



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



39TH INTERNATIONAL SCIENTIFIC & EXPERT MEETING OF GAS PROFESSIONALS OPATIJA, CROATIA, 8 - 10 MAY 2024

**THE LARGEST CONGRESS AND EXPO IN
SOUTHEAST EUROPE 100% DEDICATED
TO NATURAL GAS, LNG, HYDROGEN
AND LOW-CARBON SOLUTIONS!**

**60+speakers/ 600+ hundred high ranking gas and
energy experts, managers and decision makers
/20+ partners / 40+ exhibitors**



**The industry meeting point organized by the Croatian Gas Center Ltd.
and Croatian Gas Association, member of the International
Gas Union (IGU)**

SUBMIT YOUR ABSTRACT



BOOK YOUR BOOTH



SPEAK AND EXHIBIT AT

the SE Europe's largest natural gas, LNG, hydrogen
and low-carbon solutions exhibition and conference
taking place in Opatija, Croatia from 8-10th May 2024.

Contact:

Anita BARICEVIC
Tel: +385 (0)98 413 366
Email: anita@hsup.hr



CROATIAN
GAS
CENTER Ltd.

www.susret.hsup.hr/en



CROATIAN
GAS
ASSOCIATION

In this issue:

- 1 **Biden's order to pause non-FTA permits deals further blow to Calcasieu Pass project**
Permitting of several LNG export terminals – Port Arthur, Commonwealth, Lake Charles and Calcasieu Pass II – could be blocked as the Biden administration takes a harder look on their environmental impact
- 4 **Bright spark in Egypt overshadowed by Red Sea crisis**
Following a slump during the summer of 2023, the recent resumption of LNG exports represents a welcome bright spark after the Hamas attacks in October, but Egypt's LNG prospects are far from out of the woods
- 6 **Preliminary data points to less trade in January**
Our preliminary January data showed a notable LNG trade decrease globally. Meanwhile, demand saw a net increase on account of a few select demand centres
- 11 **GBS – A Jewel in the Crown**
An innovative solution to install offshore liquefaction and regasification facilities in areas that regularly experience harsh weather is gaining traction
- 12 **Increase LNGC component lifetime with proactive spare parts' management**
In the realm of LNGC operations, managing spare parts, particularly high-pressure packings, is a critical task demanding foresight and precision
- 13 **LNG tank design facilitates fuelling integration**
LNG is frequently cited as a solution in providing cleaner and more sustainable fuel but the reality for many operators is that switching fuel is prohibitively expensive
- 14 **A round-up of latest events, company and industry news**
For the Record
- 24 **Tables of import and export LNG terminals and plants worldwide**
- 30 **World Carrier Fleet: Details of LNG vessels**

Biden's order to pause non-FTA permits deals further blow to Calcasieu Pass project

Permitting of Venture Global's contentious 20 mtpa Calcasieu Pass 2 LNG export venture – as well as almost a dozen of other projects – is on hold due to President Joe Biden's executive order to temporarily pause approvals to export LNG to countries that the US does not have a Free Trade Agreement with (non-FTA). Greater scrutiny is now being placed on how LNG affects climate change, causing an outcry from the industry; our Markets Editor Anja Karl has more.

It is still unclear to which extend all pre-FID projects will be affected by the White House's intention to factor in the carbon footprint of liquefying natural gas and shipping it abroad as a new criterium in the approval process. The pause will clearly impact the 10 projects awaiting non-FTA approval, but analysts warned it may also affect many projects which under their current DOE approval aim for first exports before 2027.

The sought-after non-FTA permit allows developers of liquefaction projects to export LNG to Europe, most of Asia and dozens of other non-FTA countries. So far, American energy law stipulates that the Federal Energy Regulatory Commission (FERC) has to greenlight LNG projects unless they are not “in the public interest” – a legal test for licenses to ship the super-chilled gas to countries that are not US free-trade partners. A narrow definition of the “public interest” used to be applied: the regulator only considered if exports could cause domestic gas prices to rise too much for American consumers. Now, environmentalists have successfully rallied FERC to expand its view and also factor in environmental-

justice issues.

Ramifications of Biden's order are far-reaching: Currently, there are almost 90 mtpa of projects awaiting non-FTA approval – and without this permit, the projects will struggle to gain sufficient backing to secure financing and proceed to financial close.

“Still, if the pause is temporary and simply delays FID to 2025 and 2026, the impact on the global market would not be material and perhaps only limited to the 2028-2029 period,” Giles Farrer, head of gas and LNG asset research at Wood Mackenzie said, considering that 200 mtpa of LNG liquefaction and export capacity is currently under construction around the world, which will add nearly 50 percent growth to the market.

Four US Gulf Coast projects affected

The American Gas Association (AGA), representing over 200 utilities, dismissed the move by saying the President has blocked pending approvals of LNG export permits to please climate activists in an election year. Gas producers and pipeline companies in the PAGE coalition are also

outraged about the de-facto moratorium on new projects and have reminded the President that ramping up US LNG exports can clean up the world's energy mix by displacing coal-fired power while also “shoring up the energy security of our allies.”

The projects at risk of delay include at least one in Texas and three in Louisiana, notably Semptra Infrastructure's Port Arthur venture as well as Commonwealth LNG, the Energy Transfer project at Lake Charles and Venture Global's proposed Calcasieu Pass II (CP2) project.

Venture Global had hoped for FERC to give the greenlight for its CP2 project in the coming weeks. Environmental approval has already been granted, but having to account for climate change implications of LNG could delay or potentially derail a project with a nameplate capacity of 20 mtpa and approximately 24 mtpa capacity at peak – twice the size of the current Phase 1 terminal. The proposed CP2 facility includes 18 LNG blocks to liquefy domestically produced gas and four full containment LNG storage tanks on a 546-acre site in Cameron Parish, Louisiana.



A second LNG export facility is planned adjacent to the Calcasieu Pass plant underway in Louisiana

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

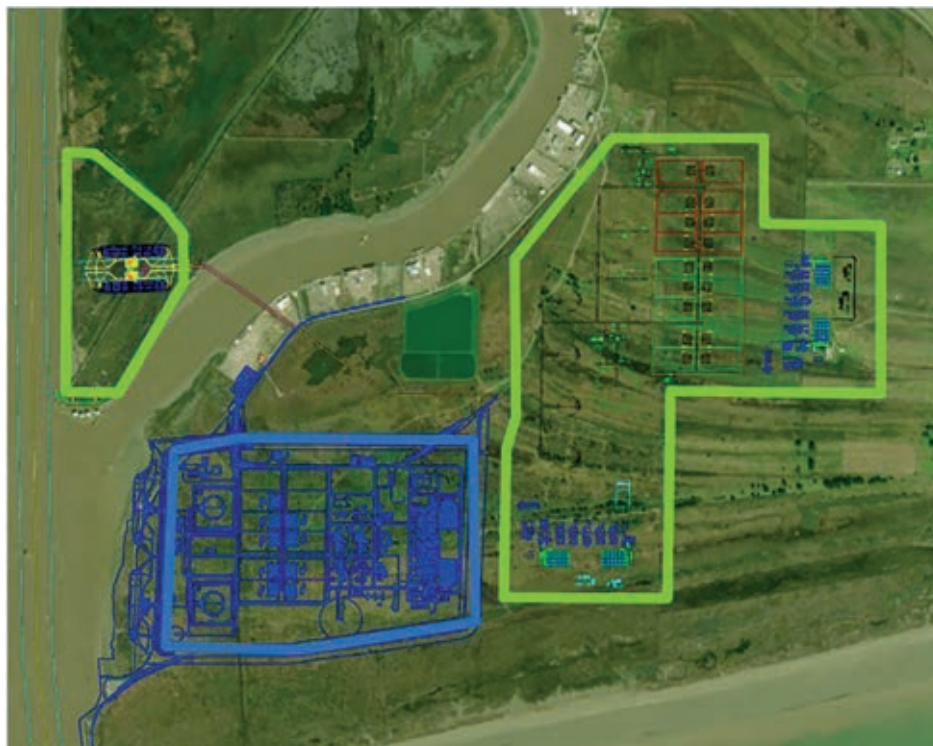
Print & online **£900/€1020/US\$1320**

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.



Proposed site layout of CP2 venture

Together, the operational Calcasieu Pass 1 terminal and the CP2 venture would amount to a capital investment of more than \$10 billion, the developer noted.

Permitting delay adds to Venture Global's woes

The pause in non-FTA permits that affects the CP2 project is only the latest problem that that Venture Global needs to get to grips with at its Calcasieu Pass project in Louisiana. Arlington-headquartered Venture Global is already embroiled in a legal battle over allegedly “illegally withholding information” about delays in delivering LNG from Calcasieu Pass Phase 1. Claimants, notably BP, are convinced that long-term LNG shipments were “intentionally held back” from contracted customers and sold through one-off deals on the spot market.

Operations at the CP1 terminal began in March 2022, but no cargo has yet been shipped to BP and other offtakers that agreed to 10-year delivery deals, they claim – while Venture Global argues these contracts are not yet binding given that the liquefaction terminal is still in its commissioning phase. In its complaint to FERC, the British major claims Venture Global had repeatedly pushed back the date at which it would begin delivering LNG at contracted rates in an attempt to increase profits.

Michael Sabel, a former investment banker, is running Venture Global together with the lawyer Robert Pender. Both dismissed the accusations as “outrageous” and filed a formal response. “It is nothing more than the latest in a series of unsuccessful attempts to bully an industry newcomer into waiving its

contractual rights in order to increase their own profits beyond recent record-highs,” they said, stressing that – to the contrary – Venture Global has been “one of the few US (and global) exporters who have successfully financed, commercialized, and built our projects.”

Data from the US Department of Energy confirms that around 70 percent of all cargos produced and exported by the company have been delivered into Europe and sold to multiple counterparties, including three of its six long-term customers. “Conversely, the supermajors have traded several of the cargos they have received to places outside of Europe,” Venture Global said, exemplifying that to date, Shell has purchased seven commissioning cargos from Venture Global and three of them were traded outside of Europe for higher profits. Similarly, BP has bought six commissioning cargoes, and two have been traded to destinations outside of Europe.

Unphased by the rebuke, Shell and BP entered into separate cases against Venture Global at the London Court of International Arbitration, with other complainants including Edison and Repsol.

Growing feedgas needs eat into gas-burn

Uncertainty abounds about FERC's new permitting regime as market participants anxiously await the second wave of LNG export projects. Growing feedgas needs for liquefaction will eat into gas-burn for power generation – but given that rising shale gas production has bloated inventories – there is ample supply for

Plaquemines LNG Phase 1 and Corpus Christi Stage 2 to get first feedgas flows this summer.

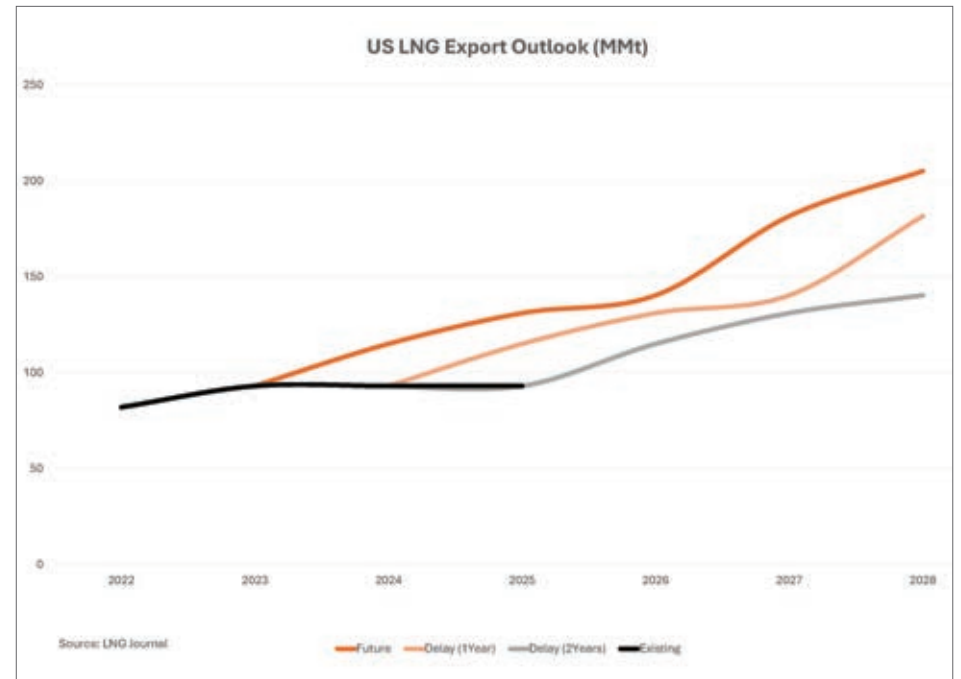
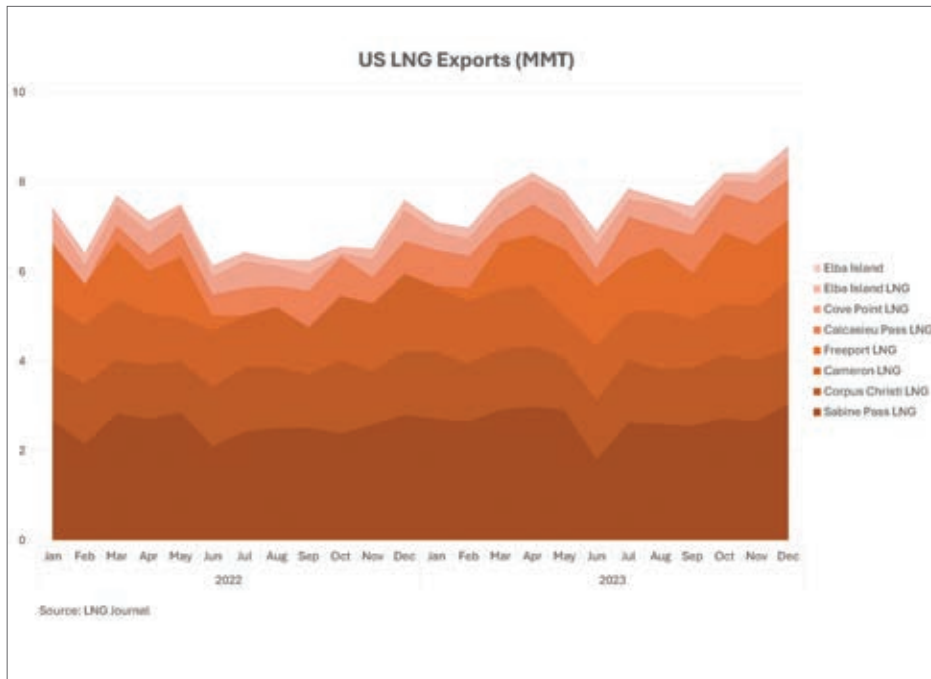
Though Golden Pass LNG pushed back the timeline for first exports to the first half of 2025, commissioning flows are still expected for later this year. LNG Canada is also racing to begin commissioning and start-up activities this year. “This, and Altamira FLNG's start-up in Mexico in early 2024, provide a reminder that the US will not be the only North American LNG exporter for much longer,” Daniel Myers, WoodMac's senior research analyst commented.

Related gas infrastructure helps underpin future production growth and exports. Completion of the long-contested Mountain Valley Pipeline (MVP), expected in the first half of 2024, may well end the regime of Northeast pipeline development that had guided production expansion between 2017 and the early 2020s. Instead, analysts reckon that “the market will turn its attention to developing infrastructure through the friendlier regulatory environment of intrastate pipeline projects in Texas and Louisiana.”

In 2024 alone, over 4 billion cubic feet per day (bcf/d) of intrastate pipeline developments are targeted to unlock Haynesville supply in Louisiana. In the Permian, the 2.5 bcf/d Matterhorn Express will join Whistler (0.5 bcf/d) and the Permian Highway (0.55 bcf/d) compression expansions from later this year to ease pressure on Waha and allow for further associated gas growth out of West Texas.

At the same time, gas demand for power generation is forecast to stay resilient, as low prices for the fuel have incentivized continued high, economic coal-to-gas switching. Both US and Canadian gas production soared in 2023, leaving a significant storage surplus heading into the New Year which made Henry Hub gas prices collapse over \$1/MMBtu from November 2023 highs.

According to the US Energy Information Administration (EIA), Henry Hub prices will average under \$3.00/MMBtu both this year and in 2025 while dry gas production is forecast to rise by 1.5 bcf/d in 2024 from record highs in 2023 to average 105.0 bcf/d. Comparatively low fuel prices, ample supply as well as the need for gas peaking power stations to balance fast-growing renewable energy sources are bound to keep America's domestic gas demand on high levels for the foreseeable future. ■



Year/Week No.	Calcasieu Pass LNG	Cameron LNG	Corpus Christi LNG	Cove Point LNG	Elba Island	Elba Island LNG	Freeport LNG	Sabine Pass LNG	Grand Total
2024									
1	0.22	0.44	0.24	0.14		0.08	0.3	0.69	2.11
2	0.16	0.23	0.21	0.07		0.08	0.24	0.29	1.28
3	0.16	0.15	0.23	0.16			0.31	0.53	1.54
4	0.12	0.39	0.31	0.07			0.2	0.63	1.72
2023									
52	0.07	0.31	0.35	0.07		0.08	0.37	0.65	1.9
51	0.22	0.46	0.29	0.14		0.08	0.23	0.71	2.13
50	0.16	0.31	0.28	0.14			0.24	0.6	1.73
49	0.3	0.38	0.3	0.15		0.08	0.38	0.78	2.37
48	0.23	0.15	0.28	0.07		0.08	0.31	0.59	1.71
47	0.23	0.22	0.32	0.08			0.39	0.77	2.01
46	0.16	0.31	0.3	0.15	0.08		0.24	0.63	1.87
45	0.3	0.31	0.3	0.08			0.3	0.58	1.87
44	0.25	0.28	0.32	0.21		0.08	0.37	0.79	2.3
43	0.23	0.31	0.24	0.07		0.08	0.3	0.5	1.73
42	0.08	0.23	0.31	0.08			0.45	0.58	1.73
41	0.23	0.3	0.28				0.38	0.67	1.86
40	0.24	0.23	0.52			0.08	0.3	0.5	1.87
39	0.16	0.31	0.27			0.08	0.24	0.61	1.67
38	0.21	0.22	0.32	0.13		0.06	0.4	0.48	1.82
37	0.16	0.25	0.3	0.07			0.16	0.67	1.61
36	0.24	0.23	0.32	0.08		0.06	0.23	0.5	1.66
35	0.24	0.31	0.31	0.08		0.08	0.22	0.67	1.91
34	0.08	0.32	0.23	0.14			0.31	0.6	1.68
33	0.07	0.34	0.32	0.07			0.31	0.54	1.65
32	0.16	0.21	0.24	0.15		0.12	0.32	0.59	1.79
31		0.28	0.21	0.14			0.39	0.66	1.68
30	0.23	0.23	0.24	0.07			0.26	0.74	1.77
29	0.16	0.23	0.31	0.15		0.08	0.3	0.62	1.85
28	0.15	0.31	0.37	0.02		0.08	0.24	0.47	1.64
27	0.32	0.24	0.39	0.15		0.08	0.23	0.58	1.99
26	0.08	0.33	0.38	0.08		0.08	0.31	0.45	1.71
25	0.14	0.3	0.26	0.07		0.08	0.3	0.45	1.6
24	0.17	0.22	0.32	0.15		0.06	0.31	0.38	1.61
23	0.08	0.3	0.3	0.15			0.32	0.38	1.53
22	0.11	0.22	0.3	0.08		0.06	0.31	0.54	1.62
21	0.14	0.24	0.19	0.22			0.31	0.72	1.82
20	0.17	0.15	0.24			0.08	0.4	0.68	1.72
19	0.11	0.16	0.32	0.14		0.07	0.32	0.67	1.79
18	0.08	0.31	0.25	0.21			0.32	0.6	1.77
17	0.17	0.31	0.3	0.16		0.08	0.24	0.76	2.02
16	0.08	0.41	0.31	0.07			0.29	0.68	1.84
15	0.16	0.22	0.39	0.15			0.3	0.58	1.8
14	0.23	0.35	0.28	0.07		0.08	0.21	0.73	1.95
13	0.12	0.15	0.38	0.08		0.07	0.37	0.76	1.93
12		0.46	0.25	0.15		0.08	0.18	0.42	1.54
11	0.14	0.29	0.31	0.14			0.22	0.83	1.93
10	0.22	0.29	0.28	0.15		0.08	0.12	0.61	1.75
9	0.16	0.37	0.29	0.09			0.23	0.75	1.89
8	0.12	0.3	0.34	0.08		0.07	0.15	0.52	1.58
7	0.21	0.29	0.3	0.14			0.14	0.61	1.69
6	0.16	0.3	0.3	0.15		0.08		0.93	1.92
5	0.07	0.44	0.35			0.08		0.59	1.53
4	0.22	0.35	0.39	0.15		0.14		0.51	1.76
3	0.19	0.35	0.29	0.15				0.52	1.5
2	0.24	0.22	0.38	0.03				0.86	1.73
1	0.16	0.46	0.32	0.07		0.08		0.61	1.7
Grand Total	9.27	16.28	16.93	5.86	0.08	2.63	14.27	34.36	99.68

Bright spark in Egypt overshadowed by Red Sea crisis

Following a slump during the summer of 2023, the recent resumption of LNG exports represents a welcome bright spark after the Hamas attacks in October, but Egypt's LNG prospects are far from out of the woods, our Markets Editor Alexander Wilk reports.

