME-GI	GT NO 96 GW	4	–	2495
Ish	137,000	Ish Inc.	Mitsubishi	10/11/1995	Liberia	Steam	Moss	5	Das Island	2067
John A Angelicoussis	174,000	Varta Shipping Ltd	Daewoo	31/03/2022	Greece	ME-GI	–	4	–	2508
K. Acacia	138,017	Horizon Maritime Shipholding	Daewoo	31/12/1999	South Korea	Steam	GT NO 96	4	Oman LNG	2203
K. Freesia	138,015	Meridian Maritime Shipholding	Daewoo	20/08/2000	South Korea	Steam	GT NO 96	4	RasGas I	2204
K. Jasmine	145,878	Kolt JV No. 1	Daewoo	09/05/2008	Panama	Steam	GT NO 96	4	Sakhalin II	2260
K. Mugungwha	151,812	Kolt JV No. 2	Daewoo	20/11/2008	Panama	Steam	GT NO 96	4	Oman LNG	2261
Kinisis	173,400	Chandris Group	Daewoo	01/10/2018	Liberia	ME-GI	GT NO 96 GW	4	Portfolio	2464
Kita LNG	147,895	Cardiff LNG	Daewoo	29/05/2014	Malta	Diesel Electric	GT NO 96 L03	4	Spot	H2298
Kmarin Diamond	155,000	RBSSAF (19) Ltd.	Hyundai Samho	28/07/2008	U.K.	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	S297
Kool Baltic	170,200	Sovcomflot	STX	03/01/2015	Liberia	Diesel Electric	GT NO 96 GW	4	Portfolio	1912
Kool Blizzard	160,000	Golar LNG	Samsung	12/01/2015	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Spot	2047
Kool Boreas	170,200	Sovcomflot	STX	23/04/2015	Liberia	Diesel Electric	GT NO 96 GW	4	Portfolio	1913
Kool Firn	174,000	Heliconia Maritime SA	HHI	18/09/2020	Liberia	DFDS	TZ Mk. III Flex	4	Portfolio	8007
Kool Frost	160,000	Golar LNG	Samsung	01/10/2014	M. Islnds	Diesel/Gas-Electric	TZ Mk. III Flex	4	Portfolio	2055
Kool Ice	160,000	Golar LNG	Samsung	31/01/2015	M. Islnds	Diesel Electric	TZ Mk. III Flex	4	Spot	2048
Kool Orca	174,000	Headliner Maritime SA	HHI	15/01/2021	Liberia	X-DF	NO-96-GW+PRS	4	Portfolio	8008
KPS LNG Anatolia	154,472	GDF Armateur 2	STX	21/11/2006	Liberia	Diesel/Gas-Electric	CS1	4	Portfolio	32N
Kumul	170,000	Mitsui O.S.K. Lines	Hudong Zhonghua	05/12/2015	H.K., China	Diesel	GT NO 96	4	PNG LNG	1673A
Kun Lun	174,400	–	Hudong Zhonghua	05/04/2023	China	X-DF	–	4	Portfolio	H1833A
La Mancha Knutsen	176,300	Norspan LNG IX	HHI	21/09/2016	Spain	ME-GI	TZ Mk. III Flex	4	Portfolio	2733
La Seine	174,000	Xiang CH16 HK International	HHI	29/02/2020	Malta	X-DF	TZ Mk. III Flex	–	Portfolio	3020
Lagenda Serenity	79,960	Kawasaki Kisen Kaisha	Hudong Zhonghua	10/06/2022	Singapore	LP-DF	–	3	Malaysia LNG	H1789A
Lagenda Suria	79,960	Silk LNG Transport No 1 Pte Ltd	Hudong Zhonghua	27/05/2022	Singapore	LP-DF	–	3	Malaysia LNG	H1788A
Lalla Fatma N'Soumer	145,000	Algerian Nippon Gas Transport Corp.	Kawasaki	18/10/2004	Bahamas	Steam	Moss	4	Arzew	1534
Lech Kaczynski	174,000	SNC Martin	HHI	09/12/2022	France	X-DF	–	4	Portfolio	3243