Egypt can look back on a tough year for its LNG economy. Egyptian LNG exports more than halved in 2023, according to our data, with 3.61mmt shipped compared to the 7.05mmt exported in 2022. The slump in exports was particularly pronounced at the Damietta SEGA LNG plant, where shipments had dropped by 2.10mmt (-52 percent) to 1.97mmt in 2023 from 4.07mmt the previous year. LNG exports from Idku LNG, meanwhile, had decreased more moderately by 1.34mmt (-45 percent) to 1.64mmt from 2.98mmt.

As a result, exports of natural gas decreased by US\$2 billion in the July-September quarter of 2023 compared to the previous year, Reuters reported with reference to central bank data. This decline was attributed to a decrease in local production and a drop in global prices. In the fiscal year 2022/23, Egypt's natural gas exports amounted to US\$7.20 billion.

Bright spark

At the beginning of summer last year, prospects looked particularly dim. Owed to high seasonal domestic energy demand and insufficient production from its offshore gas fields, Egypt had to once again severely curtail its feedgas supply to the Idku and Damietta LNG plants. The Israel-Hamas conflict also impacted exports, compelling Israel to temporarily close the Chevron-operated offshore Tamar gas field and halt exports via the all-important East Mediterranean Gas (EMG) pipeline that supplements Egypt's gas economy. As a result, LNG exports plummeted to just 0.10mmt in July 2023, down 0.27mmt (-73 percent) year-on-year.

Regional security concerns related to gas infrastructure have been a persistent backdrop since Egypt began with the exports of pipeline gas to both Israel and Jordan in 2011. They have only increased since Israel became a net gas exporter in 2020, as Israeli gas platforms and infrastructure represent prime targets for sabotage.

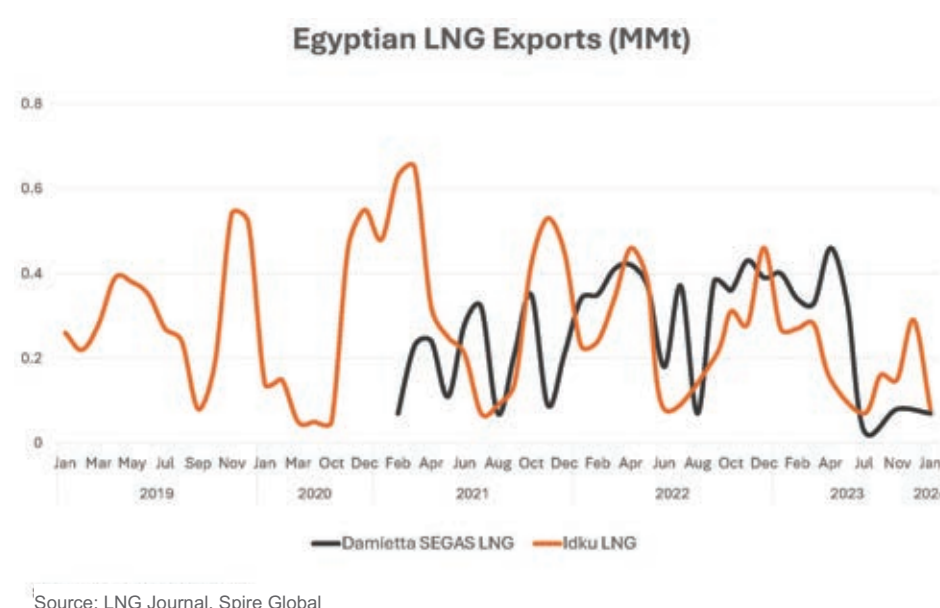
The important Tamar field had already been shut down several times before. Its initial closure occurred in September 2017 owing to technical complications,

which compelled Israel to seek alternative energy sources for a week and thus underscored Tamar's national importance. Subsequently, in May 2019, Israeli security agencies alerted the Ministry of Energy about a serious threat to the platform, which triggered another shutdown. In 2021, a period of unrest linked to tensions around the Gaza Strip led to a third suspension of Tamar operations. However, to date the field has always come back onstream swiftly. Tamar contributed more than 10bcm of natural gas in 2022, covering almost all of Israel's domestic gas demand.

Subsequent to Tamar's reinstatement, Egyptian LNG prospects have begun looking up since December, highlighted by exports from both the Idku and Damietta plants. Idku saw its highest monthly exports of 0.29mmt for the year that month whilst Damietta returned to the market with a 0.07mmt export in January.

Although relatively modest, underpinning that reversal in fortunes was the resumption of production at Tamar and the reopening of the EMG pipeline. This coincided with a seasonal reduction in domestic energy demand, according to Chevron Mediterranean, the pipeline's operator. Egypt, with a population exceeding 100 million, has seen rising gas demand, particularly during summer heatwaves, leading to power shortages. However, demand typically drops in winter due to the country's milder winter weather. The significance of the EMG pipeline to Egyptian LNG exports cannot be overstated, as it underpins the bulk of the country's LNG exports to Europe, Egypt's premier foreign gas market.

Last year, Egypt directed 64 percent of its LNG exports to Europe, our data shows. In 2022, that ratio stood at 69 percent. The European Commission, Egypt and Israel concluded a trilateral memorandum of understanding 'on cooperation related to trade, transport, and export of natural gas to the European Union' in June 2022. The initiative was part of the EU's strategy to diversify its energy sources and reduce reliance on Russian gas, especially in the context of



Russia's invasion of Ukraine. The agreement enables significant exports of Israeli gas to Europe for the first time. The framework is based on previous agreements between the three signatories on natural gas exploration, production and trade since 2018. Instead of building lengthy pipelines to European shores, the agreement facilitated Israeli gas exports to the EU via Idku LNG and Damietta SEGAS LNG. The EU is also investing in an undersea electricity cable linking Israel, Cyprus, and Greece.

Suez Canal Risk

Nevertheless, a new and wider security issue has arisen since the start of the new year. Several attacks on vessels by Yemen's Houthi faction have diverted shipping away from the Suez Canal, which has not only landed a blow to Egypt's economy due to plummeting transit fees but is also poised to impact its LNG exports.

More than half of the country's LNG shipments have taken the route via Suez since 2021, our data shows. The Suez Canal transit significantly cuts down on vessels' journey time as the alternative route would lead around Africa's Atlantic coast and the Cape of Good Hope, adding roughly two weeks of journey time. There is thus a risk of reduced shipping capacity available even for Egypt's sporadic LNG exports.

Falling revenue from Suez transits is also set to have a significant impact on Egyptian state revenue and on foreign

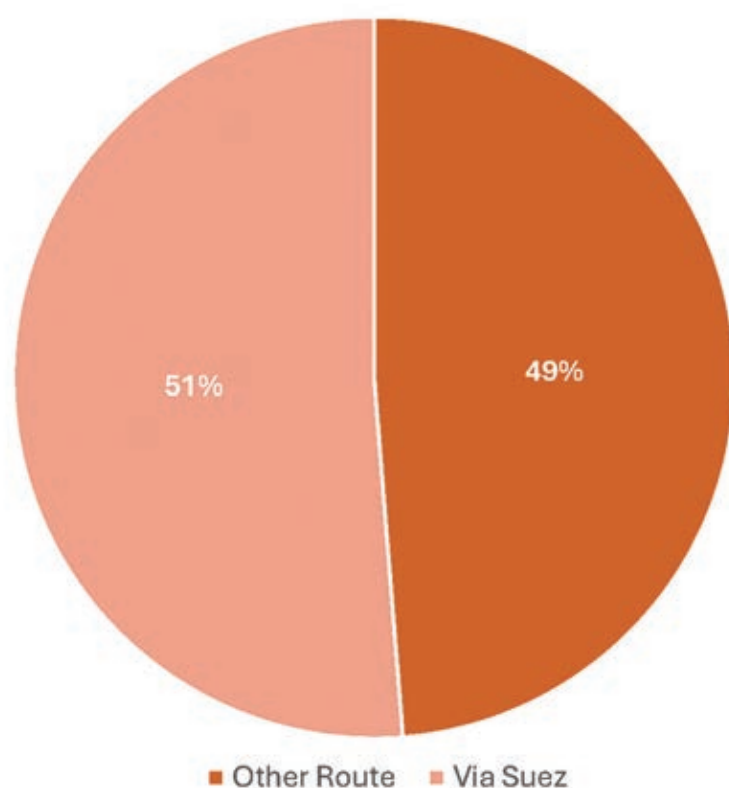
currency inflows especially, which is likely to exacerbate Egypt's prevailing budget deficit. Apart from making ongoing investment in its gas infrastructure more difficult, the spectre of a downward spiral in the value of the Egyptian Pound could also forestall foreign direct investments. This, in turn, could exacerbate prevailing structural flaws in Egypt's gas economy and result in a return to the state of affairs of a few years ago, which saw Egypt's LNG infrastructure shut in.

Structural flaws in Egypt gas economy

Structural flaws have haunted Egypt's gas economy for years, stemming from insufficient gas production growth, rising domestic energy consumption, supply guarantees and an administration struggling to manage these disparate demands. Notably, the Damietta LNG plant had been forced idle between November 2012 and March 2021, partly due to gas supply issues that had also plagued the neighbouring Idku LNG facility, operated by Shell. However, whilst Idku has regained firm market traction since October 2020, Damietta's restart – originally planned for June 2020 – continued to be hampered by a protracted dispute between Union Fenosa Gas (UFG) and various entities of the Egyptian state.

The dispute arose from the Damietta plant's involuntary idling at the end of 2012, according to an ICSID tribunal award. At the time, fast-growing domestic

Routes of Egyptian LNG Flows



Source: LNG Journal, Spire Global

demand in Egypt – much stemming from energy-hungry heavy industry – caused a widening gap between requirements and

declining gas production. Egypt was eventually forced to import LNG at Ain Sokhna to make ends meet between 2015

and 2018, our data shows. In response to the supply shortage, however, Egyptian regulators curtailed feedgas available for LNG exports despite a 25-year supply guarantee. Finally, following a protracted dispute and negotiations, Eni closed a deal that entailed the corporate restructuring of Damietta's operating entity UFG whose 80 percent participation in the Damietta plant will now be shared between Eni (50 percent) and the Egyptian state (50 percent) through its government-controlled entities EGAS and EGPC. Eni will also take over UFG's feedgas purchase contract and acquire the corresponding liquefaction rights. The deal also made Eni the owner of UFG's natural gas business in Spain.

Apart from gas supply, pricing has also been a recurring issue for the Egyptian state in its quest to negotiate a tricky route encompassing the encouragement of production (as well as exploration) and coping with increasing domestic demand by a price sensitive populace. According to a Prime Minister Decision in 2019, gas

selling prices for different economic activities are to be reviewed bi-annually. Part of that balancing strategy was to fix the price for onshore gas payable by EGAS to producers at \$2.65/mmBtu (the price would rise to around \$4/mmBtu for offshore production), according to the Egyptian Gas Association. However, these prices are in addition to costs associated with gas liquefaction and their rigidity may lead to financial losses for EGAS.

Concluding thoughts

The resumption of LNG exports represents a welcome bright spark after the attacks on Israel by Hamas led to a shutdown of key feedgas supply in October. However, Egypt's LNG prospects are far from out of the woods with a new crisis looming in the Red Sea whilst the current mild winter climate promises only a brief respite from chronic domestic feedgas shortages until next summer. Meanwhile, Egypt's gas economy continues to be hampered by structural flaws, which may be exacerbated by a growing budget deficit as the year progresses. ■

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.

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

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

LNG Daily News
Delivered to your inbox and online

LNG Journal
The flagship LNG monthly

LNG Unlimited
Your weekly summary of LNG news

LNG Market Tracker
Weekly empirical insight into the LNG market

LNG North America
Bi-monthly report on LNG in the US, Canada

LNG Fuelling
In-depth look at LNG as a fuel

LNG Shipping News
Bi-weekly coverage of LNG shipping

LNG China
Bi-monthly review of LNG in China

LNG Monthly Markets
Key developments in LNG markets

Gas to Power Journal
Peakload Power and Energy Storage

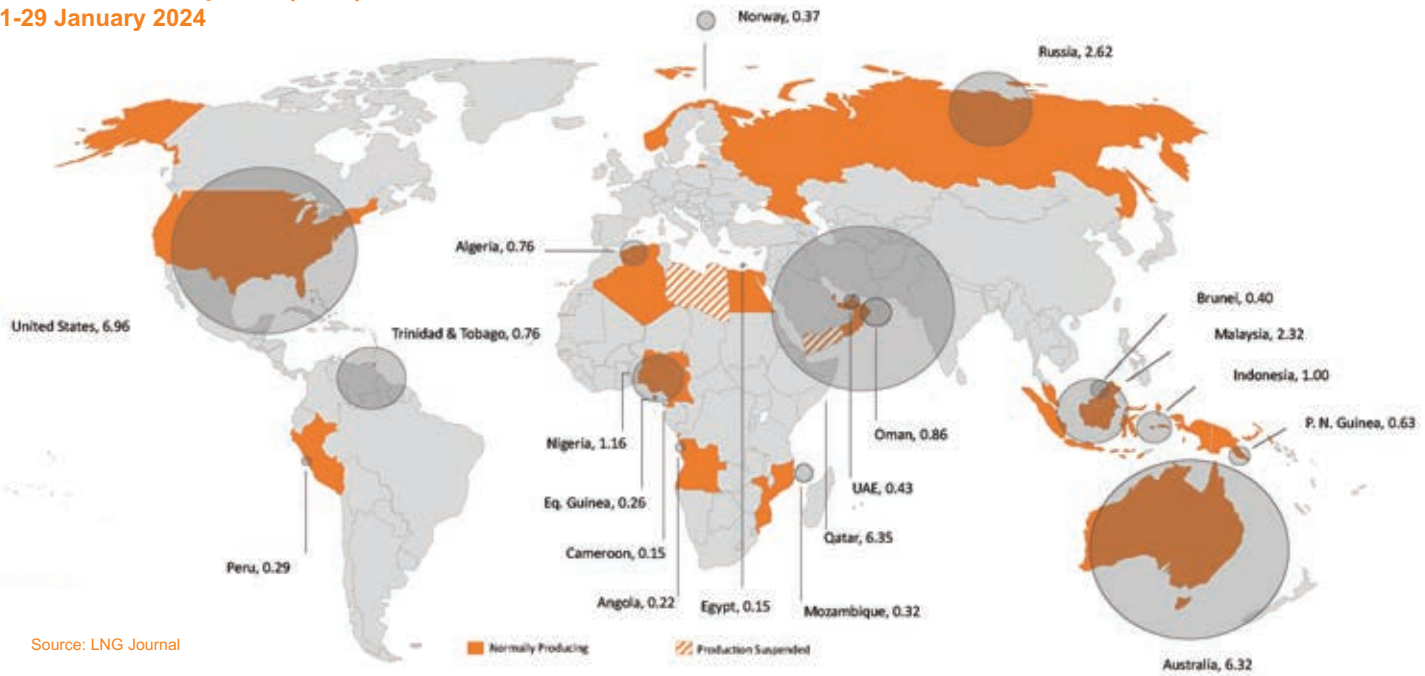
Preliminary data points to less trade in January

Our preliminary January data showed a notable LNG trade decrease globally. Meanwhile, demand saw a net increase on account of a few select demand centres, our Market Editor Alexander Wilk reports.

Global LNG exports as of 29 January amounted to 32.23mmt and thus represented a significant decrease of 2.83mmt (-8 percent) from the 35.06mmt we recorded on 29 December. Among the three most significant exporters at the time of writing, the United States faced a month-on-month decrease of 1.33mmt (-16 percent) with 6.96mmt in shipments compared to 8.29mmt in December. Concurrently, Qatar’s exports were down by 0.25mmt (-4 percent) to 6.35mmt from 6.60mmt in December alongside a reduction of Australian shipments by 0.47mmt (-7 percent) to 6.32mmt from 6.79mmt in December. In several cases, this represented a capacity ‘cooldown’ following a very busy December as annualised utilisation rates remained high.

Global LNG demand, meanwhile, was led by China with imports of 6.83mmt, down by 0.30mmt (-4 percent) month-on-month. Japan, meanwhile, reduced imports by 0.73mmt (-11 percent) to 5.68mmt in contrast to South Korea’s increase by 0.17mmt (4 percent) to 4.22mmt month-on-month. Nevertheless, global net demand had still grown by 0.60mmt (2 percent) net on account of

Global LNG Exports (MMt)
1-29 January 2024



strong demand in Europe and South America.

Exports

At the time of writing on 29 January, 32.23mmt of global LNG exports were down by 2.83mmt (-8 percent) from their counterparts of 35.06mmt on 29 December. The decrease in exports was led by the Atlantic Basin although the

Pacific followed close behind. In contrast to the export growth spurt seen in December, the Middle East had also seen a net decrease in January as of the time of writing.

Pacific Basin

Pacific exports had accrued to 11.94mmt, coming in below December’s total of 12.97mmt by 1.03mmt (-8 percent). Consequently, annualised capacity utilisation stood at 79 percent. Exports were also down by 0.15mmt (-1 percent) year-on-year.

Australia: The Pacific Basin’s most significant exporter by installed capacity – Australia – had seen a significant decrease in shipments by 0.47mmt (-7 percent) to 6.32mmt at the time of writing compared to the 6.79mmt we recorded on 29 December.