Legenda Setia	79,960	–	Hudong Zhonghua	28/09/2023	Singapore	LP-DF	–	3	Portfolio	H1838A
Lena River	155,000	Solana Holdings	HHI	24/09/2013	M. Islnds	–	TZ Mk. III	4	Portfolio	H2557
Lerici	65,000	LNG Shipping S.p.A.	Sestri Ponente	03/04/1998	Singapore	Steam	GT NO 96	4	Portfolio	5911
Lijmiliya	263,300	Nakilat Lijmiliya Inc.	Daewoo	11/12/2008	M. Islnds	Diesel	GT NO 96	5	Qatargas II	2256
LNG Abalamabie	162,000	Bonny Gas Transport	Samsung	23/07/2016	Bermuda	–	TZ Mk. III Flex	4	NLNG	2079
LNG Abuja II	162,000	Bonny Gas Transport	Samsung	02/03/2016	Bermuda	–	TZ Mk. III Flex	4	NLNG	2078
LNG Adamawa	141,000	Bonny Gas Transport	HHI	25/04/2005	Bermuda	Steam	Moss	4	NLNG	1470
LNG Adventure	174,000	Diderot Financement 28 SNC	Samsung	31/03/2021	France	X-DF	TZ Mk. III Flex	4	–	2302
LNG Akwa Ibom	141,000	Bonny Gas Transport	HHI	11/10/2004	Bermuda	Steam	Moss	4	NLNG	1469
LNG Alliance	154,472	NYK Armateur	STX	30/03/2007	France	Diesel/Gas-Electric	CS1	4	Portfolio	32P
LNG Aquarius	126,300	P.T. Hanochem Shipping	General Dynamics	01/01/1977	Indonesia	Steam	Moss	5	Bontang	41
LNG Barka	155,982	Lloyd's TSB General Leasing (No. 3)	Kawasaki	29/12/2008	Bahamas	Steam	Moss	4	Oman LNG	1591
LNG Bayelsa	137,500	Bonny Gas Transport	HHI	08/03/2003	Bermuda	–	Moss	4	NLNG	1429
LNG Benue	145,952	BW Gas LNG Carriers	Daewoo	05/04/2006	Bermuda	Steam	GT NO 96	4	NLNG	2224
LNG Bonny II	174,000	Nigeria LNG	HHI	02/12/2015	Bermuda	Diesel/Gas-Electric	TZ Mk. III Flex	4	NLNG	2636
LNG Borno	149,600	Okra Shipping No. 1	Samsung	16/08/2007	Bermuda	Steam	TZ Mk. III	4	NLNG	1563
LNG Cross River	141,000	Bonny Gas Transport	HHI	22/08/2005	Bermuda	Steam	Moss	4	NLNG	1471
LNG Dream	145,000	Osaka Gas Consortium	Kawasaki	02/09/2006	Bahamas	Steam	Moss	4	North West Shelf	1545
LNG Dubhe	174,000	Mitsui O.S.K. Lines	Hudong Zhonghua	07/11/2019	H.K., China	ME-GI	GT NO 96 L03+	4	Yamal	1810A
LNG Ebisu	147,546	LNG Ebisu Shipping Corp.	Kawasaki	12/07/2008	Bahamas	–	Moss	4	Pluto	1588
LNG Endeavour	170,520	Fortune Great Shipping Ltd.	Samsung	20/10/2021	France	X-DF	TZ Mk. III Flex	4	Portfolio	2355
LNG Endurance	174,000	DuPlessis Bail SNC	Samsung	01/12/2021	France	X-DF	TZ Mk. III Flex	4	Portfolio	2370
LNG Enterprise	170,520	Hanovre Financement 20 SASU	Samsung	03/10/2021	France	–	TZ Mk. III Flex	4	–	2360
LNG Enugu	145,926	BW Gas LNG Carriers	Daewoo	05/10/2005	Bermuda	Steam	GT NO 96	4	NLNG	2222
LNG Finima II	162,000	Bonny Gas Transport	Samsung	02/12/2015	Bermuda	–	TZ Mk. III Flex	4	NLNG	2076
LNG Fukurokuju	164,700	Mitsui O.S.K. Lines	Kawasaki	18/07/2016	Bahamas	–	Moss	4	APLNG	1712
LNG Geneva	174,400	–	Hudong Zhonghua	01/11/2023	H.K., China	X-DF	GTT 96	4	–	H1830A
LNG Harmony	174,000	Jupiter 5 Ltd.	HHI	21/07/2023	Liberia	X-DF	TZ Mk. III Flex	4	Portfolio	3190
LNG Imo	148,452	Bergesen LNG XI Ltd.	Daewoo	25/06/2008	Bermuda	–	GT NO 96	4	NLNG	2232
LNG Jamal	135,333	Osaka Gas Consortium	Mitsubishi	31/10/2000	Japan	Steam	Moss	5	Oman LNG	2157
LNG Juno	180,000	Mitsui O.S.K. Lines	Mitsubishi	18/10/2018	Bahamas	STaGE	Moss	–	Freeport	2323
LNG Jupiter	153,000	Osaka Gas Consortium	Kawasaki	01/07/2009	Bahamas	Steam	Moss	4	PNG LNG	1592
LNG Jurojin	160,000	LNG Jurojin Shipping Corp.	Mitsubishi	30/11/2015	Bahamas	–	Moss	4	Portfolio	2299
LNG Kano	148,565	Bergesen LNG IX Ltd.	Daewoo	26/01/2007	Bermuda	Steam	GT NO 96	4	NLNG	2230
LNG Kolt	153,595	KLT 5 International	Hanjin (Busan)	24/12/2008	Panama	Steam	TZ Mk. III	4	Portfolio	192
LNG Lagos II	174,000	Nigeria LNG	HHI	22/01/2016	Bermuda	–	TZ Mk. III Flex	4	NLNG	2637
LNG Lokoja	148,471	Bergesen LNG VIII Ltd.	Daewoo	28/11/2006	Bermuda	Steam	GT NO 96	4	NLNG	2229
LNG Maleo	127,544	Mitsui O.S.K. Lines	Mitsui E&S	01/01/1989	Japan	Steam	Moss	4	North West Shelf	1351
LNG Mars	155,693	Osaka Gas Consortium	Mitsubishi	14/10/2016	Japan	Steam	Moss	4	PNG LNG	2296
LNG Megrez	174,000	Mitsui O.S.K. Lines	Hudong Zhonghua	01/11/2020	H.K., China	ME-GI	GT NO 96 L03+	4	Yamal	1813A
LNG Merak	174,000	Mitsui O.S.K. Lines	Hudong Zhonghua	08/01/2020	H.K., China	ME-GI	GT NO 96 L03+	4	Yamal	1811A
LNG Ogun	149,000	Okra Shipping No. 1	Samsung	07/07/2007	Bermuda	Steam	TZ Mk. III	4	NLNG	1564
LNG Ondo	148,478	Bergesen LNG X Ltd.	Daewoo	21/09/2007	Bermuda	Steam	GT NO 96	4	NLNG	2231
LNG Oyo	145,842	BW Gas LNG Carriers	Daewoo	06/01/2006	Bermuda	Steam	GT NO 96	4	NLNG	2223
LNG Phecda	174,000	Mitsui O.S.K. Lines	Hudong Zhonghua	02/09/2020	H.K., China	ME-GI	GT NO 96 L03+	4	Yamal	1812A
LNG Port Harcourt II	162,000	Bonny Gas Transport	Samsung	14/12/2015	Bermuda	–	TZ Mk. III Flex	4	NLNG	2077
LNG Prima Carrier	137,000	Pacific Eurus Shipping	Mitsubishi	14/03/2006	Indonesia	Steam	Moss	4	Das Island	2187
LNG Prosperity	174,000	Hai Kuo Shipping 2001G Ltd (c/o Oeconix Services)	HHI	07/01/2023	Liberia	X-DF	TZ Mk. III Flex+	4	Portfolio	3188
LNG River Niger	141,000	Bonny Gas Transport	HHI	06/07/2006	Bermuda	Steam	Moss	4	NLNG	1472
LNG River Orashi	145,914	BW Gas LNG Carriers	Daewoo	04/11/2004	Bermuda	Steam	GT NO 96	4	NLNG	2221
LNG Rivers	137,200	Bonny Gas Transport	HHI	20/06/2002	Bermuda	–	Moss	4	NLNG	1295
LNG Rosenrot	176,523	Fair Wind Navigation SA	Daewoo	25/01/2021	M. Islnds	X-DF	GT NO 96 GW	4	Portfolio	2498
LNG Sakura	177,000	Mitsui O.S.K. Lines	Kawasaki	26/02/2018	Bahamas	TFDE	Moss	–	Freeport	1731
LNG Saturn	155,300	Mitsui O.S.K. Lines	Mitsubishi	03/02/2016	Bahamas	Ultra Steam Turbine	Moss	4	Gorgon	2311
LNG Schneeweisschen	180,000	Mitsui O.S.K. Lines	Daewoo	01/09/2018	Panama	TFDE	GT NO 96 GW	–	Freeport	2462
LNG Sokoto	137,425	Bonny Gas Transport	HHI	28/09/2002	Bermuda	–	Moss	4	NLNG	1296
LNG Venus	153,000	Mitsui O.S.K. Lines	Mitsubishi	14/11/2014	Japan	–	Sayaendo	4	North West Shelf	2295
LNG Vesta	127,386	Tokyo LNG Tanker Co.	Mitsubishi	30/06/1994	Japan	Steam	Moss	4	–	2061
LNGShips Athena	170,618	Cardiff LNG Iota Owning LLC	HHI	29/03/2021	Malta	X-DF	TZ Mk. III Flex	4	QCLNG	112
LNGShips Empress	174,000	Cardiff LNG Kappa Owning LLC	Samsung	31/03/2021	Malta	X-DF	TZ Mk. III Flex	4	QCLNG	2380
LNGShips Manhattan	174,000	Cardiff LNG Theta Owning LLC	HHI	07/05/2021	Malta	X-DF-HPSCR	NO-96-GW+PRS	4	QCLNG	3039
Lobito	160,276	Mint LNG III	Samsung	08/11/2011	Bahamas	–	TZ Mk. III	4	Soyo	1812
Lusail	145,000	Peninsula LNG Transport No. 1	Samsung	02/05/2005	Bahamas	–	TZ Mk. III	4	RasGas II	1440
Macoma	145,400	Teekay LNG Partners	Daewoo	16/09/2017	Bahamas	ME-GI	GT NO 96 GW	4	Portfolio	2417
Magdala	173,400	Teekay Corp.	Daewoo	13/02/2018	Bahamas	ME-GI	GT NO 96 GW	4	Portfolio	2453

Malaga Knutsen	174,000	Millenaire Financement 17 SASU	Hyundai Samho	29/07/2022	France	X-DF	TZ Mk. III Flex+	4	Portfolio	8092
Malanje	160,276	Mint LNG II	Samsung	05/10/2011	Bahamas	–	TZ Mk. III	4	Soyo	1811
Maran Gas Achilles	174,000	Maran Gas Maritime	Hyundai Samho	21/01/2016	Greece	–	TZ Mk. III Flex	4	Portfolio	S689
Maran Gas Agamemnon	174,000	Maran Gas Maritime	Hyundai Samho	11/05/2016	Greece	–	TZ Mk. III Flex	4	Portfolio	S690
Maran Gas Alexandria	161,870	Maran Gas Maritime	Hyundai Samho	02/10/2015	Greece	–	TZ Mk. III Flex	4	QCLNG	S627
Maran Gas Amorgos	169,932	Vero Maritime Inc	Daewoo	19/11/2021	Greece	ME-GI	GT NO 96	4	–	2506
Maran Gas Amphipolis	174,000	Maran Gas Maritime	Daewoo	01/08/2016	Greece	–	GT NO 96 L03	4	Portfolio	2412
Maran Gas Andros	173,400	Maran Gas Maritime	Daewoo	01/11/2019	Greece	ME-GI	GT NO 96 GW	4	Freeport	2467
Maran Gas Apollonia	161,870	Maran Gas Maritime	Hyundai Samho	08/01/2014	Greece	Diesel Electric	TZ Mk. III Flex	4	Punta Europa	S624
Maran Gas Asclepius	145,000	Sea Satin Corp.	Daewoo	29/07/2005	Greece	Steam	GT NO 96	4	RasGas II	H2227
Maran Gas Chios	170,000	Maran Gas Maritime	Daewoo	26/03/2019	Greece	ME-GI	GT NO 96 GW	4	–	2456
Maran Gas Coronis	145,700	Jopica Shipping Company	Daewoo	27/07/2007	Greece	Steam	GT NO 96	4	RasGas II	2244
Maran Gas Delphi	159,800	Maran Gas Maritime	Daewoo	06/02/2014	Greece	Diesel Electric	GT NO 96 L03	4	Portfolio	2296
Maran Gas Efessos	159,800	Maran Gas Maritime	Daewoo	12/06/2014	Greece	–	GT NO 96 L03	4	Portfolio	H-2291
Maran Gas Hector	174,000	Maran Gas Maritime	Hyundai Samho	08/11/2016	Greece	Diesel/Gas-Electric	TZ Mk. III Flex	–	Portfolio	S691
Maran Gas Hydra	173,400	Maran Gas Maritime	Daewoo	14/02/2019	Greece	ME-GI	GT NO 96 GW	4	Sabine Pass	2459
Maran Gas Ithaca	174,000	Arona Maritime Inc.	Daewoo	26/10/2021	Greece	X-DF	GT NO 96 GW	4	–	2507
Maran Gas Kalymnos	169,932	Hai Kuo Shipping 2028G Ltd	Daewoo	15/09/2021	Greece	ME-GI	Membrane	4	–	2504
Maran Gas Leto	174,000	Maran Gas Maritime	Hyundai Samho	29/03/2016	Greece	–	TZ Mk. III	4	Portfolio	S688
Maran Gas Lindos	161,870	Maran Gas Maritime	Daewoo	02/07/2015	Greece	–	GT NO 96 L03	4	Punta Europa	2292
Maran Gas Marseille	174,000	–	Samsung	14/08/2023	Greece	–	–	4	–	2425
Maran Gas Mystras	155,900	Maran Gas Maritime	Daewoo	03/08/2015	Greece	–	GT NO 96 L03	4	QCLNG	2405
Maran Gas Olympias	174,000	Maran Gas Maritime	Daewoo	04/02/2017	Greece	ME-GI	GT NO 96 L03	–	Portfolio	2415
Maran Gas Pericles	173,400	Maran Gas Maritime	Hyundai Samho	24/08/2016	Greece	–	TZ Mk. III Flex	4	Portfolio	S734
Maran Gas Posidonia	161,870	Maran Gas Maritime	Hyundai Samho	27/05/2014	Greece	–	TZ Mk. III Flex	4	Punta Europa	S625
Maran Gas Psara	173,595	Highseas Shiptrade Co.	Daewoo	07/05/2020	Greece	ME-GI	GT NO 96 GW	4	Portfolio	2469
Maran Gas Roxana	174,000	Maran Gas Maritime	Daewoo	12/01/2017	Greece	ME-GI	GT NO 96 L03	4	Portfolio	2413
Maran Gas Sparta	159,800	Maran Gas Maritime	Hyundai Samho	22/04/2015	Greece	–	TZ Mk. III Flex	4	QCLNG	S626
Maran Gas Spetses	173,400	Maran Gas Maritime	Daewoo	03/07/2018	Greece	ME-GI	GT NO 96 GW	4	GoM	2458
Maran Gas Troy	155,000	Maran Gas Maritime	Daewoo	24/09/2015	Greece	–	GT NO 96 L03	4	–	2406
Maran Gas Ulysses	173,400	Maran Gas Maritime	Hyundai Samho	23/01/2017	Greece	Diesel/Gas-Electric	TZ Mk. III Flex	–	Portfolio	S735
Maran Gas Vergina	174,000	Santa Lucia Enterprises Inc.	Daewoo	07/12/2016	Greece	ME-GI	GT NO 96	–	Portfolio	2414
Maria Energy	174,000	Tsakos Energy Navigation	HHI	01/09/2016	Liberia	Diesel/Gas-Electric	TZ Mk. III Flex	4	–	2612