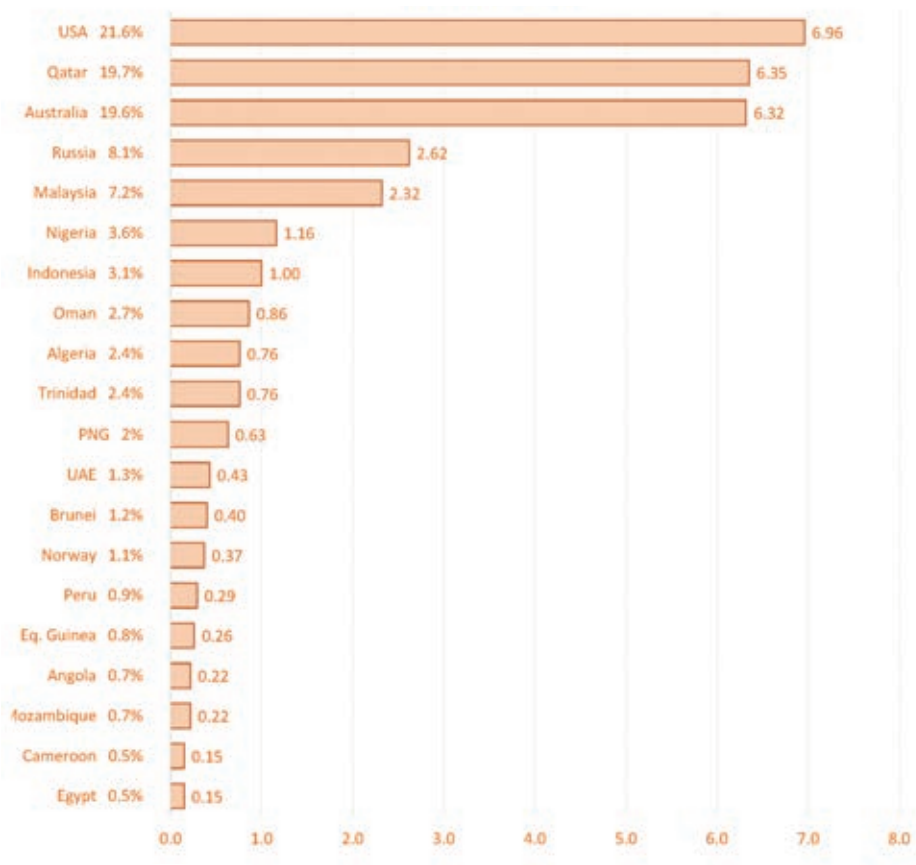
Most plants faced a decrease in production. Wheatstone LNG saw a relatively minor decrease of 0.03mmt (-3 percent) to 0.87mmt but Australia Pacific LNG had reduced exports more significantly by 0.11mmt (-14 percent) to 0.70mmt. Moreover, Gorgon LNG had cut shipments by 0.16mmt (-10 percent) to 1.40mmt alongside an export reduction of 0.17mmt (-28 percent) to 0.44mmt by Gladstone LNG. NWS LNG equally faced a decrease of 0.17mmt (-14 percent) to 1.08mmt from 1.25mmt as of 29 January. These export reductions were cushioned, however, by an overall export increase of

0.18mmt at Pluto LNG and Queensland Curtis LNG. Pluto LNG experienced the more significant month-on-month increase of 0.14mmt (50 percent) to 0.42mmt whilst Queensland Curtis LNG only saw a minor increase of 0.04mmt (7 percent) to 0.63mmt from 0.59mmt in December. Finally, Ichthys LNG and Prelude FLNG both saw their exports remain broadly stable at 0.71mmt and 0.08mmt, respectively.

Australian exports were led by shipments to China amounting to 1.91mmt, but which nonetheless represented a cut by 0.27mmt (-12 percent) month-on-month. Japan also took in fewer Australian LNG cargoes, meaning its imports were down by 0.68mmt (-27 percent) month-on-month to 1.81mmt. Similarly drastic was the import reduction by Singapore, which amounted to 0.16mmt (-67 percent) month-on-month to 0.08mmt. South Korea also cut month-on-month imports by 0.10mmt (-8 percent) to 1.08mmt. On the other hand, Taiwan significantly increased imports by 0.13mmt (30 percent) to 0.57mmt alongside a 0.10mmt (83 percent) increase to 0.22mmt by Malaysia. Thailand, meanwhile, increased imports by 0.07mmt (50 percent) month-on-month to 0.21mmt.

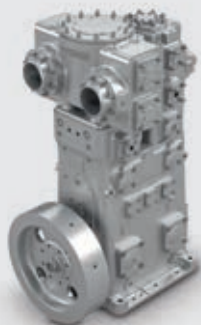
Southeast Asia: North of Australia, however, PNG LNG recorded a production increase of 0.05mmt (9 percent) to 0.63mmt in January from 0.58mmt in

Market Share & LNG Exports by Country (MMt)
1-29 January 2024

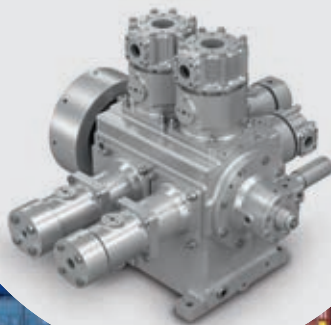


MINIMIZED OPERATING COSTS IN BOG MANAGEMENT

**Laby®
Compressor inside**



**MHP
Compressor inside**



Burckhardt Compression offers a complete portfolio of compressor 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

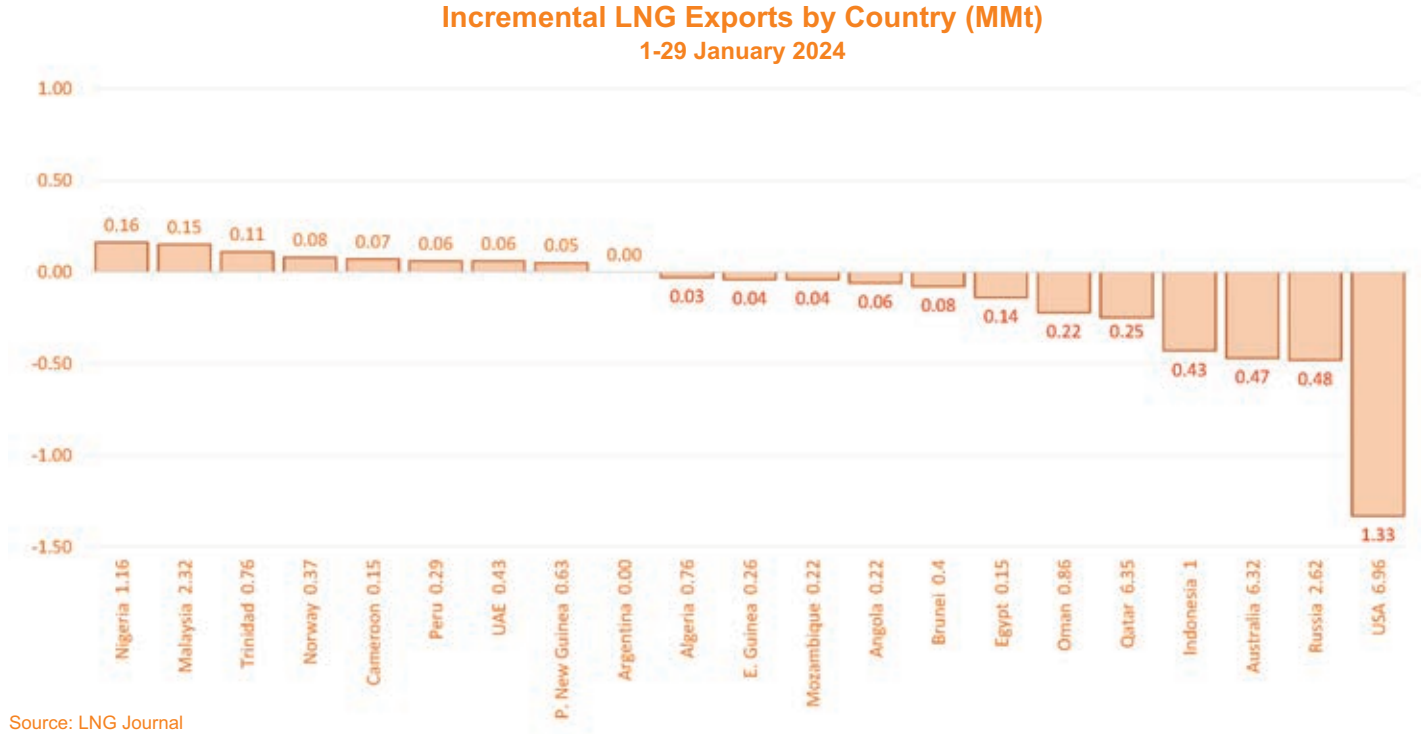
Compressors for a Lifetime™



December. The plant's annualised capacity utilisation rate at the time of writing thus stood at 91 percent. Papua New Guinean LNG exports were led by shipments to Japan amounting to 0.22mmt in January, even as they were down by 0.05mmt (-19 percent) to 0.22mmt month-on-month. Concurrently, China had reduced imports by 0.02mmt (-13 percent) to 0.14mmt whilst South Korea maintained the same level of imports at 0.06mmt month-on-month. Notably, Taiwan increased imports by 0.06mmt (40 percent) to 0.21mmt month-on-month.

Indonesia, meanwhile, had seen a significant decrease in shipments of 0.43mmt (-30 percent) to 1.00mmt at the time of writing in January compared to 1.43mmt in December. Tangguh LNG produced a decrease of 0.28mmt (-31 percent) to 0.62mmt from 0.90mmt in December. Bontang also faced an export reduction of 0.13mmt (-37 percent) to 0.22mmt whilst Donggi-Senoro LNG had reduced month-on-month exports by 0.02mmt (-11 percent) to 0.16mmt at the time of writing. As result, the Bontang plant produced at only 23 percent of annualised capacity utilisation whilst Donggi-Senoro and Tangguh LNG achieved 98 and 96 percent, respectively.

Malaysia, meanwhile, had increased exports by 0.15mmt (7 percent) to 2.32mmt at the time of writing in January compared from 2.17mmt in December. This was because Malaysia LNG saw a notable increase of 0.16mmt (8 percent) to 2.05mmt in shipments compared to 1.89mmt in December. PFLNG 1 also increased shipments by 0.06mmt (86 percent) to 0.13mmt. These increases were tempered, however, by an export decrease amounting to 0.07mmt at



PFLNG 2. The floating plant saw a decrease of 0.07mmt (-33 percent) with 0.14mmt in shipments compared to 0.21mmt in December. Nevertheless, the two FLNG plants still showed annualised capacity utilisation of 130 percent and 140 percent, respectively.

Brunei LNG recorded a production decrease of 0.08mmt (-17 percent) to 0.40mmt at the time of writing, down from 0.48mmt month-on-month. The plant's annualised capacity utilisation rate thus stood at 67 percent. As China and Taiwan slashed their respective offtakes from Brunei LNG, these losses were only partially compensated by higher exports to Japan and South Korea. Our data also showed at the time of writing that 0.07mmt of Brunei shipments still had to declare their destination within the Pacific.

Russia, Peru & Mozambique: Elsewhere in the Pacific, Sakhalin-2 LNG

recorded a production decrease of 0.27mmt (-26 percent) to 0.76mmt at the time of writing from 1.03mmt in December. The plant's annualised capacity utilisation rate thus stood at 95 percent. Sakhalin's LNG exports were led by shipments to Japan amounting to 0.46mmt in December, although this also represented a slump in that specific LNG flow by 0.33mmt (-42 percent) to 0.46mmt month-on-month. South Korea, meanwhile, increased imports by 0.06mmt (50 percent) to 0.18mmt month-on-month but which was negated by a commensurate reduction of Chinese demand.

Meanwhile, Peru's Pampa Melchorita LNG showed a significant production increase of 0.06mmt (26 percent) to 0.29mmt in January from 0.23mmt in December. The plant's annualised capacity utilisation rate thus stood at 78 percent. LNG exports from Peru were led

by shipments to the Pacific Basin but which still had to determine their destination.

Finally, Mozambique's Coral Sul FLNG recorded a production decrease of 0.04mmt (-15 percent) to 0.22mmt in December, which pegged the plant's annualised capacity utilisation rate at 78 percent.

Atlantic Basin

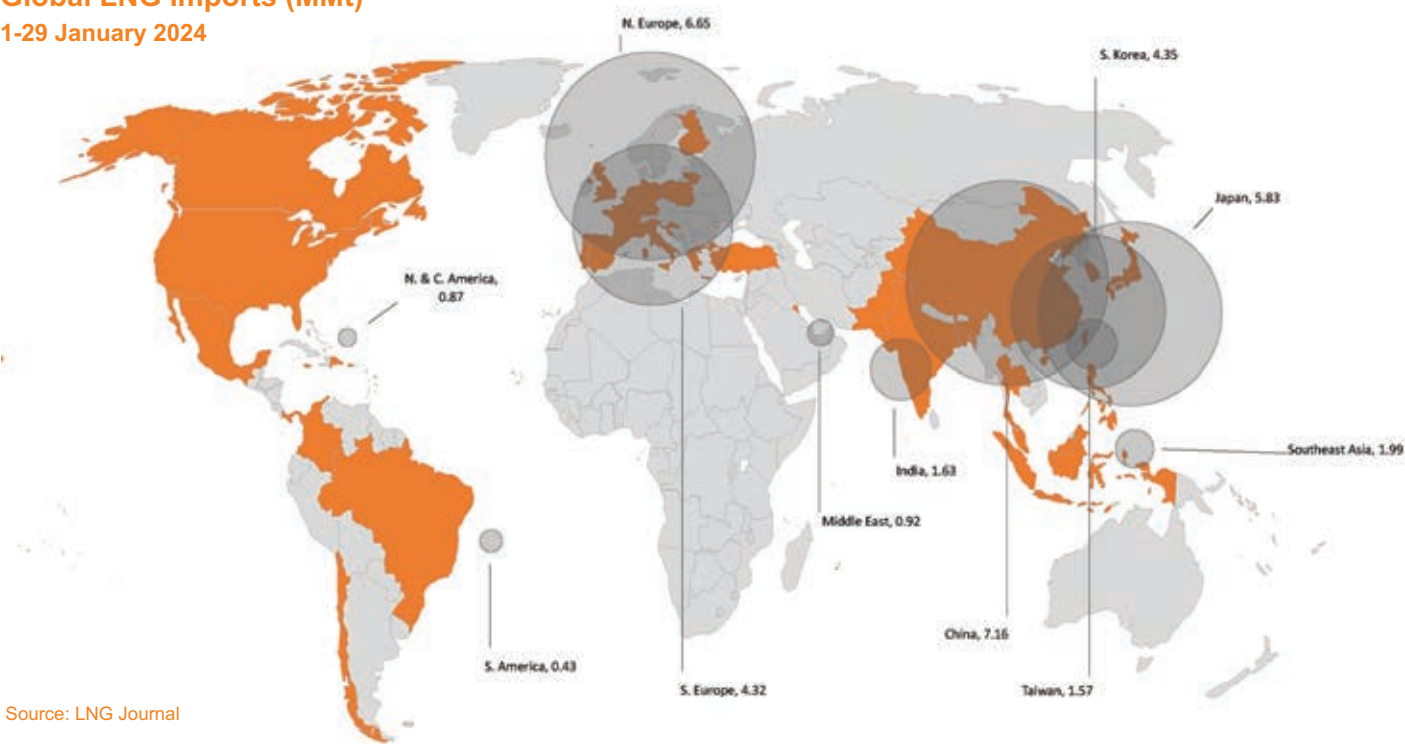
Surpassing even the strong negative growth in the Pacific in volume terms, the Atlantic Basin's overall shipped LNG had decreased by 1.25mmt (-9 percent) to 12.50mmt at the time of writing from 13.75mmt in December. This translated into annualised export capacity utilisation of 71 percent for the Basin. Exports were nevertheless up by 0.48mmt (4 percent) 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 4.78mmt as of 29 January and thus constituted a slight decrease of 0.03mmt (-1 percent) from 4.81mmt on 29 December.

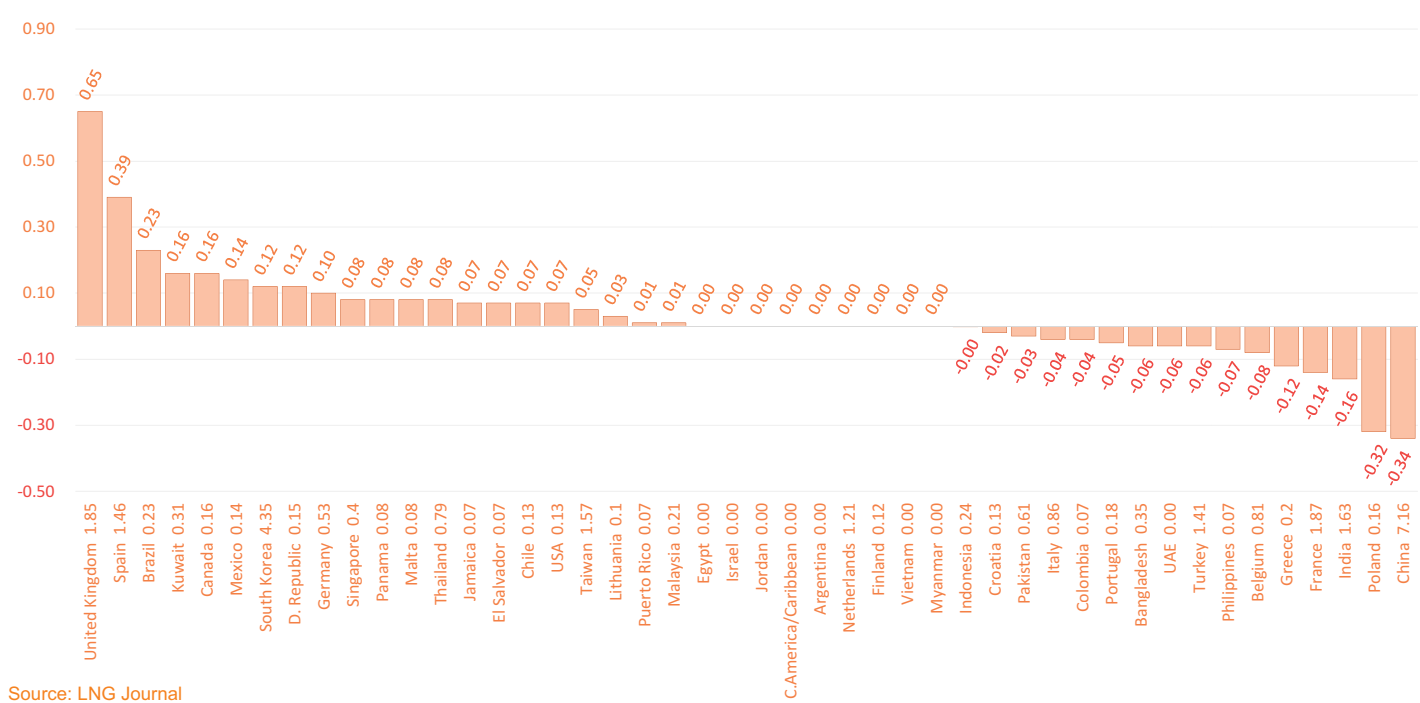
Notably, Russia's Atlantic Basin capacity saw a significant decrease in shipments of 0.21mmt (-10 percent) to 1.86mmt in January compared to 2.07mmt in December. Portovaya LNG cut exports by 0.07mmt (-50 percent) to 0.07mmt whilst Yamal LNG reduced flows by 0.14mmt (-7 percent) to 1.79mmt from 1.93mmt in December. Nevertheless, the plant still produced well above nameplate capacity.

Apart from negative growth in Russia, our data at the time of writing showed an

Global LNG Imports (MMt)
1-29 January 2024



Incremental LNG Imports by Country (MMt)
1-29 January 2024



Source: LNG Journal

export reduction in Algeria. At 0.76mmt, the country produced a decrease in shipments of 0.03mmt (-4 percent) from 0.79mmt in December. Our data shows Arzew faced a decrease of 0.08mmt (-13 percent) to 0.56mmt in shipments compared to 0.64mmt in December. This was only partially compensated by an export increase of 0.05mmt ((33 percent) to 0.20mmt at Skikda LNG. The two plants thus operated at 32 and 31 percent of annualised capacity utilisation, respectively, our data indicated as of 29 January.

Our data also showed Norway's Snohvit LNG had increased exports by 0.08mmt (28 percent) to 0.37mmt in January from 0.29mmt in December. The plant's annualised capacity utilisation rate thus stood at 106 percent at the time of writing. Norway's export growth was driven by higher demand for its LNG in Europe and the United States.

West Africa: West African LNG flows saw a boost of 0.13mmt (8 percent) to 1.79mmt as of 29 January compared to 1.66mmt in December.

Prominently, Nigeria's Bonny Island achieved a substantial increase of 0.16mmt (16 percent) to 1.16mmt from the 1.00mmt we recorded on 29 December. Cameroon FLNG also boosted exports by 0.07mmt (88 percent) to 0.15mmt from 0.08mmt. These increases were tempered, however, by an export decrease totalling 0.10mmt at EG LNG and Angola LNG. EG LNG faced a decrease of 0.04mmt (-13 percent) to 0.26mmt whilst Angola LNG had reduced exports by 0.06mmt (-21 percent) to 0.22mmt.

West Africa's December exports were led by 0.37mmt in shipments to yet to be

determined destinations within the Pacific Basin. Concurrently, however, important destinations such as China had slashed their offtakes from West African producers.