Marshal Vasilevskiy	170,520	Gazprom	HHI	10/01/2019	Russia	Diesel/Gas-Electric	TZ Mk. III Flex	4	Kaliningrad LNG	2854
Marvel Crane	177,000	NYK Line	Mitsubishi	28/03/2019	Singapore	STaGE	Moss	–	Cameron	2321
Marvel Eagle	155,000	Mitsui O.S.K. Lines	Kawasaki	19/10/2018	Panama	Reheat Steam Turbine	Moss	–	Cameron	1728
Marvel Falcon	174,000	Mitsui O.S.K. Lines	Samsung	20/04/2018	Singapore	TFDE	TZ Mk. III Flex	4	Cameron	2148
Marvel Hawk	177,000	Mitsui O.S.K. Lines	Samsung	01/12/2018	Singapore	TFDE	TZ Mk. III Flex	4	Cameron	2149
Marvel Heron	177,000	Mitsui O.S.K. Lines	Mitsubishi	28/09/2019	Panama	STaGE	Moss	–	Cameron	2322
Marvel Kite	177,000	Mitsui O.S.K. Lines	Samsung	31/01/2019	Singapore	TFDE	TZ Mk. III	4	Cameron	2150
Marvel Pelican	156,265	Mitsui O.S.K. Lines	Kawasaki	13/12/2019	Panama	Reheat Steam Turbine	Moss	4	Cameron	1729
Marvel Swan	174,000	MIF I NO 20 K/S	Samsung	08/04/2021	Denmark	X-DF	TZ Mk. III Flex	4	–	2310
Megara	173,400	Teekay LNG Partners	Daewoo	19/07/2018	Bahamas	ME-GI	GT NO 96 GW	4	Portfolio	2455
Mekaines	266,000	Nakilat SHI 1695 Inc.	Samsung	03/04/2009	M. Islnds	–	TZ Mk. III	5	Qatargas III	1695
Merchant	138,000	Sea Breeze Leasing	Samsung	23/07/2003	M. Islnds	Steam	TZ Mk. III	4	Portfolio	1381
Mesaimeer	216,312	Nakilat HHI 1908 Inc.	HHI	12/03/2009	M. Islnds	Diesel	TZ Mk. III	4	Qatargas III	1908
Methane Alison Victoria	145,000	Lloyds TSB Leasing No.8 Ltd.	Samsung	27/04/2007	Bermuda	Steam	TZ Mk. III	4	Punta Europa	1587
Methane Becki Anne	170,000	Methane Services (Shell)	Samsung	14/09/2010	Bermuda	–	TZ Mk. III	4	Singapore	1858
Methane Heather Sally	145,000	Lloyds TSB Leasing No.8 Ltd.	Samsung	08/01/2007	Bermuda	Steam	TZ Mk. III	4	Punta Europa	1586
Methane Jane Elizabeth	145,000	British Gas Asia Pacific	Samsung	05/06/2006	Bermuda	Steam	TZ Mk. III	4	Idku	1554
Methane Julia Louise	170,000	Methane Services (Shell)	Samsung	19/04/2010	Bermuda	–	TZ Mk. III	9	Singapore	1745
Methane Mickie Harper	170,000	Methane Services (Shell)	Samsung	28/12/2010	Panama	Diesel/Gas-Electric	TZ Mk. III	4	Singapore	1859
Methane Nile Eagle	145,000	Egypt LNG Shipping	Samsung	05/12/2007	Bermuda	Steam	TZ Mk. III	4	Idku	1588
Methane Patricia Camila	170,000	Methane Services (Shell)	Samsung	29/10/2010	Panama	–	TZ Mk. III	4	Singapore	1746
Methane Princess	138,000	Golar LNG	Daewoo	29/08/2003	M. Islnds	Steam	GT NO 96	4	Portfolio	2215
Methane Rita Andrea	145,000	British Gas Asia Pacific	Samsung	07/04/2006	Bermuda	Steam	TZ Mk. III	4	Idku	1553
Milaha Qatar	145,500	Qatar Shipping Co.	Samsung	15/04/2006	Malta	Steam	TZ Mk. III	4	RasGas II	1562
Milaha Ras Laffan	138,270	Milaha Ras Laffan GmbH & Co. KG	Samsung	06/04/2004	Malta	Steam	TZ Mk. III	4	RasGas II	1425
Min Lu	147,100	Minlu LNG Shipping Co.	Hudong Zhonghua	29/08/2009	H.K., China	–	GT NO 96	4	Tangguh	1378
Min Rong	145,000	Min Rong LNG Shipping Co.	Hudong Zhonghua	24/02/2009	H.K., China	–	GT NO 96	4	Tangguh	1320
Minerva Amorgos	170,520	Vitamin Shipping SA	Samsung	21/09/2022	Malta	X-DF	TZ Mk. III Flex+	4	–	2332
Minerva Chios	170,520	Peninsula Shipping SA	Samsung	02/08/2021	Malta	X-DF	TZ Mk. III Flex+	4	–	2305
Minerva Kalymnos	174,000	Koje Shipping SA	Samsung	28/02/2021	Malta	X-DF	TZ Mk. III Flex+	4	–	2304
Minerva Limnos	173,400	Roland Shipping SA	Daewoo	30/06/2021	Malta	ME-GI	TZ Mk. III Flex+	4	–	2482
Minerva Psara	173,400	Wimbledon Shipping SA	Daewoo	04/01/2021	Malta	–	GT NO 96 GW	4	–	2481
MOL Hestia	173,400	LNG Harmonia Shipping Corp	Daewoo	26/07/2021	M. Islnds	X-DF	GT NO 96 GW	4	–	2505
Mozah	266,000	Nakilat Haloul Inc.	Samsung	11/08/2009	M. Islnds	Diesel	TZ Mk. III	5	Qatargas II	1675