Americas: Our US LNG export data as of 29 January showed a significant decrease in shipments by 1.33mmt (-16 percent) to 6.96mmt compared to 8.29mmt in December. Freeport LNG curtailed shipments by 0.24mmt (-19 percent) to 1.05mmt from 1.29mmt whilst Sabine Pass LNG slashed exports by 0.76mmt (-26 percent) to 2.14mmt. Elba Island LNG had also reduced cargo loadings by 0.08mmt (-33 percent) to 0.16mmt alongside a reduction of 0.08mmt (-7 percent) to 1.07mmt at Corpus Christi LNG. Calcasieu Pass LNG also cut exports by 0.17mmt (-19 percent) to 0.73mmt. Only Cove Point LNG and Cameron LNG had not substantially cut their month-on-month exports at the time of writing, instead keeping shipments broadly steady at 0.44mmt and 1.37mmt, respectively.

In South America, Atlantic LNG boosted its month-on-month LNG exports by 0.11mmt (17 percent), according to our data, with shipments amounting to 0.76mm. The plant's utilisation rate thus stood at 60 percent.

Middle East

Middle Eastern LNG exports in December amounted to 7.79mmt and thus ended the month with a trade reduction of 0.55mmt (-7 percent) from 8.34mmt in December. Exports were down by 0.66mmt (-8 percent) year-on-year. Nevertheless, our data still showed the Basin's annualised utilisation of operational export capacity (i.e.,

excluding Yemen) at 100 percent at the time of writing.

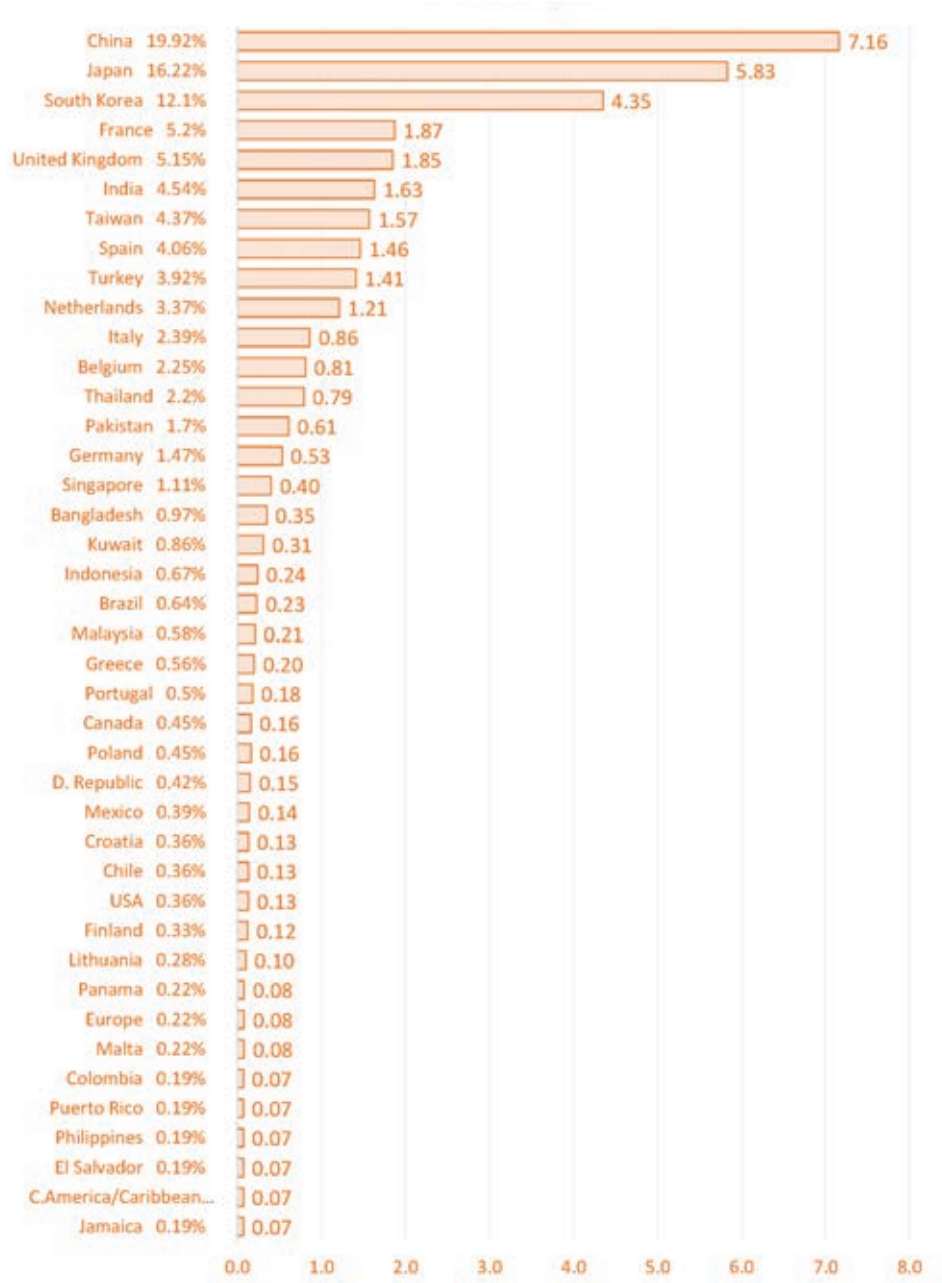
The Middle East's overall negative export growth was driven by Qatar's Ras Laffan LNG complex. Our preliminary January data indicated the facility had exported 6.35mmt at the time of writing,

a decrease of 0.25mmt (-4 percent) month-on-month. The plant's annualised capacity utilisation rate thus stood at 98 percent. Notably, Qatar's December trade decrease was significantly owed to fewer shipments to China, which were down by 0.57mmt month-on-month. In contrast, exports to Europe were up although the necessity to avoid the Suez Canal in favour of the Cape Route will have a trade reducing effect going forward.

Lower performance by Qatar was shadowed by a significant decrease in Omani LNG exports, which were down by 0.22mmt (-20 percent) to 0.86mmt at the time of writing although this still meant Oman LNG's annualised capacity utilisation rate stood at 99 percent. In the neighbouring UAE, however, Abu Dhabi's Das Island plant recorded a production increase of 0.06mmt (16 percent) to 0.43mmt compared to 0.37mmt month-on-month. The plant's annualised capacity utilisation rate thus stood at 94 percent.

Negative export growth in the Middle East also stemmed from Egypt, where

Market Share & LNG Imports by Country (MMt)
1-29 January 2024



Source: LNG Journal

Idku LNG had curtailed shipments by 0.21mmt (-72 percent) to 0.08mmt at the time of writing. The plant's annualised capacity utilisation rate thus stood at just 13 percent. However, the neighbouring Damietta LNG plant had returned to the market with a single export of 0.07mmt.

Imports & Domestic Trade

Global LNG imports as of 29 January had

increased by 0.60mmt (2 percent) to 35.87mmt compared to the 35.27mmt month-on-month. Demand growth at the time of writing had materialised in the Atlantic Basin but was tempered by reductions in the Middle East and the Pacific.

Pacific Basin

Month-on-month Pacific Basin imports

were down by 0.67mmt (-3 percent) net to 22.94mmt from 23.61mmt in December. Among larger-scale importers, Japan, China and India had decreased their offtakes by 1.16mmt (-7 percent) in total to 14.62mmt. This was only tempered by a slight demand increase totalling 0.17mmt (3 percent) to 5.92mmt in South Korea and Taiwan. Concurrently, the roster of smaller Pacific

buyers– including Thailand, Bangladesh, Singapore, Malaysia, Indonesia, the Philippines, Chile, El Salvador and Myanmar – collectively saw imports increase by 0.32mmt to 2.40mmt at the time of writing. This increase was primarily due to demand growth in Mexico and Singapore, where offtakes were up by 0.14mmt and by 0.08mmt (25 percent) to 0.40mmt, respectively. The roster's overall growth was only tempered by a decrease totalling 0.13mmt in the Philippines, Bangladesh and Indonesia. Malaysia, El Salvador, Chil and Thailand also saw imports go up by a total of 0.23mmt month-on-month at the time of writing.

Atlantic Basin

In contrast to the Pacific, LNG demand in the Atlantic Basin had increased month-on-month as of 29 January. Offtakes were up by 0.65mmt (6 percent) to 11.34mmt, with annualised utilisation of installed capacity at 44 percent.

European demand saw a net increase of 0.42mmt to 10.97mmt. Strong import growth in the United Kingdom by 0.65mmt (54 percent) to 1.85mmt in addition to increases totalling 0.60mmt in Lithuania, Malta, Germany and Spain. Together, these increases compensated for negative growth of 0.83mmt stemming mainly from other European buyers such as Poland and France.

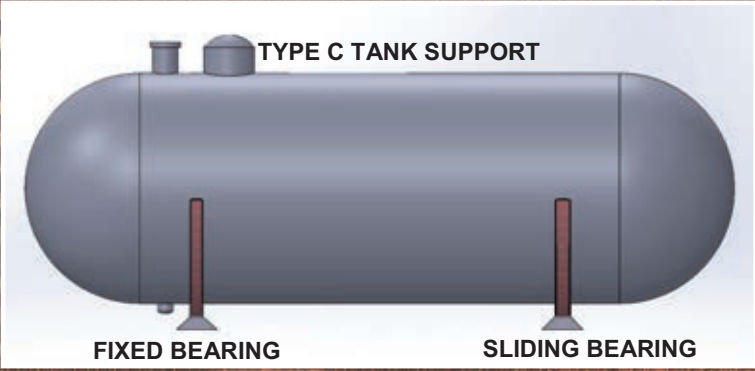
Our December data also showed a significant demand increase of 0.70mmt in the Americas. In addition to ongoing offtakes in the United States amounting to 0.07mmt, we also recorded demand of 0.16mmt in Canada. Moreover, fast month-on-month demand growth in Brazil amounting to 0.23mmt in addition to a total of 0.28mmt of additional demand in Puerto Rico, Jamaica, Panama and the Dominican Republic compensated for a reduction of 0.04mmt in Colombia.

Middle East

As of the time of writing, overall Middle Eastern LNG demand of 0.92mmt was up by 0.07mmt (8 percent) from 0.85mmt in December. Robust offtake growth of 0.16mmt (107 percent) to 0.31mmt in Kuwait compensated for the UAE's market absence and a demand reduction of 0.03mmt (-5 percent) in Pakistan. Jordan, meanwhile, did not import a cargo in January to date. The same applied to Egypt's FSRU at Ain Sokhna. As such, the Middle East's annualised import capacity utilisation stood at only 13 percent at the time of writing.







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

GBS – A Jewel in the Crown

An innovative solution to install offshore liquefaction and regasification facilities in areas that regularly experience harsh weather is gaining traction. Technology Editor Ian Cochran has more

Almost eight years ago, Oslo-based Crown LNG saw a potential gap in the LNG market and started working on a gravity based structure (GBS) solution, as the answer to offshore facilities sited in areas experiencing harsh weather.

In harsh conditions, FSRUs, or other floating units, would struggle to keep on station, while land-based structures were not deemed possible or financially viable.

Today, several prospective projects are under development, for example, in Vietnam (regasification project) and Newfoundland (liquefaction project). Preliminary design work has also started on GBS-based fully integrated CCGT power plants and GBS-based green hydrogen and green ammonia facilities.

Since 2017, Crown has been working on the installation of a GBS regasification (GBSRU) terminal at Kakinada on India's East Coast in Andhra Pradesh State. The project has received full approval from the Indian Government, allowing for a 365-day operational window.

Crown has appointed Aker Solutions as the main contractor for the concrete GBS. In turn, Siemens Energy and Wärtsilä Gas Solutions were selected as key sub-contractors to Aker Solutions - Siemens will develop the power generation and distribution system, as well as the platform control system, while Wärtsilä will be responsible for the LNG terminal's regasification units.

Under the agreement, Aker Solutions and the key sub-contractors will conclude the terminal's front-end engineering and design (FEED). Upon a final investment decision (FID), Aker Solutions will take on



A rendering of the Kakinada GBS in bad weather

the role of the project's EPCIC contractor. Crown is hoping to take FID by mid-2025.

The company also has an exclusive agreement to finance, build and lease the unit to client, KGLNG, a 100% owned subsidiary of Crown. KGLNG was awarded the license to establish the Kakinada receiving terminal.

KGLNG was also contracted to operate and manage the facility, throughout the 25-year lease period.

Kakinada's receiving and regasification terminal will be located offshore, around 19 km northeast of the port, about 11 km from the shore and will have a production capacity of around 7.2 mill tonnes per year.

Year round operation

Crown LNG said that it opted to develop the LNG terminal as a concrete GBS to sit on the seabed, as it will be able to withstand the harsh weather conditions during the Indian monsoon season, thus

enabling the terminal to operate 365-days per year.

KGLNG's license was subsequently updated to reflect Crown LNG's solution and the year round operational window.

Aker Solutions has designed and built concrete GBS in rough North Sea and Arctic waters for around 50 years and also delivered the world's first concrete LNG offshore facility - the Adriatic LNG Terminal - located off the Italian coast.

"Crown's GBS solution, is not a deepwater solution; it is more of near shore solution. Since it sits on the seabed, outside of ports, while helping to de-congest ports, it also increases operational safety, due its higher stability in comparison to the floating solutions," Crown LNG CEO, Swapan Kataria, explained.

"Essentially, Crown is bringing the tried and tested GBS technology to help the overall LNG industry to increase its ability to offer gas in areas, where it was not possible to do before.

Harsh weather GBS - advantages

Crown outlined the advantages of opting for a GBS solution.

- Continued operation in some of the worst Asian seas - storms, which are becoming longer and stronger worldwide.
- A GBS can withstand hurricane force winds.
- Current solutions cannot operate during the sub-continent's monsoon season.
- Terminals are not profitable operating at just 250 days per year.
- A unique focus on engineering solutions to allow for all year round safe operations in harsh weather.

The first GBS was installed in harsh weather conditions in the North Sea in 1974, Crown concluded.

"The Crown model is no different than many other players, who own and lease FSRUs and LNGCs. The only difference being, Crown will own, operate and lease GBSRUs and GBLNGs," he explained.

Explaining the need for another receiving terminal in India, Kataria said that six are already operating, most of which are located on the West Coast.

India's current natural gas energy mix is around 6-7% and the target is to increase this to 15% by 2030, raising imports to over 100 mill tonnes of LNG per year.

	GBS	LAND BASED	FSRU
CAPEX (US\$)	850 - 950 million	1.2 - 1.8 Billion - Will need continued dredging on East coast India, to maintain deep-water access to shore for LNG vessels - May need long Cryogenic Jetty, which will create problems for shipping and fishing traffic	400 - 700 million - Will need continued dredging on East coast India, to maintain deep-water access to shore. - May need long Cryogenic Jetty, which will create problems for shipping and fishing traffic
OPEX (US\$)	0.03 - 0.05 cents; plus 5% to 6% gas	0.05 - 0.08 cents; plus 6% to 8% gas	0.03 - 0.05 cents; plus 6% to 9% gas
Regasification Fee (US\$)	0.75 to 0.95 cents/MmBtu	0.80 to 1.15 cents/MmBtu	0.65 to 0.85 cents/MmBtu
Ancillary Costs	• No Dredging • No Jetty • No STS • Minimum Boil-off	• Dredging required • Jetty required • Minimum Boil-off	• Dredging may be required • Jetty may be required • Maximum Boil-off • STS protocol Required

Cost Comparison: GBS vs FSRU/Land Base Terminal. (Estimates based on 7.2 MTPA KGLNG Terminal requirement for Kakinada, Andhra Pradesh. Source: Crown LNG)



Crown LNG's CEO Swapan Kataria

Kataria further explained that India has been buying LNG on the spot market but with prices forecast to fall, long term contracts were the only way forward to address the country's needs.

Once Kakinada comes online, possibly by 2028, it could supply up to 10-11% of India's requirements. However, to reach the country's ultimate goal, another five terminals would still not be enough, he said.

Apart from concrete-based structures, Crown LNG is also developing FSRU projects, including a floating terminal in Scotland's River Forth to connect up with Grangemouth, which had been rumoured as the possible site for an LNG receiving terminal for a little while.

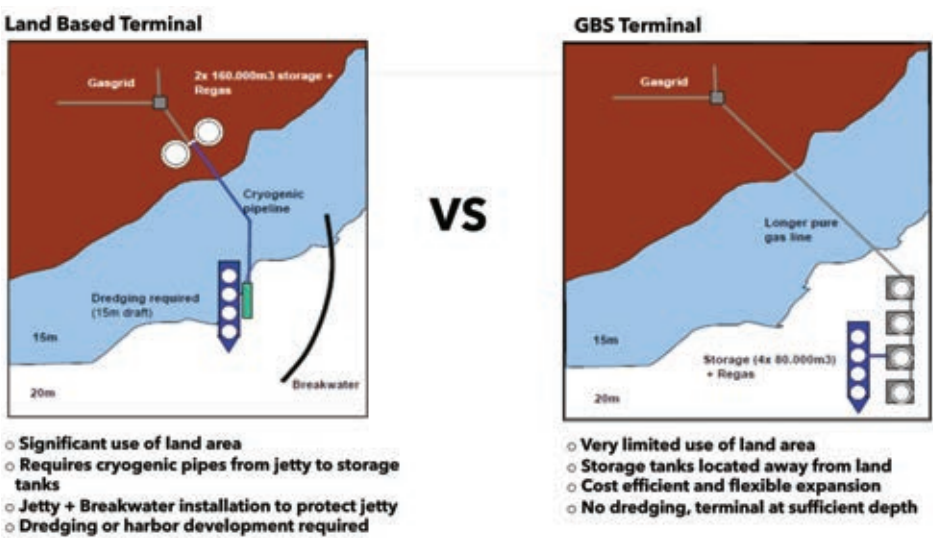
As there are draught restrictions at Grangemouth, the FSRU's could be moored further down the Forth estuary in or around the Methil area, for example.

Finance

To help raise the finance needed, Crown LNG Holdings has signed a business combination agreement with Catcha Investment Corp.

As a result, a jointly-owned company intends to list its shares on the New York Stock Exchange (NYSE) under the ticker symbol 'CGBS'. The pro-forma implied enterprise value of the combined company will be about \$685 mill.

This transaction, expected to be finalised during the first quarter of this



Comparison - GBS to land-based terminal

year, is expected to provide \$50 mill of capital, with net proceeds going to fund both the Kakinada and Grangemouth projects to their FIDs, Crown said.

Increase LNGC component lifetime with proactive spare parts' management

In the realm of LNGC operations, managing spare parts, particularly high-pressure packings, is a critical task demanding foresight and precision.

Burckhardt Compression looked at the high-pressure packing, designed specifically for Laby-GI in the LNG marine sector.

Not typically listed as a spare part, this component necessitates intricate replacement procedures, often beyond the scope of regular crew skills, requiring specialised service technicians.

The necessity for early wear detection cannot be overstated, Burckhardt stressed.

These packings, subject to wear, need replacing every 16,000 to 20,000 hours of operation. However, the process is not only time-intensive but also fraught with potential installation errors, further

underscoring the need for expert intervention.

Recent LNGC observations reveal a concerning pattern, detectable only through advanced monitoring systems.

When these packings near their service life limit, prompt replacement is essential. Yet, operational constraints often preclude timely technician deployment, leading to risky 'make-do' solutions.

The real issue surfaces when wear-induced abrasion from the packing material, typically plastic, mixes with oil and reacts with high temperatures to form a sticky substance.

This substance then accumulates in the final pressure valve, requiring

significantly higher back pressure to function — up to 400 bar, compared to the normal 300 bar.

Unfortunately, this change doesn't affect the standard control parameters, making it imperceptible to operators.

The repercussions of such overpressure are severe. The stress on both the valve and the worn packing is exacerbated, especially given that the machinery is designed for a maximum of 350 bar.

This situation creates a detrimental cycle of increasing wear and pressure.

To mitigate these risks, Burckhardt Compression adopted an innovative approach.