Mraweh	137,000	Mraweh Ltd.	STX	30/04/1996	Liberia	Steam	Moss	4	Das Island	1331
Mu Lan	174,400	Fortune Great Shipping Ltd.	Hudong Zhonghua	31/08/2021	Liberia	X-DF	GT NO 96 L03+	4	–	1827A
Mubaraz	137,000	Mubaraz Ltd.	STX	14/12/1995	Liberia	Steam	Moss	4	Das Island	1330
Murex	173,400	Teekay LNG Partners	Daewoo	18/07/2017	Bahamas	ME-GI	GT NO 96 GW	4	Portfolio	2416
Murwab	210,100	J5 Nakilat No. 4 Ltd.	Daewoo	30/06/2008	M. Islnds	Diesel	GT NO 96	18	RasGas III	251
Myrina	173,400	Teekay Corp.	Daewoo	10/05/2018	Bahamas	ME-GI	GT NO 96 GW	4	Portfolio	2454
Neo Energy	150,000	Sea Optima	HHI	01/01/2007	Liberia	Steam	TZ Mk. III	4	Portfolio	1754
Neptune	145,130	SRV Joint Gas Ltd.	Samsung	30/11/2009	Norway	–	TZ Mk. III	4	Portfolio	1688
New Apex	174,000	POS Maritime AF SA	Samsung	26/01/2023	Panama	X-DF	–	4	Portfolio	2426
NFE Penguin	160,000	Golar LNG	Samsung	15/09/2014	M. Islnds	–	TZ Mk. III Flex	4	Spot	2023
Nikolay Urvantsev	172,658	China Shipping Development Co.	Daewoo	31/07/2019	H.K., China	ME-GI	GT NO 96 GW	4	Yamal	2432
Nikolay Yevgenov	172,410	Teekay Corp.	Daewoo	19/04/2019	Bahamas	ME-GI	GT NO 96 GW	4	Yamal	2430
Nikolay Zubov	172,410	Arctic LNG 5 Ltd.	Daewoo	20/11/2018	Cyprus	TFDE - Azipod	GT NO 96 GW	4	Yamal	2429
Nizwa LNG	147,684	Oryx LNG Carrier	Kawasaki	19/12/2005	Panama	Steam	Moss	4	Oman LNG	1562
Nohshu Maru	180,000	Mitsui O.S.K. Lines	Mitsubishi	27/02/2019	Bahamas	Reheat Steam Turbine	Moss	4	–	2326
North Air	170,520	–	Samsung	27/09/2023	Singapore	–	Mark III Flex	4	Arctic LNG-2	2580
North Mountain	170,520	–	Samsung	18/12/2023	Singapore	–	Mark III Flex	4	Arctic LNG-2	2581
Northwest Sanderling	127,525	Shell Tankers Australia	Mitsubishi	01/01/1989	Australia	Steam	Moss	4	North West Shelf	1996
Northwest Sandpiper	125,042	Shell Tankers Australia	Mitsui E&S	01/01/1993	Australia	Steam	Moss	4	North West Shelf	1370
Northwest Snipe	127,500	International Gas Transportation Co., Ltd.	Mitsui E&S	01/01/1990	Australia	Steam	Moss	4	North West Shelf	1352
Northwest Stormpetrel	127,500	Shell Tankers Australia	Mitsubishi	11/12/1994	Australia	Steam	Moss	4	North West Shelf	2074
Ob River	149,700	Lance Shipping	HHI	29/05/2007	M. Islnds	Steam	TZ Mk. III	4	Sakhalin II	1719
Oceanic Breeze	155,300	"K" Line - Kawasaki Kisen Kaisha	Mitsubishi	21/04/2018	M. Islnds	Reheat Steam Turbine	Moss	4	Ichthys	2310
Onaiza	210,150	Nakilat DSME 2266 Inc.	Daewoo	30/04/2009	M. Islnds	Diesel	GT NO 96	12	Qatargas III	2266
Orion Bohemia	174,000	SNC Cantica Lease	HHI	24/11/2022	Malta	X-DF	TZ Mk. III Flex+	4	Portfolio	3187
Orion Jessica	174,000	–	HHI	23/06/2023	Malta	X-DF	–	4	Portfolio	3189
Orion Monet	174,000	Jupiter 3 Ltd	Samsung	01/04/2022	Malta	X-DF	–	4	–	2319
Orion Sea	170,852	Meridian 23 Ltd.	Samsung	04/01/2022	Malta	X-DF	–	4	–	2336
Orion Sun	174,000	Meridian 24 Ltd.	Samsung	01/07/2022	Malta	X-DF	–	4	Portfolio	2337
Ougarta	170,000	Hyproc Shipping Co.	HHI	31/03/2017	Algeria	–	TZ Mk. III Flex	4	Arzew	2814
Pacific Arcadia	145,400	Bahamas LNG Shipping	Mitsubishi	20/10/2014	Bahamas	–	Moss	4	PNG LNG	MHISB 2289
Pacific Breeze	180,000	"K" Line - Kawasaki Kisen Kaisha	Kawasaki	10/03/2018	M. Islnds	TFDE	Moss	4	Ichthys	1718
Pacific Enlighten	145,400	Pacific Hope Shipping	Mitsubishi	16/03/2009	Bahamas	Steam	Moss	4	North West Shelf	2236
Pacific Mimosa	155,300	NYK Line	Mitsubishi	31/03/2018	Japan	Reheat Steam Turbine	Moss	–	Wheatstone	2316
Pacific Notus	137,006	Pacific LNG Shipping	Mitsubishi	08/09/2003	Bahamas	Steam	Moss	5	Darwin LNG	2176
Palu LNG	159,800	Cardiff LNG	Daewoo	06/11/2014	Malta	TFDE	GT NO 96 L03	4	Spot	2400
Pan Africa	174,000	Teekay LNG Partners	Hudong Zhonghua	12/01/2019	H.K., China	TFDE	GT NO 96	4	QCLNG	1666A
Pan Americas	174,000	Teekay LNG Partners	Hudong Zhonghua	15/01/2018	H.K., China	TFDE	GT NO 96	4	QCLNG	H1664A
Pan Asia	174,000	Teekay LNG Partners	Hudong Zhonghua	22/09/2017	H.K., China	TFDE	GT NO 96	4	QCLNG	1663A
Pan Europe	174,000	Teekay LNG Partners	Hudong Zhonghua	12/07/2018	H.K., China	TFDE	GT NO 96	4	QCLNG	H1665A
Papua	170,000	Mitsui O.S.K. Lines	Hudong Zhonghua	27/11/2014	H.K., China	–	GT NO 96	4	PNG LNG	H1670A
Paris Knutsen	174,000	–	Hyundai Samho	02/10/2023	–	XDF	–	–	–	8101
Patris	174,000	Chandris Group	Daewoo	01/01/2018	Liberia	ME-GI	GT NO 96 GW	4	Freeport	2460
Pearl LNG	174,000	Cardiff LNG Delta Owning LLC	Samsung	01/08/2020	Malta	X-DF	NO-96-GW+PRS	–	Portfolio	2275
Pioneer Spirit	138,121	M & S Shipping 3 S.A.	Daewoo	29/07/2005	Singapore	Steam	GT NO 96	4	Das Island	2219
Point Fortin	154,200	Los Halillos Shipping Co.	Koyo Dockyard	12/01/2010	Panama	Steam	TZ Mk. III	4	Portfolio	2263
Portovenere	65,000	LNG Shipping S.p.A.	Sestri Ponente	21/04/1997	Singapore	Steam	GT NO 96	4	Portfolio	5910
Portovyy	138,107	Monteriggioni Inc.	Daewoo	20/08/2003	Russia	Steam	GT NO 96	4	Portfolio	2213
Prachi	162,000	India LNG Transport Company No. 4 Ltd.	HHI	30/11/2016	Singapore	Diesel/Gas-Electric	TZ Mk. III Flex	–	Gorgon	2633
Prima Concord	138,267	BG Group	Samsung	24/05/2004	Indonesia	Steam	TZ Mk. III	4	Singapore	1428
Prism Agility	180,000	SK Shipping	HHI	17/05/2019	Panama	X-DF	TZ Mk. III Flex	4	Portfolio	2937
Prism Brilliance	180,000	SK Shipping	HHI	31/05/2019	Panama	X-DF	TZ Mk. III Flex	4	Portfolio	2938
Prism Courage	176,462	Millenaire Financement 12 SASU	HHI	19/10/2021	Panama	X-DF	TZ Mk. III Flex	4	–	2939
Prism Diversity	180,000	HHIENS4 Shipholding SA	HHI	21/06/2022	Panama	X-DF	–	4	–	3145
Pskov	170,200	Sovcomflot	STX	01/09/2014	Liberia	–	GT NO 96	4	Portfolio	1911
Puteri Delima	130,400	Puteri Delima S.Bhd.	STX	12/01/1995	Malaysia	Steam	GT NO 96	4	MLNG II	30F
Puteri Delima Satu	137,100	MISC	Mitsui E&S	31/10/2002	Malaysia	Steam	GT NO 96	4	MLNG III	1506
Puteri Firus Satu	137,100	Puteri Firus S.Bhd.	Mitsubishi	23/08/2004	Malaysia	Steam	GT NO 96	4	MLNG III	2177
Puteri Intan	137,100	Puteri Intan S.Bhd.	STX	24/08/1994	Malaysia	Steam	GT NO 96	4	MLNG II	30E
Puteri Mutiara Satu	137,100	MISC	Mitsui E&S	06/04/2005	Malaysia	Steam	GT NO 96	4	MLNG III	1562
Puteri Nilam	130,400	Puteri Nilam S.Bhd.	STX	17/07/1995	Malaysia	Steam	GT NO 96	4	MLNG II	30G
Puteri Nilam Satu	137,100	Puteri Nilam S.Bhd.	Mitsubishi	30/07/2003	Malaysia	Steam	GT NO 96	4	MLNG III	2169
Puteri Zamrud	130,400	Puteri Zamrud S.Bhd.	STX	02/06/1996	Malaysia	Steam	GT NO 96	4	MLNG II	30H
Puteri Zamrud Satu	137,100	MISC	Mitsui E&S	04/02/2004	Malaysia	–	GT NO 96	4	MLNG III	1507
Pyotr Kapitsa	178,000	–	Daewoo	03/10/2023	Cyprus	Dual Fuel	–	4	Arctic LNG-2	2514