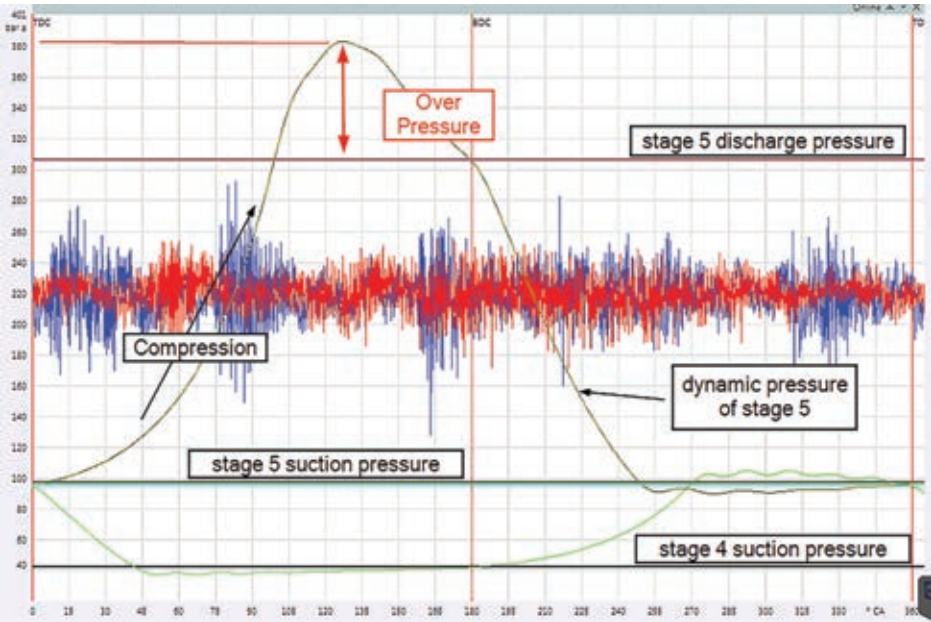
A quick, focused intervention, based on machine diagnostics, involved replacing the final pressure valve within a 60–120 minute shutdown. This procedure not

only resolved the immediate issue but also alleviated pressure on the packing, effectively breaking the wear-pressure cycle.

While this solution addresses the symptom rather than the root cause, it buys crucial time for planned maintenance, significantly increasing the likelihood of achieving it without premature machine downtime or financial loss.

The screenshot from the PROGNOST®-NT monitoring system and image of the replaced component, vividly illustrates these challenges and solutions, offering valuable insights into effective LNGC component spare parts management, the company said.

PROGNOST is a wholly-owned subsidiary of Burckhardt Compression.



PROGNOST Systems' NT graphic



Valve 16-9 viewed by PROGNOST Systems

LNG tank design facilitates fuelling integration

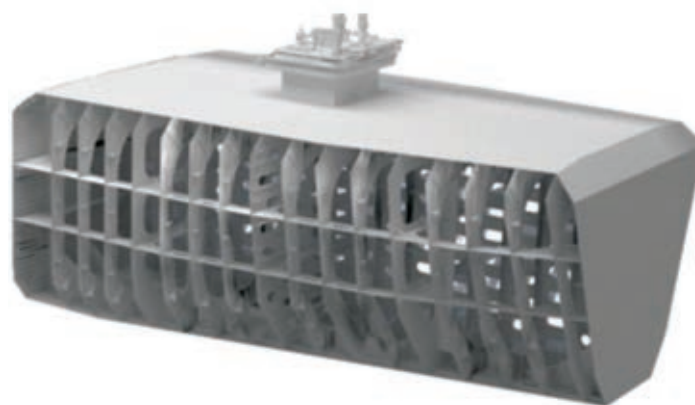
LNG is frequently cited as a solution in providing cleaner and more sustainable fuel but the reality for many operators is that switching fuel is prohibitively expensive. Typically, a switch to LNG has meant major investment in new vessels or costly and difficult retrofitting but a range of new innovations now aim to simplify the construction process for shipbuilders, broadening the pathways for firms seeking to transition to LNG. Fuelling Editor Malcolm Ramsay has more.

An example of this approach is the Fuel-BOX system, developed by Singapore-based developer LNT Marine, which offers a comprehensive containment system for LNG-fuelled vessel. Featuring a semi-pressurized prismatic fuel tank, this solution builds on the core principles of the firm's successful A-BOX containment system and can be modified and optimized to meet individual vessel requirements.

"With flexible shape and high-volume utilization, the system is considered an attractive solution for large scale LNG and/or ammonia fuel tanks," Kjetil Sjølie Strand, CEO of LNT Marine tells *LNG Journal*. "Type A tanks offers lower weight and costs than type B and C tanks. In addition, the self-supporting tank with internal structure is not prone to sloshing and can operate at any filling level without an extra strengthening – different than certain other containment system technologies."

The semi-pressurized nature of the tank, coupled with a low BOR, provides operational flexibility and extends the holding time compared to atmospheric tank designs. This means that the system not only offers enhanced efficiency but also allows for prolonged periods between refuelling, contributing to improved operational feasibility for ocean-going vessels.

"In addition, as the only tank system with all insulation outside of the secondary barrier, there is no compatibility issues with ammonia," Strand adds. "The technology has been tested and approved for ammonia applications, and can even be made as an



Fuel box design

ammonia ready LNG tank, i.e. a tank that can carry LNG now and ammonia whenever this becomes available."

Designed with a Limit State Design approach in accordance with the IMO IGC standards, the technology has earned Approval in Principle (AiP) from the American Bureau of Shipping (ABS) class and UK classification society Lloyd's Register, further validating its compliance and safety measures within the industry.

"The unique arrangement with a cold interbarrier space offers safety advantages as a potential leak would not generate rapid vaporization and offers a more manageable vent handling requirement – which is key for the adoption of ammonia as fuel," Strand notes.

Established as a merger between LNG New Technologies and MGI Thermo in 2017, LNT Marine can trace its origins back to Norwegian shipping pioneer Drammen Slip & Verksted in the 1960's. This firm was a niche player in refrigerated cargo ships and built in total 45 reefers and freezer vessels, building unrivalled



LNT Fuel-Box

experience in marine insulation systems.

Simplifying design

The success of the Fuel-BOX technology is based on LNT's A-BOX design which uses IMO type A tanks as the primary tank/barrier, allowing shipbuilders to benefit from one of the simplest designs in the IMO IGC code. Constructed primarily of flat surfaces and aluminium, the system is a cost-efficient solution and can offer expanded capability thanks to the surrounding insulated cargo hold with a full secondary barrier.

"The insulation and secondary barrier in the LNT A-BOX is based on a proven panel system which is light, flexible and easy to install," Kjetil Sjølie Strand, CEO of LNT Marine tells *LNG Journal*. "Moreover, this design offers reasonable cost levels and enables more shipyards to build LNG carriers, which in turn offers more building capacity and competition which further drives down costs."

Last year, LNT signed a framework agreement with Singaporean conglomerate Keppel to provide access to its A-BOX technology for construction of new vessels. Having converted one vessel already, LNT Marine is now forecasting a strong uptick in deployment in 2024.

"As this solution enables more shipyards to build LNG carriers, we are now in a position to offer the sector more capacity, competition and flexibility in the field of LNG shipbuilding, which we believe is in the interest of the entire LNG industry," Strand, says.

Slosh mitigation

One key advantage of the A-Box system is the ability to mitigate sloshing and,

coupled with full visual condition monitoring of all barriers, this ensures the system can continue operating in a robust set of conditions.

"As an independent self-supporting tank, the type A tank has internal structure for strength purposes which is also acting as swash bulkheads and mitigating any sloshing loads on the tank," Strand explains. "Since the cargo tank is supported by a cargo tank support system transferring all static and dynamic loads to the hull structure, whilst the insulation system is fitted on the hull compartment plating, there is not compression loads on the insulation system."

As a result of these design features, the insulation surrounding the fuel cargo does not need reinforcements for compressive strength but can instead be optimized for thermal performance. As a result, the design can utilise low density PU foam which offers the lowest thermal conductivity, and achieve market leading boil-off rates (BOR).

"Since the insulation system with secondary barrier is not fitted directly on the tank, but on the hull side of the compartment there is an interbarrier space between the tank and the secondary barrier. When ventilated and warmed-up, this interbarrier space is accessible and offers full access to visual inspection and condition monitoring of the tank, secondary barrier and tank support system," Strand adds.

The firm has also partnered with ship design firm SDARI and classification society ABS to conduct comprehensive technical assessment and robustness analysis, including detailed FE analysis and fatigue assessment. ■



Artist's rendition of LNG A-BOX vessel

For the Record

AES Corp. of the US has closed sell-downs of minority stakes in its liquefied natural gas and power businesses in the Dominican Republic and its AES Colón business in Panama for proceeds of \$338 million.

“This includes the transactions announced in September for proceeds of \$179M after purchase price adjustments at closing, as well as sell-downs of additional stakes in the businesses through the expansion of existing partnerships with Grupo Estrella and Grupo Popular's subsidiary, AFI Popular, through one of its closed-end funds for \$159M,” said a statement.

Under these deals AES sold 20 percent of its businesses in the Dominican Republic and 35 percent of AES Colón in Panama.

The AES assets in the Dominican Republic include an LNG regasification terminal with a 160,000 cubic metres capacity storage tank.

They also include the AES Andres 319 megawatts combined-cycle gas-fired power plant, the DPP 328 MW CCGT power plant as well as an additional 150 MW of solar and wind power plants.

The AES Colón assets comprise a 381MW CCGT plant with an adjacent regasification facility that has an LNG storage tank with capacity of 180,000 cubic metres.

AES, which is based in Arlington, Virginia, and is listed on the New York Stock Exchange, said it would continue operating its businesses in the Dominican Republic and Panama with remaining ownership interests of 65 percent in each business.

“We are very pleased to announce the closing of these transactions and to continue the great progress on our expanded and accelerated asset sale proceeds target,” said Stephen Coughlin, AES Executive Vice President and Chief Financial Officer.

“These transactions include the closing of the two previously announced sell-downs, as well as the sale of an additional 10 percent in the Dominican Republic and an additional 15 percent of AES Colón in Panama,” Coughlin added.

The deals that were closed included

the sale of 20 percent of AES's businesses in the Dominican Republic with 10 percent going to Grupo Popular's subsidiary, AFI Popular, through one of its closed-end funds.

A further 5 percent was bought by Grupo Linda and 5 percent has gone to Grupo Estrella.

The sales of 35 percent of AES Colón included 20 percent to Grupo Linda and 15 percent to Grupo Estrella.

Since its third quarter 2023 earnings in November, AES has also announced the signing of an agreement to sell its Mong Duong 2 coal facility in Vietnam.

It has additionally sold down its stake in Fluence, a products and services company of Germany's Siemens, from 33 percent to 29 percent, effectively monetizing 12 percent of its stake for proceeds of \$160M.

ASIAN liquefied natural gas demand is projected to increase in 2024 led by China even amid competition facing gas-fired power from electricity generated in the region by coal and with more pipeline gas heading for the Chinese border from Russia.

“Despite anticipated growth in LNG demand, incremental demand in 2024 may be limited due to gas-on-gas competition and stable coal supplies amid uncertain demand for industrial energy,” said a report entitled “Asia-Pacific Gas and LNG” from UK-based energy consultants Wood Mackenzie.

The report said the forecast for the coming year, following a “mixed bag” last year of Asia-Pacific gas markets, would see demand growing in 2024 by 5 percent, or 12 million tonnes.

“While softening LNG prices supported demand, economic headwinds, fiercer inter-fuel competitions and a mild winter at the beginning of the year hindered the strength of the recovery,” said Miaoru Huang, Research Director of Asia-Pacific Gas and LNG at Wood Mackenzie.

“Geopolitical events and near-term price volatility added to the challenges faced by policymakers in balancing energy security, energy equity and environmental sustainability,” her report added.

“As we move into 2024, the role of gas in the region will be shaped significantly,” Huang stated.

Contractual rights, for example, are likely to be “under the microscope” in the months ahead.

There was increased supply contract activity from Asian buyers last year who

signed up for 32 million tonnes per annum.

“Chinese buyers have increased contracted term volumes in their portfolio and are comfortable with limited spot exposure for 2024,” said the report.

“Some Chinese players are expected to continue negotiations with LNG suppliers, aiming to build a flexible portfolio to generate trading profits as they build teams across trading hubs in London and Singapore and compete in international markets with IOCs and traders,” explained Huang in her report.

The report said that as spot prices remained volatile, industry players would closely monitor price arbitrage between spot prices and long-term contracts (Brent-linked) on individual cargoes to maximize short-term profits.

“This may lead to an increase in the number of disputes between buyers and sellers in 2024,” the report warned.

The current under-utilisation of regasification and import terminals and shipping transit risks via the Panama Canal and the Suez Canal will remain important issues.

While record regasification capacity additions will position Asia in 2024 for future LNG demand growth there is expected to be a regas gap as LNG demand growth lags capacity expansion.

“China alone will add over 50 MTPA of regas capacity in 2024. That includes Chinese inland waterway terminals, which will be the first of their kind,” stated Huang.

“More regas terminals in northern China may adopt bonded storage and transfer businesses to mitigate the financial risks due to predicted low usage,” she added.

“The Asia Pacific region is expected to add 75 MTPA of regasification capacity by 2024, which may result in the highest level of under-utilisation on average in 10 years,” the report stated.

The report also noted that in Singapore, energy security concerns have led to a retreat from market liberalisation.

“A new single buyer for the power sector will be introduced in 2024, resulting in a major change in Singapore's LNG contracting and competitive landscape,” the report said.

However, energy security concerns were not stalling market liberalisation progress everywhere.

“In Malaysia and South Korea, decisions on regulated pricing and commissioning new independent regas

infrastructure will open more opportunities for third-party participation next year,” the report said.

“With key elections in 2024, approvals and decision-making in the Asia-Pacific region are expected to be slow, and significant changes in policy direction will be limited until new regimes come into office,” it stated.

“We expect LNG demand to continue recovering, with investments in infrastructure and new supply moving forward. The stage is also set for carbon-capture and storage developments. Additionally, several regional markets will see elections this year, which could have long-lasting impacts on gas markets,” Huang concluded.

AUSTRALIAN company Melbana Energy, which began production testing in October at its Alameda oil field offshore the north coast of Cuba, has delivered first oil from early production testing and was upbeat on future prospects for the Cuban production sharing contract held by operator Melbana in partnership with Sonangol, the national energy company of African LNG producer Angola.

Cuba's Block 9 PSC is 30-percent owned by Melbana as the operator and the 70 percent balance is held by Sonangol.

Melbana was awarded a 100 percent participating interest in the Block 9 PSC in September 2015 and in May 2020, Melbana agreed to transfer a 70 percent interest in Block 9 to Sonangol in consideration for it funding 85 percent of two exploration wells there.

Melbana shares were quote on the Australian Securities Exchange on January 23 at A\$0.069 per share, valuing the company at A\$249 million (US\$164M).

Analysts said that the shares have failed to take-off substantially because of Melbana's low stake in the PSC and uncertainty among investors over future extraction and marketing of the oil in communist Cuba.

Angola, whose LNG export plant has US major Chevron Corp. as its biggest shareholder, has always maintained close relations with Cuba which based military forces in the African nation during the Cold War into the 1980s.

Melbana's latest quarterly activities report, signed by Andrew Purcell, Executive Chairman of Melbana, and by Chris McKeown, Chief Commercial Officer, gave an expert overview of current oil activities offshore Cuba.

Purcell has previously said that he

believed that a future Cuban crude oil price would be more than 75 percent of the current West Texas Intermediate US crude benchmark.

Melbana, based in Sydney, said that oil production was run on a test basis to acquire data on reservoir and logistics performance.

“Early production from Alameda-2 was completed in the quarter. Production testing was then run for a total of 10 days, twice the total duration of the drill stem test conducted in this unit previously, resulting in 20 tanker loads of oil being produced and delivered to offsite storage,” explained Melbana.

“The flow peaked at 1,183 barrels of oil per day and was intentionally choked back to ensure a constant rate for the test period to optimise the collection of reservoir data,” the report said.

“The extended period of production also provided important performance data on logistical arrangements for the transport and storage of the oil produced,” Melbana’s report added.

“The conclusions drawn from this analysis have been important factors in the refinement of the development plan, including well design and spacing for this upper sheet reservoir,” it added.

“Prior to incorporating the results from Alameda-2 the three units of the Amistad reservoir had previously been independently assessed to contain 1.9 billion barrels of oil in place and 88 million barrels of prospective resources,” Melbana stated.

Melbana explained that the well was then shut in to monitor pressure build-up and to complete data acquisition for reservoir modelling and field development planning.

The company said that the primary objectives were the appraisal of the two deeper and geologically independent Alameda and Marti reservoirs discovered by Melbana’s Alameda-1 exploration well in 2022.

Melbana also has assets in Australia that are 100 percent owned and located offshore northern Australia in the Joseph Bonaparte Gulf.

Petroleum exploration permits NT/P87 and WA-544-P were granted to Melbana in November 2020. The primary term was for three years ending in November 2023.

“During the quarter the company submitted an 18-month suspension and extension application to the National Offshore Petroleum Titles Administration (NOPTA). The application is currently under review by NOPTA,” it added.

During the quarter Melbana said that it continued with a process to farm-out some of its 100 percent interest in the permit areas to fund the acquisition of a 3D seismic survey to further de-risk the Australian prospect.

BAKER HUGHES, the US liquefied natural gas equipment-maker and energy services company, swung to an annual profit compared with a previous loss as quarterly income also rose along with revenues amid an operational overhaul and among the orders booked was one for LNG from the United Arab Emirates.

Baker Hughes, which has main offices in Houston and London, has two divisions, Industrial & Energy Technology (IET), including LNG, and the Oilfield Services & Equipment (OFSE) unit.

“As we continue our journey, 2023 proved to be a pivotal year for Baker Hughes. We successfully removed \$150 million of costs, realigned our Industrial & Energy Technology (IET) segment, and recently launched actions to further streamline our Oilfield Services & Equipment segment (OFSE),” said Lorenzo Simonelli, Baker Hughes Chairman and Chief Executive.

“Our strategy to transform the way we operate is working. In 2023, our adjusted EBITDA was up double digits for the third consecutive year and exceeded prior cycle’s peak levels by 25 percent,” added Simonelli.

“IET orders remained strong, exceeding \$3Bln for the fifth consecutive quarter. Additionally, we were awarded more than \$1Bln of contractual service agreements (CSA), while we booked the previously announced 9.6 million tonnes per annum Ruwais LNG project in the UAE,” the CEO explained.

“In OFSE, we continue to demonstrate solid margin improvement, with segment EBITDA margin increasing to 17.9 percent and Oilfield Services EBITDA margins now exceeding 20 percent - both record margins,” Simonelli said.

Fourth-quarter net income jumped to \$439M compared with \$182M in the same three months of 2022, though was 15 percent down versus the \$518M logged in the previous quarter to the end of September.

The Houston, Texas-based company said that quarterly revenues rose by 3 percent to \$6.83Bln compared with \$6.64Bln in the prior-year quarter.

“Baker Hughes is on its way to becoming a leaner and more efficient energy technology company. We continue

to carefully execute our plan to drive margins meaningfully higher,” Simonelli stated.

For the 12 months Baker Hughes said that net income amounted to \$1.94Bln compared with a loss of \$612M in 2022.

Orders for the year rose by 14 percent to \$30.52Bln versus \$26.77Bln for all of 2022, while 2023 operating income almost doubled to \$2.31Bln from \$1.18Bln in the previous year.

However, quarterly orders dropped year-over-year by 29 percent to \$3.03Bln versus \$4.29Bln a year ago and by 30 percent to \$4.33Bln in the previous three months.

The company explained that strong orders performance continued across IET in the fourth quarter.

“In Gas Technology Equipment, momentum continued in the offshore market. Baker Hughes was awarded an important contract by SBM Offshore to provide turbo-generators, turbo-compressors, electric motor-driven compressors, as well as commissioning spare parts, for a Floating Production, Storage and Offloading vessel (FPSO),” the company said.

“Gas Technology Equipment also secured an important contract from a consortium for one electric motor driven sour gas booster compression package, to support the development of offshore natural gas fields in the Middle East,” it added.

Baker Hughes noted that its order was booked in the fourth quarter to supply two electric liquefaction systems for the Ruwais LNG project and would make it one of the first all-electric LNG ventures in the Middle East.

“Gas Technology Services secured several orders across multiple geographies and applications, as well CSA commitments worth more than \$1 billion primarily driven by LNG and offshore projects in North America and the Middle East,” said Baker Hughes.

“Also in the quarter, Gas Technology Services secured several important upgrade orders, particularly in Europe for both refinery and gas network applications to provide operators with solutions that can enable efficiency gains and emissions reduction,” the company stated.

Quarterly highlights in the OFSE business segment was in the form of two “significant” multi-year integrated solutions contracts in Latin America for drilling, completions and plug and abandonment services.

“One contract comprises offshore exploration, while the other is for land development. The awards reflect confidence in Baker Hughes’ solutions, contributing to our strategy of strengthening the core by increasing market penetration,” the company added.

BP named Canadian Murray Auchincloss as the new Chief Executive with immediate success after he had been fulfilling the role since September 2023 in an interim basis after the surprise departure of the former CEO.

BP Chairman Helge Lund said that the board had undertaken a “thorough and highly competitive process” to identify BP’s next CEO and considered a number of high-calibre candidates in detail.

“The board is in complete agreement that Murray was the outstanding candidate and is the right leader for BP,” stated Lund.

Auchincloss was serving as Chief Financial Officer in September 2023 when the existing Ireland-born CEO, Bernard Looney, notified the company that he had resigned with immediate effect because of personal relationship issues within BP.

Auchincloss was appointed CFO in July 2020 at which time he also joined BP’s board. He had previously served as deputy CFO and head of business development for BP’s Upstream division.

From 2010 to 2013 Auchincloss was head of the BP group’s chief executive office working directly with then CEO Bob Dudley.

Auchincloss, 53, joined BP in 1992 from Amoco Canada after financial and planning roles in Canada and the US.

His early career included periods as commercial director for BP’s Onshore North America business and CFO for BP’s North Sea business.

He has a degree in finance from the University of Calgary and is a Chartered Financial Analyst.

The BP statement said that Auchincloss’s remuneration arrangements would include an annual salary of £1.45 million (\$1.85M).

“It’s an honour to lead BP. This is a great company with great people. Our strategy - from international oil company to integrated energy company - does not change. I’m convinced about the significant value we can create,” said Auchincloss.

“Now, more than ever, our focus must remain on delivery - operating safely and

efficiently, executing with discipline and always focusing on returns,” said the now permanent CEO.

“This is how we will deliver real benefits for our customers and other stakeholders and continue to grow long-term value for BP’s shareholders,” he added.

BW GROUP of Singapore with LNG and shipping interests and led by Andreas Sohmen-Pao has shuffled shareholdings by acquiring a bigger stake in BW Energy with a purchase of shares in the energy unit from another affiliate BW Offshore.

BW Offshore has entered into an agreement with the BW Group to sell all of its shares in BW Energy.

BW Energy, the group's oil and gas affiliate, is focused on the development and production of oil and natural gas field from licences held in Gabon and Namibia in West Africa and in Brazil.

BW Group is involved with 15 subsidiaries or more and operates in the spheres of a publicly-listed company and a privately-held corporation at group level and through its number of businesses listed on various exchanges or jurisdictions including the Oslo stock exchange in Norway.

Sohmen-Pao is Chairman of BW Group and the listed affiliates include BW Offshore, BW Energy, Hafnia, BW Epic Kosan and Cadeler.

Other BW Group companies include BW LNG, BW Dry Cargo, BW LPG, BW Water, BW Solar and BW Digital.

A statement said that BW Offshore would sell all of its stake in BW Energy at a price of 32 Norwegian crowns per share for a total 1.86 billion crowns (\$177 million) when completed.

The BW Offshore company has a fleet of about a dozen Floating Production Storage and Offloading (FPSO) units with potential for growth and will now concentrate on its main business.

BW Offshore is led by Chief Executive Marco Beenen and has its main offices in Singapore and Oslo.

A BW Group statement said that the share-shuffling decision was taken by the independent directors of BW Offshore after assessing the company’s strategy and other relevant factors, including external valuation advice.

BW Offshore had previously said that it did not consider the shareholding in BW Energy to be a long-term strategic investment.

“We are pleased to have obtained a

price for BW Energy that is close to the highest that the shares have historically traded, which became possible following the outcome of BW Group’s mandatory offer resulting in BW Group holding approximately 52 percent of BW Energy,” explained BW Offshore CEO Beenen.

“This transaction strengthens our balance sheet and allows the continuation of a sustainable dividend that can potentially grow over time,” Beenen added.

BW Group Chairman Sohmen-Pao said that under BW Offshore’s current dividend policy, it would have taken over seven years to distribute BW Offshore’s stake in BW Energy.

“This transaction clears a significant overhang on BW Energy shares and we look forward to continued efforts to build the company and unlock shareholder value,” Sohmen-Pao added.

BW Group said that completion of the transaction was expected to occur on or around January 25.

CANADA’S Ksi Lisims LNG Partnership, a development joint venture of the Nisga’a Nation, Rockies LNG and Western LNG LLC for a floating liquefaction and export plant near the port of Prince Rupert in British Columbia, has signed a 20-year sale and purchase agreement with the Shell subsidiary, Shell Eastern Trading.

Under the SPA, Shell will purchase 2 million tonnes of LNG per annum from the Ksi Lisims project on a free-on-board basis in what is the first LNG offtake agreement executed by the Ksi Lisims venture.

The Ksi Lisims FLNG platform will receive feed gas from the prolific shale-gas basin of northeast BC. The venture proposes to produce 12 MTPA at Wil Milit, located north of Prince Rupert and near the Nisga’a tribal village of Gingolx.

Ksi Lisims LNG’s governance structure provides each project proponent, the Nisga’a Nation, Rockies LNG and Western LNG, with input into project development, management and operations.

“The Ksi Lisims LNG project is an innovative development for North America” said Davis Thames, President and CEO of Western.

The project will use a floating production units built by Samsung Heavy Industries and an all-electric process technology developed by Black & Veatch.

“The strong fundamentals of our project have earned the confidence of some of the most established companies in the LNG industry. We look forward to

continuing to work with Shell and our other customers as we move toward reaching a final investment decision,” Thames stated.

“Ksi Lisims LNG will play an important role in the long-term economic growth of the Nisga’a Nation and other nations with which we work and we remain committed to being good partners with them,” he explained.

Thames noted that the work with the Nisga’a Nation and Rockies LNG had produced a “unique value proposition” for customers.

Steve Hill, Executive Vice President of Shell Energy, said that LNG was a critical pillar of global energy security and global demand is set to increase in the years to come.

“We are pleased to sign this agreement with Ksi Lisims LNG which will help Shell to continue providing diverse and flexible LNG supply to its customers,” Hill stated.

Eva Clayton, president of the Nisga’a Lisims Government said her people had been striving to grow economic opportunities.

“Ksi Lisims LNG is the cornerstone of a brighter future for our people. As the project continues to pick up momentum, evidenced by this agreement with Shell, the Nisga’a people are now able to envision the opportunity and prosperity that Ksi Lisims LNG will bring,” Clayton declared.

Ksi Lisims LNG said it was represented by international law firm Baker Botts LLP in the drafting and negotiation of the SPA.

“We’re proud to be working to deliver the world’s cleanest natural gas to markets that need it most,” said Charlotte Raggett, President and CEO of Rockies LNG.

“Canada is an ideal global energy supplier, producing the world’s most responsible and lowest-emission natural gas at the shortest distance from Asia in the Americas,” she added.

Ksi Lisims LNG, meaning “from the Nass River” in the Nisga’a language, will be specifically sited on Nisga’a Nation-owned land on the northern tip of Pearse Island.

It will be powered by renewable hydro-electric generation and will likely have FLNG facilities for production and storage facilities.

Ksi Lisims LNG filed an application with the BC government for an environmental certificate on October 16, 2023.

CHART Industries Inc., the US equipment-maker for the liquefied natural gas and other clean energy and industrial gas markets, said it and recently received a series of LNG orders from the US and overseas.

The orders include one for Chart’s Integrated Pre-Cooled Single Mixed Refrigerant (IPSMR)® liquefaction technology for two modular Trains of a multi-Train international project not previously mentioned in the order list of the Atlanta-based company.

A second order was awarded for IPSMR liquefaction technology for a mid-scale plant in the Asia-Pacific region and a third was for a North American small-scale LNG venture including nitrogen-cycle technology and associated equipment.

“There were various other LNG infrastructure-related orders, including tanks, fuelling stations in Europe and for Morocco’s first LNG regasification units,” Chart explained.

The company was additionally awarded repair and service work at a Middle East LNG project.

“As anticipated, we continue to see strong market and award activity across the four pillars of our LNG strategy, including ‘Big LNG’, small-scale and floating LNG, infrastructure and service & repair,” stated Jill Evanko, Chart’s Chief Executive and President.

“Not only do our recent orders cover all four LNG categories, but they include commercial synergy wins with both Chart and Howden content,” said the Chart CEO in reference to its UK acquisition completed in 2022.

“Further, our LNG commercial pipeline remains strong as we see a clear shift in customers’ preference for our modular solution which drives multiple awards across many years as projects are developed,” Evanko added.

Chart recently posted solid third-quarter results including record operating income and backlog of orders.

The company’s earnings performance was also helped by its acquisition of UK engineering group Howden for cash and shares at a purchase price of \$4.4 billion a year ago.

After buying Howden there were complementary additions to the offering including highly engineered fans, compressors, rotary heat exchangers, steam turbines and other air and gas-handling products.

Chart’s LNG processing technology is a market leader and adds to its highly

engineered equipment for small to industrial-scale LNG and other plants such as air-cooled heat exchangers, brazed aluminum heat exchangers and ethylene storage tanks.

CLEAN ENERGY Fuels Corp., the California-based supplier of liquefied natural gas made from waste and with about 590 filling stations across the US and Canada backed by UK major BP, has created a new renewable natural gas production facility at Lake Norden in South Dakota.

The 6,500-cow dairy farm is expected to supply 1.66 million gallons of negative carbon-intensity RNG annually to the transportation market when at full capacity.

Growing output comes as Clean Energy has expanded its portfolio of supply and maintenance agreements for trucking fleets, city buses and refuse trucks across North America.

The Nasdaq-listed company whose headquarters are in Newport Beach, California, has developed the Redeem brand of LNG and compressed natural gas fuel made from waste and called renewable natural gas (RNG).

Construction of the \$38 million RNG digester project was completed in early-December 2023 and injection into the interstate natural gas pipeline system of the RNG began within weeks.

“The RNG produced at Drumgoon farm in the stated will be virtually stored until all pathways for federal and state environmental credits are approved, and a carbon-intensity score is assigned to the RNG, expected in the first half of 2024,” explained Clean Energy.

Clay Corbus, Senior Vice President of renewables at Clean Energy, the completion of the South Dakota projects will be followed by several others that are “right behind it” to make a contribution to controlling greenhouse-gas emissions.

“Being a multi-generational operation, Drumgoon’s owners are always thinking about the future, whether it’s bringing in the latest technology to better track and monitor their cows, or transforming their herd to antibiotic-free,” added Corbus.

“Adding a RNG digester that captures the methane produced by Drumgoon’s cows and turning it into a clean fuel is the ultimate recycling project,” Corbus stated.

“The Drumgoon Dairy RNG project was financed through Clean Energy’s joint venture with BP, developed with Dynamic Renewables, and is one of several RNG projects the three companies

have partnered to build at dairies in the Midwest,” he said.

The company said the all the RNG produced at Drumgoon would be available at Clean Energy’s fuelling station. Network.

Clean Energy sales of RNG into the transportation market for the first nine months of 2023 grew 17 percent over the same period of 2022, and with customers such as UPS, Republic Services, LA Metro, Knight Swift, Amazon and others, the demand for ultra-clean fuel is expected to continue to expand.

The company noted that agriculture accounts for nearly 10 percent of US GHG emissions and the transportation sector accounts for another 28 percent, according to the US Environmental Protection Agency.

ENAGAS, the Spanish natural gas operator of six large LNG terminals and with gas assets in other European countries, has successfully sold €600 million of bonds as it also allocated half of its available regasification capacity for the next 15 years.

The Enagás 10-year bonds will mature in 2034 and have an annual coupon of 3.625 percent.

The bonds had five-times more offers to buy than the issuance required.

“Although the company does not have relevant maturities until the end of the year, it has taken advantage of the good market conditions at the beginning of the year to carry out this issue, extend the average life of its debt and thus have part of the upcoming maturities covered,” the Madrid-based company explained.

“The success of the placement, both in term and in financing cost, contributes to improving the good financial situation of the company, which has diversified financing sources,” it added.

Spain’s Enagas said that its recent LNG allocation represented nearly all of the slots it had offered to date, reinforcing Spain’s status as key hub for LNG imports in Europe.

The prominence of the Spanish in the LNG sector is further highlighted by the fact that its regasification terminals accounted for almost one-third of LNG storage in Europe as of mid-January 2024.

Enagás also started up the El Musel LNG trans-shipment terminal in 2023 in the Port of Gijón in northwest Spain to supply other EU nations and assigned its logistics services to the European utility Endesa.

The grid company 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.

Spain’s storage levels are still at around 85 percent filled and the LNG is supplemented by pipeline gas supplies from Algeria.

Enagás in July 2023 closed an agreement to acquire an additional 4 percent stake in the Trans-Adriatic Pipeline (TAP), taking its stake in the pipeline bringing Azerbaijan gas to Europe up to 20 percent.

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

GAIL (India) Ltd, the shareholder in Petronet LNG and the operator of the Dabhol import terminal in the West Coast state of Maharashtra, signed a long-term supply deal with global commodities firm Vitol.

The agreement was between GAIL and Vitol Asia Pte Ltd for 1 million tonnes per annum of LNG for a period of about 10 years from 2026.

Under this deal, Vitol would deliver LNG from its global portfolio to GAIL in India on a pan-India basis.

“This long-term LNG deal with Vitol will augment its large LNG portfolio and contribute to bridging India’s demand and supply gap of natural gas,” said GAIL Chairman and Managing Director Sandeep Kumar Gupta.

Vitol Chief Executive Russell Hardy said he was pleased to build on the existing relationship between Vitol and GAIL.

“India is a significant and growing LNG market and we are excited to bring LNG supply from our global LNG portfolio to meet this rising natural gas demand in India,” Hardy stated.

GAIL’s Director of Marketing, Sanjay Kumar, spoke on the occasion of the signing of the Vitol supply deal in Singapore, and explained that GAIL was meeting rising demand in India.

“India is getting consolidated and this LNG tie-up is part of the multiple negotiations which GAIL has been

carrying on with various LNG suppliers for long-term deals,” Kumar explained.

GAIL is a leading natural gas company with a presence in India’s gas trading, transmission, city-gas and other sectors including petrochemicals.

The New Delhi-based company currently has a 75 percent share of the gas transmission network. Its pipeline assets are 14,490 kilometres (9,000 miles) in length and GAIL makes about 50 percent of the country’s domestic natural gas sales.

GAIL has six subsidiaries including GAIL Global USA Inc., which looks after its Cove Point LNG interests in the state of Maryland.

The company also runs an LNG trading business based in Singapore.

Other assets include a majority stake in Konkan LNG, the ownership company of India’s Dabhol LNG import terminal, located south of Mumbai and with 5 MTPA of capacity.

Vitol has a global LNG portfolio with long-term supply from North America, Africa, Middle East and Asia as well as a fleet of LNG vessels to help deliver the firm’s more than 14 MTPA of available cargoes.

GASTRADE said a cooperation agreement has been signed between key natural gas infrastructure owners from Greece, the Balkans and Central Europe including Gastrade itself as the developer of the Alexandroupolis floating LNG import terminal for Greece and the Balkans.

The memorandum of understanding was signed in the framework of a meeting just held in Athens of the 27-nation European Union’s Central and South Eastern Europe Energy Connectivity (CESEC) programme to accelerate the integration of gas and electricity markets in the region.

Gastrade’s presence at the event coincided with the completion of the conversion of the conventional LNG carrier “GasLog Chelsea” into a floating storage and regasification unit with various additions and with the vessel handed over after testing.

The LNG FSRU will be stationed in the Sea of Thrace in the northeast part of the Aegean and about 17.6 kilometres (11 miles) from the coastal Greek town of Alexandroupolis.

Gastrade said that the MoU sealed the cooperation already taking place among gas and LNG transmission system operators like Greece’s National Natural

Gas System Operator SA (DESFA), Bulgaria's (ICGB, Bulgartransgaz), Romania's (Transgaz), Hungary's (FGSZ) and Slovakia's (EUStream).

"The full activation of the Vertical Corridor, through the appropriate upgrading of the networks of the involved nations will allow the transport of gas from the South to North and vice versa, through European natural gas and LNG suppliers and transmission system operators (TSOs), leveraging the enhanced capabilities of Gastrade's new LNG Terminal in Alexandroupolis which is expected to reach commercial operations soon," said a statement.

"The operators who signed the MoU expressed their commitment to promote projects of common interest in the region, jointly or individually, and at the same time to support each other in securing funding from the EU and elsewhere," the statement added.

"They also agree to seek, where appropriate, the facilitation and guidance of the European Commission," it said.

Konstantinos Sifnaios, the Managing Director of Gastrade, also noted that the signing of the MoU also included the TSOs of Moldova and Ukraine and was a "significant step" to strengthening the energy security of Central and Southeast Europe.

"Gastrade's project, the floating LNG terminal in Alexandroupolis, the first FSRU in Greece which will be operational in the next weeks, is a gateway for LNG and natural gas transmission through the Vertical Corridor," explained Sifnaios.

"Gastrade is committed to supporting this strategy of diversification and independence of energy sources and transport routes from the historical monopolies. In this effort, we welcome Slovakia, Moldova, and Ukraine with great anticipation," Sifnaios declared.

As for the next steps, the participants said they would "prioritise their coordination" according to market-based solutions and European legislation.

"In this context, they agree to carry out simultaneously, in July 2024, one year earlier than the foreseen schedule, a binding market test for capacity allocation at their respective interconnection points, according to the CAM Regulation (EU) of the European Commission," they stated.

"Then, based on user interest, they will identify and size the most appropriate and targeted capacity expansion projects needed to meet demand along the Vertical Corridor route," they added.

GASUM, the Finnish state-run natural gas company and leading Nordic LNG supplier, delivered a cargo to the floating storage regasification unit (FSRU) deployed in southern Finland to help fill a gap during the current cold spell caused by a key gas pipeline shutdown.

The cargo arrived on January 10 and was regasified from LNG before being fed into the Finnish gas pipeline grid.

Gasum said that this was the fourth large LNG cargo Gasum had delivered to the Inkoo FSRU since the Baltic-Connector gas pipeline between Finland and Estonia suffered a rupture and was shut down in early October.

While the pipeline is being repaired, all Finnish natural gas demand must be met through imports of LNG.

In addition, Gasum delivered a smaller cargo with its own LNG vessel "Coral Energy" early in January 2024 to Finland's Gasgrid operating company to ensure system balancing and mitigating the risk of inadequate gas during an "extraordinarily cold" period.

"We have been working hard to secure supply of natural gas during the winter season to our customers, whose operations depend on a steady supply of gas," said Jouni Liimatta, Head of Trading and Optimizing at Gasum.

"The cold period has increased local gas demand and thus, we are very pleased that we were able to secure the required ice-class LNG vessels for the winter season," added Liimatta.

"This transaction highlights the importance of a broad cooperation network in challenging situations," Liimatta added.

The LNG cargo was supplied by Gasum's new LNG trading partner SEFE Marketing & Trading Ltd, a subsidiary of SEFE and came from the US.

SEFE is the former German subsidiary of the Russian natural gas company Gazprom.

That Russian company, Gazprom Germania, came under German control and had its name changed to Securing Energy for Europe GmbH (SEFE).

The new SEFE company also controls Germany's largest gas storage facility.

"Thanks to SEFE's technical and logistical expertise, we can fulfil our mission even during harsh winters in Northern Europe and reliably supply the markets in Finland and neighbouring countries with LNG," said Frederic Barnaud, Chief Commercial Officer at SEFE.

In addition to this delivery, Gasum said

it had reserved another slot at the Inkoo FSRU for the latter part of the winter season.