Qogir	174,000	LNGShips	Samsung	01/06/2020	Malta	X-DF	TZ Mk. III Flex	–	Portfolio	2271
Raahi	138,076	India LNG Transport Company No.2 Ltd.	Daewoo	18/10/2004	Malta	Steam	GT NO 96	4	RasGas	2211
Rasheeda	266,000	Nakilat SHI 1754 Inc.	Samsung	12/08/2010	M. Islnds	Diesel	TZ Mk. III	10	Qatargas IV	1754
Rias Baixas Knutsen	180,000	Knutsen OAS Shipping	HHI	04/09/2019	Spain	ME-GI	TZ Mk. III Flex	4	Corpus Christi	2964
Ribera del Duero Knutsen	173,400	Norspan LNG VIII AS	Daewoo	02/12/2010	Norway	–	GT NO 96	4	Portfolio	2275
Rioja Knutsen	170,000	Norspan LNG X	HHI	02/12/2016	Spain	ME-GI	TZ Mk. III Flex	4	Portfolio	2734
Rudolf Samoylovich	172,410	Teekay Corp.	Daewoo	22/08/2018	Bahamas	ME-GI	GT NO 96 GW	4	Yamal	2425
Saint Barbara	170,520	–	Hyundai Samho	01/11/2023	Panama	X-DF	–	4	Swinoujscie LNG	8148
Salalah LNG	147,000	Tiwi LNG Carrier S.A.	Samsung	14/12/2005	Panama	Steam	TZ Mk. III	4	Oman LNG	1536
Santander Knutsen	174,000	Sea 194 Leasing Co Ltd.	Hyundai Samho	16/06/2022	Norway	X-DF	TZ Mk. III Flex+	4	Portfolio	8091
SCF La Perouse	174,000	Albus Shipping Ltd.	HHI	10/02/2020	Liberia	X-DF	NO-96-GW+PRS	4	Portfolio	8006
Seapeak Arctic	89,800	Artic Spirit LLC	Ishikawajima	17/12/1993	Saint Kitts & Nevis	Steam	IHI SPB	4	Atlantic LNG	3016
Seapeak Arwa	165,500	Membrane Shipping	Samsung	13/08/2008	M. Islnds	Diesel/Gas-Electric	TZ Mk. III	4	Balhaf	1625
Seapeak Catalunya	138,000	Teekay Shipping Spain S.L.	Izar	19/06/2003	Spain	Steam	GT NO 96	4	Atlantic LNG	319
Seapeak Creole	173,400	Teekay LNG Partners	Daewoo	18/02/2016	Bahamas	ME-GI	GT NO 96 GW	–	Sabine Pass	2407
Seapeak Galicia	140,624	Teekay Gas II	Daewoo	01/07/2004	Spain	Steam	GT NO 96	4	Portfolio	2209
Seapeak Glasgow	174,162	Teekay LNG Partners	Hyundai Samho	10/12/2018	Bahamas	ME-GI	TZ Mk. III Flex	–	Freeport	S856
Seapeak Hispania	145,500	Teekay Gas Naviera SL	Daewoo	21/08/2002	Spain	Steam	GT NO 96	4	Peru LNG	2205
Seapeak Madrid	138,000	Teekay Shipping Spain S.L.	Navantia	30/12/2004	Spain	Steam	GT NO 96	4	Atlantic LNG	105
Seapeak Magellan	165,500	Magellan Spirit ApS	Samsung	10/04/2009	Denmark	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	1626
Seapeak Marib	165,500	Membrane Shipping	Samsung	10/04/2008	M. Islnds	Diesel/Gas-Electric	TZ Mk. III	4	Balhaf	1608
Seapeak Meridian	165,500	Meridian Spirit Aps	Samsung	15/01/2010	Denmark	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	1633
Seapeak Methane	165,500	Malt Singapore Pvt. Ltd.	Samsung	13/02/2008	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Atlantic LNG	1607
Seapeak Oak	173,400	Teekay LNG Partners	Daewoo	03/03/2016	Bahamas	ME-GI	GT NO 96 GW	–	Sabine Pass	2408
Seapeak Polar	89,800	Polar Spirit LLC	Ishikawajima	04/06/1993	Bahamas	Steam	IHI SPB	4	Atlantic LNG	3015
Seapeak Vancouver	173,400	Teekay LNG Partners	Daewoo	02/11/2016	Bahamas	ME-GI	GT NO 96 GW	–	Portfolio	2411
Seapeak Yamal	174,000	Teekay LNG Partners	Hyundai Samho	31/01/2019	Bahamas	ME-GI	TZ Mk. III Flex	–	Freeport	S857
Seishu Maru	138,000	Mitsui O.S.K. Lines	Mitsubishi	09/09/2014	Bahamas	–	Moss	4	PNG LNG	2297
Seri Alam	145,572	MISC	Samsung	22/07/2005	Malaysia	–	TZ Mk. III	4	Bintulu	1502
Seri Amanah	145,709	MISC	Samsung	15/03/2006	Malaysia	Steam	TZ Mk. III	4	Bintulu	1503
Seri Anggun	145,731	MISC	Samsung	30/10/2006	Malaysia	Steam	TZ Mk. III	4	North West Shelf	1589
Seri Angkasa	145,130	MISC	Samsung	23/12/2006	Malaysia	Steam	TZ Mk. III	4	Bintulu	1590
Seri Ayu	145,894	MISC	Samsung	01/10/2007	Malaysia	Steam	TZ Mk. III	4	Bintulu	1591
Seri Bakti	152,944	MISC	Mitsubishi	14/04/2007	Malaysia	Steam	GT NO 96	4	Gladstone	2220
Seri Balhaf	152,000	MISC	Mitsubishi	01/01/2009	Malaysia	Steam	GT NO 96	4	Bontang	2223
Seri Balqis	152,000	MISC	Mitsubishi	02/03/2009	Malaysia	Steam	GT NO 96	4	NLNG	2224
Seri Begawan	152,900	MISC	Mitsubishi	14/11/2007	Malaysia	Steam	GT NO 96	4	Bintulu	2221
Seri Bijaksana	152,300	MISC	Mitsubishi	28/04/2008	Malaysia	Steam	GT NO 96	4	Bintulu	2222
Seri Camar	150,000	MISC	HHI	13/02/2018	Malaysia	Ultra Steam Turbine	Moss	4	Pacific Northwest	2732
Seri Camellia	159,800	MISC	HHI	30/09/2016	Malaysia	–	TZ Mk. III Flex	4	Pacific Northwest	2729
Seri Cemara	150,200	MISC	HHI	09/04/2018	Malaysia	Reheat Steam Turbine	Moss	4	Portfolio	2735
Seri Cempaka	162,000	MISC	HHI	01/08/2017	Malaysia	–	TZ Mk. III Flex	4	Pacific Northwest	2731
Seri Cenderawasih	162,000	MISC	HHI	08/02/2017	Malaysia	–	Moss	4	Pacific Northwest	2730
Seri Damai	174,000	Polaris LNG One Pte Ltd	Samsung	03/02/2023	Singapore	X-DF	Mark III Flex Plus	4	Portfolio	2364
Seri Daya	174,000	Polaris LNG Two Pte Ltd	Samsung	02/04/2023	Singapore	X-DF	Mark III Flex Plus	4	Portfolio	2365
Sestao Knutsen	136,947	Norspan LNG IV AS	Navantia Cadiz	11/10/2007	Spain	Steam	GT NO 96	4	Portfolio	331
Sevilla Knutsen	173,400	Norspan LNG VI AS	Daewoo	31/05/2010	Spain	Diesel/Gas-Electric	GT NO 96	4	Portfolio	2269
Shagra	268,000	Nakilat SHI 1751 Inc.	Samsung	23/11/2009	M. Islnds	Diesel	TZ Mk. III	10	Qatargas IV	1751
Shahamah	135,496	Shahamah Inc.	Kawasaki	01/10/1994	Liberia	Steam	Moss	5	Das Island	1438
Shandong Juniper	135,269	Shell Bermuda (Overseas) Ltd.	Mitsubishi	05/02/2004	Singapore	Steam	Moss	5	Peru LNG	2183
Shaolin	174,400	United Prosperity LNG Shipping Co Ltd	Hudong Zhonghua	31/10/2022	H.K., China	X-DF	–	4	Portfolio	H1831A
Shen Hai	147,200	Shanghai LNG Shipping Co.	Hudong Zhonghua	10/12/2012	H.K., China	Steam	GT NO 96	4	Bintulu	H1621A
Shinshu Maru	180,000	Mitsui O.S.K. Lines	Kawasaki	15/02/2019	Bahamas	DERST (aka STaGE)	Moss	4	Freeport	1734
Simaisma	145,889	Greenwell Corporation	Daewoo	24/07/2006	Greece	Steam	GT NO 96	8	RasGas II	2235
Singapore Energy	138,000	Sea Breeze Leasing	Samsung	21/02/2003	M. Islnds	Steam	TZ Mk. III	4	Portfolio	1416
SK Audace	174,000	Milestone LNG Transport	Samsung	03/08/2017	Panama	–	TZ Mk. III Flex	4	Portfolio	2080
SK Resolute	180,000	Milestone LNG Transport	Samsung	01/11/2017	Panama	X-DF	TZ Mk. III Flex	4	Ichthys	2081
SK Serenity	174,000	SK Shipping	Samsung	14/02/2018	South Korea	TFDE	KC-1	4	Sabine Pass	2153
SK Spica	174,117	SK Shipping	Samsung	12/03/2018	Panama	TFDE	KC-1	–	Sabine Pass	2154
SK Splendor	138,370	Optima Leasing	Samsung	01/05/2000	South Korea	Steam	TZ Mk. III	4	Oman LNG	1258
SK Stellar	138,375	Stellar Shipholding	Samsung	31/12/2000	South Korea	Steam	TZ Mk. III	4	RasGas I	1259
SK Summit	138,003	Omnia Enterprises	Daewoo	04/08/1999	South Korea	Steam	GT NO 96	4	RasGas I	2202
SK Sunrise	138,306	Methane Navigation S.A.	Samsung	27/08/2003	Panama	Steam	TZ Mk. III	4	RasGas II	1405
SK Supreme	138,225	SK Shipping Co Ltd	Samsung	05/02/2000	South Korea	Steam	TZ Mk. III	4	RasGas I	1207
SM Albatross	174,000	SMKLC LNG3 SA	HHI	25/07/2022	Panama	X-DF	TZ Mk. III Flex+	4	Portfolio	3185