"These two cargoes will ensure that Gasum can meet the natural gas demand of its customers until spring 2024," the Finnish company added.

INDIAN liquefied natural gas imports surged for another month by just over 12 percent and by more than 14 percent for the fiscal year so far, helped by lower prices and higher demand and despite more competition from increased output from Bay of Bengal domestic gas resources.

LNG import for the month of December came to 1.77 million tonnes, or 26 cargoes, compared with 1.58MT, or 23 cargoes, in December 2022, according to provisional data from India's Ministry of Petroleum and Natural Gas.

The LNG imports surged by around 14.3 percent for the first nine months of the fiscal year to 16.92MT compared with 14.80MT in the same period of the previous year.

The Ministry data showed that LNG cargo costs in the first nine months of the fiscal year to December cost the nation 82,310 crore Indian rupees (\$9.90Bln), which was much less than the 113,904 crore rupees (\$13.70Bln) 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 \$9.183 per million British thermal units from \$14.606 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 December jumped by 6.1 percent to 3.132 billion cubic metres versus 2.951 Bcm in December 2022.

Output of natural gas for the first nine months of the fiscal year came to 27.213 Bcm, an increase of 5.2 percent on the 25.868 Bcm logged for the same nine 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 eight months of the fiscal year from April to November.

The total capacity of existing terminals has now risen to 47.7 MTPA from 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 of 94.4 percent, near to the peak and the same as in the previous monthly data.

At the Hazira facility, operated by Shell India, the utilisation rate edged lower to 34.6percent from 39.8 percent previously for 5.2 MTPA of capacity.

The GAIL (India) terminal at Dabhol, south of Mumbai, reported a surge to 35.5 percent in throughput from the 29.0 percent eight-month average previously for 5 MTPA.

The West Coast terminal at Mundra reported a fall in utilisation to 11.6 percent from 12.5 percent for 5 MTPA.

At the Kochi facility in the southwest state of Kerala usage was stable at 19.8 percent versus 19.9 percent previously for 5 MTPA.

At the Kamarajar (Ennore) terminal on the East Coast, capacity usage increased to 17.2 percent from the 16.2 percent logged 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 the state of Odisha, the utilisation rate edged lower to 25.4 percent versus 26.6 percent for its 5 MTPA of regasification capacity.

The Ministry said that natural gas consumption for the month of December 2023 was 5.472 Bcm which was 8.9 percent higher than in December 2022.

Consumption was 9.4 percent higher at 49.540 Bcm for the nine months to December compared with 48.278 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 \$77.42 a barrel during December 2023 as against \$83.46 per

barrel during November 2023 and \$78.10 a barrel in December 2022.

The data showed that total crude oil processed during December 2023 was 22.7 million tonnes which was 1.9 percent higher than in December 2022 with Public Sector Unit/Joint Venture refiners processing 15.7MT and private refiners processing 7.0MT of crude oil.

Total indigenous crude oil processed was 2.6MT and total imported crude oil processed was 20.1MT by all Indian refineries.

“There was a growth of 3.3 percent in total crude oil processed in the current April-December fiscal-year period compared with FY 2022-2023,” the Ministry said.

INPEX Corp., the Japanese liquefied natural gas producer and project developer, has joined with LNG importers Tokyo Gas and Osaka Gas to conduct a joint study on e-methane production with the largest clean energy company in Abu Dhabi in the United Arab Emirates.

E-methane is synthetic methane produced from carbon dioxide and clean feedstock such as green hydrogen.

The UAE company involved in the study is Abu Dhabi Future Energy Co. (Masdar) and is jointly owned by Abu Dhabi National Oil Co. (ADNOC), Mubadala Investment Co. (Mubadala) and Abu Dhabi National Energy Co.

Inpex, which operates the Ichthys LNG export plant in Australia and is developing an LNG export joint venture in Indonesia from Masela block feed-gas assets, has already carried out initial studies with Masdar to produce e-methane utilizing low-cost renewable energy in Abu Dhabi.

“Tokyo Gas and Osaka Gas have newly joined this initiative, and through it plan to offtake e-methane in volumes equivalent to 1 percent of each company’s annual city-gas demand,” they explained.

“Tokyo Gas and Osaka Gas are aiming to introduce e-methane to cover 1 percent of their respective annual city-gas demand by 2030 and further increase the introduction of volumes to the total of their worldwide projects towards 2050,” they added.

The four partners will evaluate the economics of producing and procuring feedstocks, such as green hydrogen and CO₂, as well as the production and transportation of e-methane. The overall reductions in CO₂ emissions will also be evaluated.

“E-methane is compatible with

existing LNG infrastructure such as LNG tankers and terminals as well as city-gas infrastructure including pipelines and consumer gas equipment, limiting social costs associated with its introduction,” the companies explained.

They added that the synthetic e-methane was already considered a “pragmatic carbon-neutral or lower-carbon solution” for thermal sectors where electrification is a challenge.

“Masdar, Inpex, Tokyo Gas and Osaka Gas aim for the early establishment of an e-methane supply chain from the UAE to Japan to contribute to the UAE and Japanese governments’ shared goal of achieving carbon neutrality by 2050,” they stated.

MEXICO-PACIFIC LNG has signed a third long-term Sales and Purchase Agreement with ExxonMobil’s Asian trading unit for an additional 1.2 million tonnes per annum of LNG from a liquefaction and export venture under development in the Northwest Mexican state of Sonora.

The venture comes under the name of Saguaro Energia and will be sited at Puerto Libertad on the Gulf of California with most cargoes being sold on a free-on-board (FOB) basis with pricing linked to US natural gas indices.

The volumes in the latest ExxonMobil agreement will come from Train 3 of Mexico-Pacific’s Saguaro Energia plant.

Mexico-Pacific’s project is expected to have overall nameplate capacity of 15 MTPA with volumes coming from liquefied US feed gas.

“The volume originates from the option under the separate LNG SPAs executed in January 2023, covering volumes from Trains 1 and 2,” a statement explained.

Under the Train 3 LNG SPA, ExxonMobil (Asia) will purchase LNG on a FOB basis over a 20-year term. There is also an option for another 1 MTPA from Train 4.

“We are pleased to announce this additional long-term SPA with ExxonMobil, extending our much-valued partnership into Train 3,” said Ivan Van der Walt, Chief Executive of Mexico-Pacific.

“While we remain focused on initially taking FID on Trains 1 and 2, this latest LNG SPA with ExxonMobil concludes the LNG sales required for a subsequent Train 3 FID expected this year,” added Van der Walt.

“With key contracting and permits in place across the terminal and pipeline, we

are well positioned to sanction the project, connecting US Permian Basin gas with the world’s largest LNG markets in Asia,” he stated.

Peter Clarke, ExxonMobil’s Head of Global LNG and a Senior Vice President, said that bringing additional North American LNG to global markets advances energy security and helps to lower emissions in many countries.

“Long-term contracts play an essential role in underpinning the investments that will be required to advance the energy transition,” Clarke added.

“We look forward to working with Mexico-Pacific to continue growing our portfolio and deliver Permian natural gas to global markets,” he stated.

JAPANESE liquefied natural gas imports dropped by just over 8 percent in 2023 to a 14-year low as more nuclear, renewables and high levels of coal were used and the nation was again overtaken by China as the world’s No. 1 LNG importer.

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

This was the lowest total since imports of 64MT were recorded in 2009 by Japan’s Finance Ministry.

LNG imports to Japan then rose in 2010 by 5.5MT to 69.5MT as demand from the power and city-gas sectors increased a year before the March earthquake and tsunami hit the Fukushima region and the nuclear plant that led to nationwide nuclear shutdowns and rising LNG demand.

The 2023 LNG deliveries cost a total of 6.54 trillion yen (\$44.20 billion) which was 22.6 percent less than in 2022, according the Ministry’s preliminary figures.

As a result, Japan was no longer the world’s biggest LNG importer and China was back in the lead with its total of over 71MT.

The Ministry data showed that Japanese imports in December 2023 amounted to 6.49MT, up 7.2 percent year-over-year and at a cost of 656.52 billion yen (\$4.43Bln), down 19.6 percent from December 2022.

Thermal coal imports delivered to Japan in December dropped by 8.1 percent from last year, though were higher at 9.74MT than the LNG deliveries.

Imports of thermal coal by Japan for all of 2023 also declined by 11.9 percent,

though were still at a high level of 101.54MT of coal for the year.

The coal imports for power generation cost 3.48 trillion yen (\$23.49Bln), which was almost half the cost of LNG deliveries.

For the year, LNG imports by Japan from the US jumped by 33.6 percent to 5.52MT and deliveries from Russia were higher at 6.13MT, though the Russian total was down 10.7 percent compared with 2022.

Outside of Australia, Asian nations such as Malaysia, Indonesia and Brunei were the largest regional suppliers of Japan’s LNG cargoes at 16.10MT, down 10.2 percent from the previous year.

Deliveries from the Middle East, mainly Qatar, dropped to 5.95MT which was 11.7 percent lower versus 2022.

The balance of deliveries to Japan came from Australia and the spot market with volumes in that segment rose to a total of 32.45MT.

Japan had briefly regained the global No. 1 spot as an LNG importer from China in 2022 with its 72MT of volumes, though the pace of Chinese deliveries gradually increased in 2023 after a slow start.

Chinese data showed that LNG imports during the first 10 months of 2023 had amounted to 56.25MT, and then added 6.97MT in November and 8.22MT in December to take China to the top spot.

This gave China a total of 71.44MT of cargo deliveries in 2023, which was 5.29MT ahead of the Japan’s annual total.

After shutting down its 54 nuclear reactors following the 2011 Fukushima nuclear disaster, Japan started to gradually restart nuclear power plants in 2015.

Together with increased solar and wind generation, the nuclear power has allowed a further reduction in LNG imports, which had reached a peak of 88.5MT in 2014.

A total of 11 nuclear reactors are now back in operation in Japan compared with the 54 that were online in 2011 before Fukushima and which had supplied around 30 percent of Japan’s energy needs.

The latest nuclear restart was the Takahama-1 plant owned by LNG importing utility Kansai Electric Power Company and brought to 11 the number of plants in operation from the 33 that are capable of re-starting.

Japan’s Nuclear Regulation Authority is examining the re-start proposals for 10 more N-plants.

Among them is Chugoku Electric Power's plans to restart the No. 2 reactor at its Shimane nuclear power station in August 2024.

The 11 restarted reactors so far are: Genkai-3 and Genkai-4, Ikata-3, Mihama-3, Ohi-3 and Ohi-4, Sendai-1 and Sendai-2 and Takahama-1, Takahama-3 and Takahama-4.

NORWAY, the nation that helped restore Europe's energy security with natural gas, oil and LNG supplies after Russian links were cut following the invasion of Ukraine two years ago, has become the first country in world to approve commercial deep-sea mining in its waters to supply rare minerals needed to make electric vehicles and other technology.

The Norwegian Parliament voted 80-20 on January 9 to approve a cross-party proposal that could revolutionise the global supply of minerals, which are pivotal for an array of clean technologies, including batteries for electric vehicles.

Under the new legislation Norway is opening up 280,000 square kilometres (108,000 square miles) of the Norwegian Continental Shelf, an area equivalent to the size of the UK, for the granting of exploration licences for minerals and chemical elements such as lithium, cobalt and scandium.

Norway's approval of deep-sea mining in its own waters will add momentum to moves to open up some international waters for extracting rare minerals.

Lithium and cobalt are only found below ground in a small number of countries, including onshore the Republic of Congo in West Africa, which will also soon become an LNG exporter with an offshore natural gas project being developed by Italian major Eni.

Norway itself has impeccable environmental and conservation profile as a nation and easily stepped in to increase its natural gas supplies to Europe when Russian deliveries were cut after the invasion of Ukraine in February 2022.

The Norwegians are also Europe's largest producers of hydro-electric power and more than 95 percent of their electricity and 50 percent of all the country's power comes from renewables, including wind.

The Norwegians also run the Hammerfest LNG export plant on Melkoya Island in northern Norway supplying nations such as France, the Netherlands, Italy, the UK, Spain and Lithuania with cargoes.

The Norwegian move on deep-sea mining was, of course, condemned by the environmental groups, run by the elites and who have forced governments to get petrol-driven cars off the road and replace them with electric vehicles without themselves coming up with any worthwhile suggestions except for sowing chaos and energy poverty.

Analysts say that estimates for the industry's potential worth range from hundreds of millions to the trillions of dollars.

They add that pressure from opponents mean detailed environmental studies will have to be carried out before any mining can take place, potentially delaying extraction until the 2030s.

None of Norway's 17 protected marine areas are included in the Norwegian zones proposed for mining and the Government in Oslo has insisted that every commercial licence will have to be approved by its parliament, the Storting.

The first steps for commercial mining companies will be to undertake exploration and mapping activities to increase knowledge of what is below ground in the NCS.

NUSTAR ENERGY, the US liquids terminal and pipelines operator with 9,500 miles of pipeline and 63 terminal and storage facilities, has been acquired by Sunoco LP, the motor fuels distributor, in an all-equity transaction valued at \$7.3 billion including assumed debt.

The takeover of NuStar is the latest in US energy industry mergers over the past 12 months involving majors like ExxonMobil Corp. and Chevron Corp. as well as natural players like Chesapeake Energy.

The buyer Sunoco LP is a master limited partnership with core operations that include the distribution of fuel at 10,000 convenience stores, independent dealers and distributors located in more than 40 US states and the general partner owner is Dallas-based natural gas pipelines operator Energy Transfer LP.

Under the terms of the agreement, NuStar common unit-holders will receive 0.400 Sunoco common units for each NuStar common unit, implying a 24 percent premium as of January 19.

Sunoco said it had secured a \$1.6 billion 364-day bridge term loan to refinance NuStar's notes and revolving credit facilities and financing agreements

Under the terms, around \$3.1Bln of Sunoco equity will be issued to NS unit-

holders, though secondly a total of \$2.6Bln of existing NS Senior Notes and GoZone Bonds will remain outstanding.

And thirdly, \$1.6Bln of NS preferred equity and outstanding notes and borrowings will be refinanced.

"The transaction has been unanimously approved by the board of directors of both companies and is expected to close in the second quarter of 2024 upon the satisfaction of closing conditions, including approval by NuStar's unit-holders and customary regulatory approvals," said the statement on the transaction.

The companies said that the strategic rationale of the deal was that it increased stability by diversifying the business, adding scale and capturing the "benefits of vertical integration" that comes with the combination.

NuStar, headquartered in San Antonio, Texas, will bring complementary assets to the deal with the pipelines and terminals and growing renewables business as well as its Permian crude gathering system anchored by high-quality acreage and investment-grade customers.

Sunoco's main business makes it the largest US independent fuel distributor and with a "stable foundation" from long-term take-or-pay agreements with 7-Eleven stores, seven-to-10 fuel supply agreements, a real estate portfolio generating stable lease income as well as 42 fuel product terminals.

PETRONET LNG, the state-backed owner of the largest Indian import terminal at Dahej in the West Coast state of Gujarat and a smaller facility at Kochi terminal in the southwest state of Kerala and with plans for a third terminal, is set to sign new long-term supply agreements with Qatar.

Petronet currently has three agreements it is renegotiating with QatarEnergy to extend beyond 2028 for 20 years or more.

Shareholders in Petronet, which began operations in 2004, have one agreement with Qatar to supply 5 million tonnes per annum, a second from 2009 for 2.5 MTPA and a third from 2016 for 1 MTPA.

The third deal is with the actual shareholders in Petronet - rather than the Petronet entity. These shareholders comprise the biggest Indian energy players GAIL India, Indian Oil, Bharat Petroleum Corp. and Oil and Natural Gas Corp.

The new deals are expected to be consolidated into two agreements instead

of three. They would be for Qatari volumes in one deal of 7.5 MTPA and a second for 1 MTPA of cargoes.

"We are pretty close to signing the deals," said Indian Oil Secretary Pankaj Jain in a statement.

Petronet also confirmed at the end of December 2023 that it was going ahead with a third import facility and its first on the East Coast at the Port of Gopalpur in the state of Odisha.

The company has proposed having a floating LNG facility at Gopalpur before converting to an onshore terminal.

The total capacity of existing terminals in India rose in 2023 to 47.7 MTPA with the addition of the Dhamra terminal in Odisha owned by French major TotalEnergies and the Indian Adani group.

The new Petronet facility at Gopalpur would be India's eighth, though would be only be the third located on the East Coast and the second in Odisha.

"Petronet LNG Ltd (PLL) has executed binding transaction documents and sub-lease deed and a Port Service Agreement with Gopalpur Ports Limited on December 27, 2023 for setting up of floating storage regasification unit (FSRU) with capacity of 4 MTPA (Phase-1), with provision for converting to 5 MTPA land-based terminal at Gopalpur Port," said the company in its end-of-December statement.

Out of the seven Indian terminals operating the largest is Petronet's onshore terminal at Dahej, located north of Mumbai and with capacity of 17.5 MTPA.

Petronet's Kochi facility in the southwest state of Kerala has capacity of 5 MTPA, though is under-utilised because of a shortage of pipeline connections to markets.

Petronet reported consolidated net profits at the end of October 2023 of 818.10 crore Indian rupees (\$98.24 million) for the second quarter of the fiscal year compared with 744.25 crore rupees (\$89.37M) in the second quarter of 2022 and 789.85 crore rupees (\$94.85M) in the previous 2023 quarter to the end of June.

The company's consolidated revenues from operations were much lower this year than last because of higher prices that prevailed in 2022.

The fiscal second-quarter revenues dropped by over 22 percent to 12,532.57 crore rupees (\$1.30 billion) from 16,079.97 crore rupees (\$1.93Bln) reported in the same quarter of last year.

However, the fiscal second-quarter income was higher than the 11,656.38 crore rupees (\$1.39Bln) logged in the April-June quarter of 2023.

QATAR Gas Transport Company, known as Nakilat and a global leader in liquefied natural gas shipping, is expanding its fleet to 80 ships through 2027 with orders just placed with a South Korean shipyard for six new gas carriers.

Nakilat has just placed orders with Hyundai Samho Heavy Industries (HSHI) of South Korea for the construction of two more cutting-edge LNG carriers of 174,000 cubic metres capacity and four modern Very Large liquefied petroleum gas (LPG) and ammonia gas carriers with capacities of 88,000 cubic metres.

The ships are scheduled for delivery from the Korean shipyard in 2026 and 2027 under a deal just signed.

“The new LNG carriers and LPG carriers will embody the latest technologies, showcasing advanced environmentally friendly and efficient propulsion systems through fuel-saving devices, reinforcing Nakilat's commitment to sustainable and eco-conscious shipping solutions,” said the Nakilat.

Nakilat's Chief Executive Abdullah Al Sulaiti said the investment in the advanced vessels reflected a commitment by Nakilat to delivering exceptional service.

“We strive to meet the increasing demand for safe, reliable and eco-friendly transportation of gas, contributing to a more sustainable future,” Al Sulaiti explained.

The President and Chief Operating Officer of HD Hyundai Heavy Industries, S.Y. Park, said the latest order would strengthen the ongoing partnership between the two companies for the benefit of both countries.

“We affirm our full commitment to contribute the latest technologies and expertise to ensure safer and more efficient transportation,” he said.

“We are proud of our decades-long relationship with Nakilat and look forward to establishing a closer business link that will enable both parties to take the initiative in leading the gas sector,” the HHI COO stated.

The new vessels will give Nakilat an overall fleet of 71 LNG carriers, an LPG fleet of eight ships and a floating storage and regasification unit.

“This latest addition to Nakilat's ever-expanding fleet not only signifies an

increase in capacity and flexibility for its esteemed customers but also reinforces the company's pioneering role in the energy transportation sector,” stated Nakilat.

Nakilat in December 2023 announced that Qatar's main shipping repairs and offshore construction facility, Nakilat-Keppel Offshore & Marine (N-KOM), was rebranding itself into Qatar Shipyard Technology Solutions (QSTS).

RELIANCE Industries, the group with growing natural gas and oil and chemicals businesses, reported increased fiscal third-quarter earnings amid moves to boost the nation's natural gas to offset LNG imports as prices start to decline.

Reliance reported that overall third-quarter revenues from its multiple business divisions increased by 3.2 percent to 248,160 crore Indian rupees (\$29.8 billion) compared with the same quarter in the previous fiscal year.