SM Bluebird	174,000	SMKLC LNG4 SA	HHI	30/09/2022	Panama	X-DF	TZ Mk. III Flex+	4	Portfolio	3186
SM Eagle	174,000	Korea Line Corp.	Daewoo	04/05/2017	Panama	ME-GI	GT NO 96 GW	4	Sabine Pass	2449
SM Golden Eagle	174,000	–	HHI	23/08/2023	Panama	X-DF	–	4	Portfolio	3191
SM Seahawk	174,000	Korea Line Corp.	Daewoo	05/06/2017	Panama	ME-GI	GT NO 96 GW	4	Sabine Pass	2450
Sohar LNG	137,248	Energy Spring LNG Carriers	Mitsubishi	29/10/2001	Panama	Steam	Moss	5	Oman LNG	2162
Sohshu Maru	177,000	Mitsui O.S.K. Lines	Kawasaki	24/07/2019	Bahamas	DERST (aka STaGE)	Moss	4	Freeport	1735
Solaris	155,000	GasLog	Samsung	19/07/2014	Bermuda	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	2042
Sonangol Benguela	160,500	Sonangol Benguela Ltd.	Daewoo	08/12/2011	Bahamas	–	GT NO 96	4	Soyo	2282
Sonangol Etosha	160,500	Sonangol Etosha Ltd.	Daewoo	17/09/2011	Bahamas	–	GT NO 96	4	Soyo	2281
Sonangol Sambizanga	160,500	Sonangol Sambizanga Ltd.	Daewoo	10/08/2011	Bahamas	–	GT NO 96	4	Soyo	2280
Southern Cross	172,000	Mitsui O.S.K. Lines	Hudong Zhonghua	07/07/2015	H.K., China	–	GT NO 96	4	PNG LNG	H1671A
Soyo	160,276	Mint LNG I	Samsung	01/08/2011	Bahamas	–	TZ Mk. III	4	Soyo	1810
Spirit of Hela	177,000	Nefertiti LNG Shipping Co.	Hyundai Samho	05/11/2010	Bahamas	Diesel Electric	TZ Mk. III	4	PNG LNG	S324
Stena Blue Sky	145,700	Blue Sky LNG	Daewoo	01/08/2006	U.K.	Steam	GT NO 96	4	Spot	2233
Stena Clear Sky	171,800	Clear Sky LNG Shipping	Daewoo	31/05/2011	U.K.	Diesel/Gas-Electric	GT NO 96	4	Portfolio	2278
Stena Crystal Sky	171,800	Stena Drilling Cyprus	Daewoo	27/05/2011	U.K.	Diesel/Gas-Electric	GT NO 96	4	Portfolio	2268
Symphonic Breeze	145,394	Reborn Maritime	Kawasaki	14/12/2007	Bahamas	Steam	Moss	4	Portfolio	H1587
Taitar No 1	145,000	NiMic No 1 S.A.	Mitsubishi	08/10/2009	Panama	–	Moss	4	RasGas	2241
Taitar No 2	145,000	NiMic No 2 S.A.	Kawasaki	18/12/2009	Panama	–	Moss	4	RasGas	1625
Taitar No 3	145,000	NiMic No 3 S.A.	Mitsubishi	16/12/2009	Panama	–	Moss	4	RasGas	2242
Taitar No 4	147,000	NiMic No 4 S.A.	Kawasaki	04/08/2010	Panama	–	Moss	4	RasGas	1626
Tangguh Batur	145,700	LNG North-South Shipping Co.	Daewoo	15/12/2008	Singapore	Steam	GT NO 96	4	Tangguh	2242
Tangguh Foja	155,000	Ocean 1919 Shipping No. 1	Samsung	25/11/2008	Panama	–	TZ Mk. III	4	Tangguh	1619
Tangguh Hiri	155,000	Tangguh Hiri Finance Ltd.	HHI	05/12/2008	Bahamas	–	TZ Mk. III	4	Tangguh	1780
Tangguh Jaya	155,000	Ocean 1919 Shipping No. 2	Samsung	31/12/2008	Panama	–	TZ Mk. III	4	Tangguh	1620
Tangguh Palung	155,000	Ocean 1919 Shipping No. 3	Samsung	09/03/2009	Panama	–	TZ Mk. III	4	Tangguh	1634
Tangguh Sago	155,000	Teekay Shipping (Canada) Limited	Hyundai Samho	28/12/2008	Bahamas	Diesel/Gas-Electric	TZ Mk. III	4	Tangguh	S298
Tangguh Towuti	145,700	LNG East-West Shipping Co.	Daewoo	15/10/2008	Singapore	Steam	GT NO 96	4	Tangguh	2241
Tembek	216,200	Overseas LNG S1 Corp.	Samsung	19/11/2007	M. Islnds	Diesel	TZ Mk. III	4	Qatargas II	1605
Tenergy	170,520	Briety Shipping Inc	HHI	21/01/2022	Greece	X-DF	TZ Mk. III	4	–	3157
Tessala	170,000	Hyproc Shipping Co.	HHI	07/02/2017	Algeria	Diesel/Gas-Electric	TZ Mk. III Flex	–	Arzew	2813
Trader II	138,000	K Line LNG Shipping (UK) Ltd	Samsung	07/11/2002	U.K.	Steam	TZ Mk. III	4	Portfolio	1380
Trader III	137,100	MISC	Mitsubishi	09/08/2002	Liberia	Steam	GT NO 96	4	MLNG III	2165
Traiano Knutsen	180,000	Hai Kuo Shipping 1901 G Ltd.	HHI	01/07/2020	Norway	ME-GI	TZ Mk. III Flex	4	–	3086
Trinity Glory	154,000	Cypress Maritime Consortium	Koyo Dockyard	26/11/2008	Panama	Steam	TZ Mk. III	4	Bontang	2260
Tristar Ruby	155,000	RBSSAF (19) Ltd.	HHI	14/04/2008	Liberia	Diesel/Gas-Electric	TZ Mk. III	4	Portfolio	1778
Umm Al Amad	210,200	J5 Nakilat No. 7 Ltd.	Daewoo	12/09/2008	M. Islnds	Diesel	GT NO 96	18	RasGas III	2253
Umm Al Ashtan	137,000	Umm Al Ashtan Ltd.	STX	29/05/1997	Liberia	Steam	Moss	4	Das Island	1333
Umm Bab	145,000	Sea Trade International Inc.	Daewoo	01/11/2005	Greece	Steam	GT NO 96	4	RasGas II	2228
Umm Slal	266,000	Nakilat Umm Slal Inc.	Samsung	26/11/2008	M. Islnds	–	TZ Mk. III	5	Qatargas II	1676
Valencia Knutsen	173,400	Norspan LNG VII AS	Daewoo	30/09/2010	Spain	–	GT NO 96	4	Portfolio	2274
Velikiy Novgorod	170,200	Sovcomflot	STX	20/12/2013	Liberia	–	GT NO 96	4	Portfolio	1910
Vivit Americas LNG	174,000	Cardiff LNG Zeta Owning LLC	HHI	17/10/2020	Malta	X-DF	TZ Mk. III Flex	–	Portfolio	3037
Vivit Arabia LNG	174,000	Kaiser 2 SA	Hyundai Samho	10/06/2022	Liberia	X-DF	TZ Mk. III Flex	4	Portfolio	8026
Vivit City LNG	174,103	Kaiser SA	Hyundai Samho	06/12/2021	Liberia	X-DF	TZ Mk. III Flex	4	Portfolio	8025
Vladimir Rusanov	174,000	Mitsui O.S.K. Lines	Daewoo	01/01/2018	H.K., China	ME-GI	GT NO 96 GW	4	Yamal	2424
Vladimir Vize	172,000	China Shipping Development Co.	Daewoo	30/09/2018	H.K., China	ME-GI	GT NO 96 GW	4	Yamal	2426
Vladimir Voronin	172,652	Teekay Corp.	Daewoo	19/07/2019	Bahamas	ME-GI	GT NO 96 GW	4	Yamal	2431
WilForce	155,900	Wilforce LLC	Daewoo	18/09/2013	Malta	–	GT NO 96	4	–	H2289
WilPride	155,900	Wilpride LLC	Daewoo	29/11/2013	Malta	–	GT NO 96	4	–	H2290
Woodside Chaney	174,000	Maran Gas Maritime	Daewoo	02/07/2019	Greece	ME-GI	GT NO 96 GW	4	Portfolio	2457
Woodside Charles Allen	173,400	Hai Kuo Shipping 2027G Ltd.	Daewoo	31/10/2020	Greece	ME-GI	GT NO 96 GW	–	–	2486
Woodside Donaldson	165,500	Malt Singapore Pvt. Ltd.	Samsung	19/10/2009	Singapore	Diesel/Gas-Electric	TZ Mk. III	4	Pluto	1632
Woodside Goode	159,800	Armour Company Ltd.	Daewoo	04/11/2013	Greece	Diesel Electric	GT NO 96 GW	4	RasGas	H2295
Woodside Rees Withers	173,400	Maran Gas Maritime	Daewoo	01/10/2019	Greece	ME-GI	GT NO 96 GW	4	–	2466
Woodside Rogers	159,800	Margie Seaway Corp.	Daewoo	01/07/2013	Greece	Diesel/Gas-Electric	GT NO 96 GW	4	Pluto	H2288
Wudang	174,400	United Glory LNG Shipping Co Ltd	Hudong Zhonghua	07/10/2022	H.K., China	X-DF	–	4	Portfolio	H1832A
Yakov Gakkell	172,658	DSME Hull No.2434 LLC	Daewoo	12/11/2019	Bahamas	ME-GI	GT NO 96 GW	4	Yamal	2434
Yari LNG	159,800	Cardiff LNG	Daewoo	03/11/2014	Malta	TFDE	GT NO 96 L03	4	Spot	2401
Yenisei River	155,000	Navajo Marine	HHI	31/07/2013	M. Islnds	–	TZ Mk. III	4	Yamal	2556
Yiannis	169,932	Onerato Marine SA	Daewoo	29/09/2021	Greece	ME-GI	GT NO 96 GW	4	–	2501
YK Sovereign	127,125	SK Shipping	HHI	01/12/1994	South Korea	Steam	Moss	4	MLNG	761
Zarga	268,000	Nakilat SHI 1752 Inc.	Samsung	23/01/2010	M. Islnds	–	TZ Mk. III	5	Qatargas IV	1752
Zekreet	137,482	Mitsui O.S.K. Lines	Mitsui E&S	01/12/1998	M. Islnds	Steam	Moss	5	Qatargas I	1432

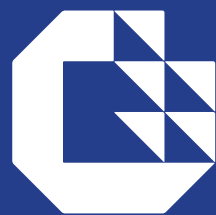
Fleet – LNG Bunkering

Name	Built	Capacity	Registered Owner	Builder	Flag	Engine Type	Cargo System	No. of tanks	Project
Seagas	Sep-74	170	Linde Gas AB	Havyard Leirvik	Sweden	Diesel	Cylinder	1	Stockholm Viking Line
Coral Methane	Apr-09	7,551	Coral Methane Shipping BV	AVIC Dingheng	Netherlands	Gas-Diesel	Cylinder	4	Portfolio
Oizmendi	Jul-09	600	Itsas Gas Bunker Supply SL	Astilleros Zamakona	Spain	Diesel	Cylinder	2	Huelva
Green Zeebrugge	Feb-17	5,000	LNG Link Investment AS	Hanjin Heavy Industries	Belgium	Diesel/Gas-Electric	Cylinder	2	Zeebrugge
Cardissa	Jun-17	6,500	Shell Western LNG BV	STX	Netherlands	Diesel/Gas-Electric	Cylinder	1	Portfolio
Coralius	Aug-17	5,800	Sirius Veder Gas AB	Bodewes Shipyards	Sweden	DFDE	Cylinder	4	Portfolio
Kairos	Oct-18	7,500	Uranos Vermögensverwaltung	Hyundai Mipo	Cyprus	Gas-Diesel	Type C	4	Portfolio
Bunker Breeze	Oct-18	6,050	Molucas Naviera AIE	Astilleros Zamakona	Spain	Gas-Diesel	Cylinder	4	Algeciras
LNG London	Apr-19	3,000	LNG Shipping S.A.	Severnav S.A.	Belgium	LNGPac	Cylinder	6	ARA
SM Jeju LNG 1	Sep-19	7,500	Jeju LNG 1 S.A.	Samsung	Panama	Diesel/Gas-Electric	KC-1	1	Portfolio
SM Jeju LNG 2	Jan-20	7,500	Jeju LNG 2 S.A.	Samsung	Panama	Diesel/Gas-Electric	KC-1	1	Portfolio
Gas Agility	Apr-20	18,600	Emerald Green Maritime Ltd.	Hudong Zhonghua	Malta	DFDE	TZ Mk III Flex	2	Rotterdam
Kaguya	Sep-20	3,469	Central LNG Shipping Japan	Kawasaki	Japan	Gas-Diesel	Cylinder	1	JERA TPS
Avenir Advantage	Oct-20	7,500	Avenir L Pte Ltd.	Keppel Nantong	Malta	Gas-Diesel	Type C	2	Portfolio
Avenir Accolade	Nov-20	7,500	Stolt-Nielsen Gas Ltd.	Keppel Nantong	Malta	Gas-Diesel	Type C	2	Portfolio
FueLNG Bellina	Nov-20	7,500	FueLNG Pte Ltd.	Kappel Nantong	Singapore	Diesel/Gas-Electric	Cylinder	2	Portfolio
Dalian No. 1	Dec-20	8,330	Xinao Marine Shipping Co. Ltd.	Dalian Yard	China	Gas-Diesel	Cylinder	2	Portfolio
Marine Vicky	Jan-20	9,900	Sinanju Tankers Pte. Ltd.	Keppel Nantong	Singapore	Gas-Diesel	TBC	TBC	Portfolio
Imperial Gas 92	Oct-17	3,800	Imperial Logistics International BV & Co. KG	Centromost	Germany	Diesel	Cylinder	TBC	Portfolio
Imperial Gas 93	Nov-17	3,800	Imperial Logistics International BV & Co. KG	Centromost	Germany	Diesel	Cylinder	TBC	Portfolio

Fleet – Small-scale/Multipurpose

Name	Built	Capacity	Registered Owner	Builder	Flag	Engine Type	Cargo System	No. of tanks	Project
Akebono Maru	Jun-11	3,500	Chuo Kaiun K.K.	Higaki	Japan	Diesel	Cylinders	2	Japan coastal trade
Aman Sendai	May-97	18,928	Asia LNG Transport	NKK	Malaysia	Steam	TZ Mk. III	3	Malaysia LNG
Coral Acropora	Dec-12	6,573	Coral Acropora Shipping	AVIC Dingheng	Netherlands	Gas-Diesel	Cylinders	4	Portfolio
Coral Actinia	Jan-13	6,573	Coral Actinia Shipping	AVIC Dingheng	Netherlands	Gas-Diesel	Cylinders	4	Portfolio
Coral Alicia	Dec-12	6,573	Coral Alicia Shipping	AVIC Dingheng	Netherlands	Gas-Diesel	Cylinders	4	Portfolio
Coral Anthelia	May-13	6,500	Coral Anthelia Shipping	AVIC Dingheng	Netherlands	Gas-Diesel	Cylinders	4	Portfolio
Coral Energice	Feb-18	18,000	Anthony Veder Chartering	Neptun Werft	Netherlands	Gas-Diesel	TZ MK. III Flex	2	Portfolio
Coral Energy	Dec-12	15,600	Anthony Veder Rederijzaken	Meyer Werft	Netherlands	Gas-Diesel	IMO Type C	3	Portfolio
Coral Favia	Jul-10	10,000	Somargas II Pvt. Ltd.	Wuzhou Shipbuilding	Singapore	Diesel	Cylinders	2	Baltic portfolio
Coral Fraseri	Jan-10	10,000	Innovation Shipping Co.	Wuzhou Shipbuilding	Singapore	Diesel	Cylinders	2	Portfolio
Coral Fungia	Jan-11	10,000	Somargas II Pvt. Ltd.	Wuzhou Shipbuilding	Singapore	Diesel	Cylinders	2	Baltic portfolio
Coral Furcata	Nov-11	10,000	Conception Shipping Company	Wuzhou Shipbuilding	Singapore	Diesel	Cylinders	2	Portfolio
Hai Yang Shi You 301	Apr-15	30,000	COSL	Jiangnan Shipyard	China	Gas-Diesel	Membrane	4	Hainan LNG shuttle
Kakurei Maru	Nov-08	2,536	Tsurumi Sunmarine Co.	Higaki	Japan	Diesel	Cylinders	2	Japan coastal trade
Kakuyu Maru	Nov-13	2,538	Tsurumi Sunmarine Co.	Kawasaki	Japan	Diesel	Cylinders	1	Japan coastal trade
Lucia Ambition	Dec-93	18,927	Asia LNG Transport	NKK	Malaysia	Steam	TZ Mk. III	3	Malaysia-Hainan
North Pioneer	Nov-05	2,500	Japan Liquid & Gas Transport Co. & Japan Railway Agency	Shin Kurushima	Japan	Diesel	Cylinders	2	Japan coastal trade
Pioneer Knutsen	Mar-04	1,100	Knutsen Kyst LNG K/S	Bijlsma Lemmer B.V. Scheepswerf	Norway	LNG-Diesel	Cylinders	2	Norway coastal trade
Ravenna Knutsen	Feb-21	30,000	Norspan LNG 14 AS	Hyundai Mipo	Spain	X-DF	Cylinders	3	Italy coastal trade
Seoul Gas	Jul-98	4,365	Chemgas Schiffahrts GmbH & Co. mt Oste KG	Severnav Shipbuilding	Liberia	Diesel	Cylinders	2	S. Korea-China
Shinju Maru No. 1	Aug-03	2,538	JRTT & NS United Coastal Tankers	Kawasaki	Japan	Diesel	Cylinders	2	Japan coastal trade
Shinju Maru No. 2	Oct-08	2,536	Chuo Kaiun K.K.	Higaki	Japan	Diesel	Cylinders	2	Japan coastal trade
Sun Arrows	Sep-07	19,531	Maple LNG Transport Inc.	Kawasaki	Bahamas	Diesel	Moss	3	Malaysia LNG
Surya Aki	Feb-96	19,538	MCGC International Limited & Hiroshima Gas Co.	Kawasaki	Bahamas	Steam	Moss	3	Thanlyin LNG
Triputra	Dec-00	23,097	Nusantara Shipping	NKK	Indonesia	Steam	TZ Mk. III	3	Pertamina Portfolio
Unikum Spirit	Jun-11	12,000	DHJS Hull No.2007-001 LLC	AVIC Dingheng	Singapore	Diesel	Cylinders	2	Kuantan
Vision Spirit	Sep-11	12,000	I.M. Skaugen Marine Services	AVIC Dingheng	Singapore	Diesel	Cylinders	2	Portfolio

Any observations, additions or suggested revisions to the LNG journal World LNG Carrier Fleet list should be sent to editor@lngjournal.com



Gastech



Hydrogen



ClimateTech

EXHIBITION & CONFERENCE

GEORGE R BROWN CONVENTION CENTER | HOUSTON | 17-20 SEPTEMBER 2024

Gastech Houston 2024

BOOK A STAND



Transforming energy through vision, innovation and action

Gastech is the largest energy exhibition and conference for natural gas, LNG, hydrogen, climate technologies, low-carbon solutions and energy manufacturing - providing the defining answers of the coming decades as the world decarbonizes its energy system.

Gastech 2024 show floor features include:

Hydrogen zone

Accelerating hydrogen's role in the global energy mix



ClimateTech zone

Decarbonizing the energy value chain



Shipping and Marine zone

Investing in LNG infrastructure and decarbonizing the marine value chain



50,000

Attendees

800

Exhibitors

20

International
country
pavilions

5,000

Delegates

1,000

Speakers

500

Ministers and global
energy CEOs

125

Countries
represented

Host City:



Houston

Supported by:



Bilateral Chamber
bilateralchamber.org

Organized by:

dmg events

gastechevent.com

@gastechevent #Gastech in @ f X