Reliance reported a rise in third-quarter net profits to 19,641 crore (\$2.4 billion), up 10.9 percent from the same three months of fiscal 2022-2023.

Overall gross earnings for the three months increased by 16.7 percent year-on-year to 44,678 crore rupees (\$5.4Bln).

Reliance said that the oil and gas segment of the business saw gross earnings (EBITDA) increase sharply by 49.6 percent and led by 72.6 percent higher gas and condensate production from the Krishna Godavari Dhirubhai 6 (KG-D6) block offshore Eastern India in the Bay of Bengal.

The KG-D6 block was India's largest deposit of natural gas and the largest such discovery in the world when it was found in 2002.

“Revenue from the oil and gas segment increased significantly mainly on account of higher volumes partly offset by lower gas price realisations from the KG-D6 field,” Reliance explained.

Reliance, based in Mumbai, is a group also involved in textiles, retail, telecoms and media and other business as well as oil, gas and chemicals.

In the oil and gas exploration and production division quarterly revenues amounted to 6,719 crore rupees (\$807 million), up 50.2 percent year-on-year and quarterly gross earnings from the Indian E&P sector for Reliance came to a record 5,804 crore rupees (\$697M), up 49.6 percent from the prior-year quarter.

“The average price realised for KG-D6 gas was \$9.66 per million British thermal units in the third quarter versus \$11.32 per MMBtu in the previous fiscal-

year quarter,” said Reliance.

The company added that its average price realised for coal-bed-methane natural gas was \$15.55 per MMBtu, down from \$20.92 per MMBtu in the prior-year quarter.

Reliance said Block KG-D6 production was currently running at 30 million standard cubic metres per day of natural gas and 21,000 barrels of condensate.

Drilling of the first exploration well by Reliance in the new Block KG UDW1 was also under way.

The company was additionally planning to increase output of CBM, also known as coal-seam gas (CSG), with current production at around 2.0 billion cubic feet equivalent for the third quarter, down 13.9 percent from the 2.3 Bcf equivalent in the same three months of fiscal 2022-2023.

Reliance has CMB assets in the Mahanadi Basin as well as two blocks at Sohagpur (East) and Sohagpur (West) in Madhya Pradesh state in central India south of New Delhi.

“A 40 multi-lateral well campaign is underway to augment production. Of these, four wells are drilled, three wells are connected and initial dewatering and production ramp-up are underway,” said Reliance.

In the company's oil and chemicals segment fiscal third-quarter revenues came to 141,096 crore rupees (\$17Bln), down 2.4 percent from the prior-year quarter.

Quarterly gross earnings from oil and chemicals came to 14,064 crore rupees (\$1.7Bln), up 1 percent from the same three months of fiscal 2022-2023.

Reliance said that its total refining throughput in the quarter came to 18.7 million tonnes of crude and production sold came to 16.4MT.

In the first, second and third quarters combined throughput at Reliance refineries amounted to 77MT and sales came to 66.4MT.

“Reliance has delivered yet another quarter of robust operating and financial performance, thanks to the exceptional efforts put in by teams across its businesses,” said Mukesh D. Ambani, Chairman and Managing Director of Reliance.

“The Oil & Gas segment posted its highest ever quarterly EBITDA. I am also happy to note that KG-D6 is now contributing 30 percent of India's gas production, fueling its transition towards a greener and cleaner tomorrow,” Ambani stated.

“The Oil-to-Chemicals segment delivered resilient performance aided by operational flexibility and strong domestic demand. Staying true to its commitment to sustainability, Reliance has become the first Indian company to chemically recycle pyrolysis oil into circular polymers,” Chairman Ambani concluded.

SANTOS, the Australian LNG plant operator, welcomed a decision from the Federal Court of Australia to clear the way for pipe-laying to commence for the Barossa Gas Export Pipeline to help provide new feed-gas supplies to the Darwin LNG plant in Australia's Northern Territory.

The decision in favour of Santos saw the Court dismissing an application and discharging an injunction that had prevented pipelay activities south of the 86 kilometres (53 miles) point offshore.

“As per the ruling and in accordance with the Environment Plan in force for the activity, Santos will continue pipe-laying activity for the Barossa Gas Project,” said Adelaide-based Santos.

The Santos-operated Barossa Gas Project is an offshore gas and condensate venture that proposes to provide a new source of gas to the existing Darwin LNG facility for which the previous resources from the Bayu Undan gas field in the Timor Sea have depleted.

Barossa gas shareholders also include South Korean and Japanese investors, including the largest Japanese LNG importer JERA Co. Inc.

Under the renewed Barossa plan feed gas will come from the Barossa field, located in Australian waters about 285km offshore Darwin, from 2025.

Project infrastructure will comprise a floating production storage and offloading (FPSO) facility and the subsea production system and the pipelines.

Santos noted that up to eight subsea wells are planned to be drilled in the Barossa field with a contingency plan for an additional two wells.

Gas and condensate would be gathered from the wells through the subsea production system and then brought to the FPSO facility via a network of subsea infrastructure.

Initial processing would occur at the FPSO facility, to separate the natural gas, water and condensate extracted from the Barossa field.

The dry natural gas would then be transported through the gas pipeline for

onshore processing and export from Darwin LNG.

The condensate would be transferred from the FPSO to specialised tankers for export.

SEATRIUM of Singapore, a leader in LNG project and ship conversions as well as platforms for conventional oil and gas ventures, was awarded a contract by Shell Offshore to construct and integrate the hull, topsides and living quarters of the Sparta semi-submersible floating production unit (FPU) to be deployed in the US Gulf of Mexico.

Seatrium's Shell contract includes the installation of Shell-furnished equipment and follows a letter of intent signed by both parties in August 2023.

The Sparta FPU will be situated in the Garden Banks area of the US Gulf of Mexico, about 275 kilometres (171 miles) off the coast of Louisiana.

Seatrium said the platform would feature a single topside bolstered by a four-column, semi-submersible floating hull and would be designed to produce 90,000 barrels of oil equivalent per day.

Seatrium, formerly called Sembcorp Marine Ltd and renamed as Seatrium following its merger with Keppel Offshore & Marine, had previously in November 2023 successfully delivered the Greek "FSRU Alexandroupolis" to be deployed offshore northeast Greece as part of a Balkans LNG supply hub.

The Singaporean company also in November handed over the LNG production unit for the BP-led FLNG project offshore Senegal and Mauritanian in West Africa and also involving Dallas-based Kosmos Energy.

Analysts note that the combined Seatrium group is becoming better known in marketing terms as a single unit and provider of engineering solutions to the marine, offshore and energy sectors, particularly in assembling topsides safely and efficiently at ground level.

Seatrium said that the two-level topside for Sparta would be integrated and lifted to the hull using Seatrium's Goliath twin cranes capable of lifting up to 30,000 tonnes.

"We are deeply honoured that Shell has awarded Sparta, the third FPU newbuild, to Seatrium, following the successful deliveries of the Vito and Whale FPUs," said

William Gu, Executive Vice President and Head of Oil & Gas International at Seatrium.

"It is a strong affirmation of our team's

capabilities and the long-standing partnership between both parties. We are fully committed to executing the project well, including the single lift operation and fabrication of the FPU to meet its 20,000-psi design for use in harsh weather conditions, and delivering the unit to Shell safely and efficiently," Gu explained.

Seatrium added that the Sparta FPU was conceived as a replicable project between Shell and Seatrium to leverage the group's topsides single lift integration methodology, following the Vito and Whale newbuilds.

"With an extensive experience in complex offshore projects, Seatrium is well-positioned and equipped with cutting-edge technology to deliver high-quality engineering, procurement, installation and commissioning (EPIC) services for fixed and floating production platforms and subsea developments," the company stated.

SINGAPORE bunkering is developing in scale and in the changing list of leading participants. The Maritime and Port Authority of Singapore has issued the annual bunkering data from the Asian city state's world-class shipping fuel industry listing Equatorial Marine Fuel Management Services as the top bunker supplier in the hub where LNG fuel is also growing in importance and with the fuel suppliers Trafigura and Sinopec taking second and third spots.

Singapore's MPA said that marine fuel sales increased by 8.2 percent and reached a record of 51.82 million metric tons in the past year.

The MPA data also showed that vessel arrivals in numbers also grew by 20 percent to 121,403 ships and by gross tonnage.

The data additionally gave shipping arrival numbers by sector showing that during 2023 there was a total of 2,428 LNG carrier and liquefied petroleum gas tanker arrivals in Singaporean waters.

LNG fuel sales in Singapore grew to 111,000 tonnes in 2023 while Biofuel sales reached 524,000 tonnes.

The overall bunkering sales alone amounted to 51.18M tonnes.

Analysts said that the increase was driven by record containership throughput and a growing interest from shippers on alternative cleaner bunker fuels such as LNG and Biofuel.

This record-breaking sales volumes also illustrated the strategic shifts and intensifying competition within the

Singaporean marine fuel supply sector.

Equatorial, a Singaporean company, maintained its top position for a second consecutive year and Maersk Oil Trading was the leader in the growing Biofuels sector.

Commodity company Trafigura's TFG Marine moved up one place in the overall ranks to become the second-largest supplier behind Equatorial Marine.

However, the most significant shift was from the Chinese major Sinopec's bunkering subsidiary Sinopec Fuel Oil Singapore, which jumped 16 spots into the third position after only receiving a bunker supply licence in 2022 and increasing its market share, especially in the high-sulfur market.

Sinopec's rise relegated PetroChina International Singapore into fourth place and Vitol Bunkers into fifth.

Sinopec has been helped by developing its regional storage capacity.

The marine Biofuel supplier table was also issued comprising 14 companies and led by Maersk Oil Trading, Chevron Singapore and BP Singapore.

The Top 20 overall bunker suppliers were:

1. Equatorial Marine Fuel Management Services;
2. TFG Marine;
3. Sinopec Fuel Oil (Singapore);
4. Petrochina International;
5. Vitol Bunkers;
6. Chevron Singapore;
7. BP Singapore;
8. Global Energy Trading;
9. Shell Eastern Trading;
10. Eng Hua Company;
11. Glencore Singapore;
12. Minerva Bunkering;
13. Maersk Oil Trading Singapore;
14. Exxonmobil Asia Pacific;
15. Sentek Marine & Trading;
16. Marubeni Int'l Petroleum;
17. Golden Island Diesel Oil Trading;
18. Singamas Petroleum Trading;
19. Bunker House Petroleum;
20. Cathay Marine Fuel Oil Trading.

TALOS ENERGY, the US oil and gas company, has acquired the operator QuarterNorth Energy in a \$1.29 billion cash and stock deal to boost its presence in the Gulf of Mexico in the latest of a long list of US energy industry mergers and acquisitions that included several mega-deals.

Both companies are based in Houston, Texas, and QuarterNorth is a privately held exploration and production operator with ownership in six major fields.

"QuarterNorth's assets will provide additional scale from high-quality deepwater assets with a favorable base decline profile along with attractive future development opportunities," said Talos.

The transaction will involve QuarterNorth owners receiving about 24.8 million shares of Talos's common stock and about \$965 million in cash.

"The board of directors of both Talos and QuarterNorth have unanimously approved the transaction," said a statement.

The deal is expected to be closed by the end of the first quarter of 2024, subject to certain customary conditions and regulatory approvals.

Talos is adding production of approximately 30,000 barrels of oil equivalent per day for the full year of 2024, averaging about 75 percent oil from around 95 percent operated assets.

Proven reserves are approximately 69 million barrels of oil equivalent with a PV-10 of \$1.7Bln.

PV-10 is a measure in the oil and gas industry of present value of estimated future oil and gas revenues, net of forecast direct expenses and discounted at an annual rate of 10 percent.

The resulting figure is used in the energy industry to estimate the value of a corporation's proven oil and gas reserves.

"The addition of QuarterNorth's overlapping deepwater portfolio with valuable operated infrastructure will increase Talos's operational breadth and production profile while enhancing our margins and cash flow," said Talos President and Chief Executive Timothy S. Duncan.

"This transaction aligns with Talos's overall strategy of leveraging existing infrastructure and complementary acreage to accelerate shareholder value creation," added Duncan.

"The 'pro-forma' footprint in the US Gulf of Mexico should allow us to capture meaningful operating synergies. The expected financing structure of the transaction accelerates de-leveraging, immediately improves our credit profile, is accretive on key metrics and positions us to consider additional capital return initiatives following deleveraging in the near term," the CEO explained.

The Talos-QuarterNorth deal is the latest in a wave of M&A activity in the past 12 months with the latest being Chesapeake Energy's acquisition announced on January 12 of smaller market rival Southwestern Energy.

Chesapeake's transaction was for \$7.4Bln in stock and creating a company that will be the nation's largest natural gas producer.

The combined Chesapeake-

Southwestern company will also assume a new name at the closing of the transaction.

In earlier mega-deals, ExxonMobil in October 2023 announced the acquisition of Pioneer Natural Resources, the biggest oil producer in Texas, in a \$60Bln all-stock deal.

In the same month, Chevron Corp. finalised an agreement to acquire Hess Corp. for \$53Bln.

Occidental Petroleum then announced the acquisition of CrownRock for nearly \$12Bln in December 2023 and in early January 2024 Houston-based APA, one of whose subsidiaries is Apache Corp., said it had agreed to acquire Callon Petroleum for \$4.5Bln.

The acquisition by Tulsa, Oklahoma-based Chesapeake of Texas-headquartered Southwestern is the first big natural gas-focused transaction while all the other deals were mostly combining oil assets with associated gas.

Chesapeake and Southwestern operate in proximity in the gas-rich basins of Appalachia in the US northeast and the Haynesville shale in the state of Louisiana.

The combined company will overtake the current largest natural gas producer in the US in 2023, EQT Corp., which had gas flows of around 6.0 Bcf per day.

TRAFIGURA, the commodities trading firm with offices in the main trading centres of the Americas, Asia and Europe, has signed a long-term liquefied natural gas agreement with the largest Canadian natural gas producer Tourmaline.

The transaction marks the first time that Trafigura and Tourmaline have signed an accord on LNG.

Both companies explained that Tourmaline has increased its exposure to the Japan-Korea Marker trading zone by entering into a netback agreement with Trafigura.

The Trafigura-Tourmaline deal is based on 62,500 million cubic metres per day, or 500,000 tonnes per annum, of LNG for a seven-year term starting in January 2027 and with the potential for extension up to December 2039.

Trafigura added that Tourmaline had also expanded its international exposure to including a physical netback agreement with its subsidiary, Trafigura Canada Ltd, which will be based on Dutch Title Transfer Facility (TTF) index pricing.

Starting in March 2024, Tourmaline

will deliver 50,000 MMBtu per day of natural gas at AB-NIT and receive a Dutch TTF index price (less associated deductions) until December 2026.

This is part of the trading procedure for the Alberta Energy Company (AECO) natural gas trading and storage facility in southern Alberta, one of the largest hubs in North America.

This Hub serves as the reference point for establishing the NOVA Inventory Transfer (AB-NIT) price for users of the transmission pipelines in the province and prices are often quoted in terms of the basis differential between AECO Hub prices and US Henry Hub prices.

“We are excited about our recent transaction with Trafigura and the opportunity to expand our exposure to international LNG markets,” said Mike Rose, President and Chief Executive of Tourmaline.

Tourmaline has major positions in three of Canada’s largest resources plays in the Western Canadian Sedimentary Basin, the Alberta Deep Basin, the Northeast British Columbia Montney and the Peace River Triassic Oil complex.

“We’re delighted to build on our relationship with Tourmaline at a time when Canadian gas producers are starting to play a pivotal role in global LNG markets,” explained Richard Holtum, Global Head of Gas, Power and Renewables for Trafigura.

“The agreements support our commitment to these markets and to the growth of our long-term portfolios, while demonstrating our ability to provide innovative, tailor-made solutions and ensuring security of supply for our customers worldwide,” Holtum stated.

Trafigura is domiciled in Singapore and with major regional trading hubs in Geneva, Houston, Montevideo in Uruguay and Mumbai in India.

Trafigura’s LNG activities are within its Gas, Power & Renewables division and in the previous year it handled 11.2 million tonnes of LNG.

It also traded natural gas volumes of 23.9MT for a total of 35.1MT in the pipeline gas and LNG sectors.

Tourmaline is also part of the Rockies LNG Partnership, a group of industry players who have joined a Canadian LNG export project located near Prince Rupert in British Columbia.

The project is sited on First Nation land and is known as the Ksi Lisims LNG venture with other partners being the Nisga’a First Nation and Houston-based Western LNG.

WOODSIDE Energy, the Australian operator of the North West Shelf and Pluto LNG plants in Western Australia, reported an increase in quarterly revenues due to higher realised prices and supported by record full-year production.

Quarterly revenues for LNG, oil, pipeline gas and condensate sales rose by 3 percent to US\$3.35 billion, up 3 percent from the previous quarter, though were well down on the US\$5.16Bln logged in the same quarter of 2022.

Woodside said that quarterly revenues rose due to higher realised prices, partly offset by lower traded LNG volumes and the timing of oil and condensate sales.

The Perth-based company posted annual revenues \$14.03Bln, down from the 2022 total of \$16.85Bln when prices had surged.

The prices for produced LNG rose to US\$11.50 per million British thermal units versus US\$10.10 per MMBtu in the quarter to September 2023 and US\$20.30 per MMBtu in the same three months of 2022.

Woodside also commented after a long silence on the talks with Australian LNG peer Santos on a possible merger.

“Woodside confirmed in December that it was in discussions regarding a potential merger with Santos Ltd. The talks are still at an early stage and there is no certainty that the transaction will progress,” said woodside.

“Woodside will be disciplined, conduct thorough due diligence, and will only pursue a transaction that is value-accretive for shareholders,” said the comment in the quarterly activities report.

“As we complete our first full reporting year after the merger with BHP Petroleum, we are pleased with the results of our strong combined portfolio,” the company added.

Woodside’s output for all of 2023 amounted to a record 187.2 million barrels of oil equivalent (513,000 barrels per day), which was at the top end of production guidance.

Woodside Chief Executive Meg O’Neill said production in the fourth quarter remained strong and helped to take 2023 full-year production to the record.

She said that fourth-quarter production reflected the completion of planned turnaround and maintenance activities at the North West Shelf LNG plant at the Shenzi oil project in the Gulf of Mexico.

“Pluto LNG also maintained its strong

production performance, again achieving 99.9 percent reliability during the period,” O’Neill noted.

The CEO explained that Woodside’s growth projects were being delivered as planned, including Scarborough Gas.

“We have strong momentum on the Scarborough Energy Project following receipt of regulatory approvals in December for key offshore work scopes,” O’Neill said.

“We’ve already completed the seismic survey, nearshore pipelay installation is almost complete and we’ve commenced pipelay work in Commonwealth waters. Earlier this month, we spud the first production well in our drilling program,” she stated.

The CEO confirmed that fabrication of six of the 51 modules for Pluto LNG Train 2 had been completed and work on another 38 was underway.

“We remain on track for targeted first LNG cargo in 2026,” O’Neill stated.

She added that the “Léopold Sédar Senghor” floating production storage and offloading facility departed Singapore at the end of December and was scheduled to arrive offshore Senegal in the coming weeks for the Sangomar oil project.

“Seventeen wells have now been completed at Sangomar, with first oil targeted for mid-2024,” the CEO stated.

Mexican oil and LNG

The Woodside CEO added that at the Trion project in Mexico, contracts had been awarded for the wellheads, subsea line pipe and coatings, and the shore base and procurement for the subsea equipment and floating production unit commenced during the quarter.

“In the US Gulf of Mexico, following an appraisal well drilled in the second quarter, a final investment decision was taken on the Mad Dog Southwest Extension, which will be a three-well tieback to the Argos facility,” O’Neill said.

The Woodside CEO also explained that in the marketing division, two term LNG sales and purchase agreements had been signed during the quarter, the first with Mexico-Pacific Limited for the purchase of 1.3 million tonnes per annum of LNG from its proposed third Train at the Saguaro Energia LNG Project on the Mexican Pacific coast.

Secondly, a deal was signed for Woodside to supply LNG volumes to the Australian mining company Pilgangoora Operations Ltd from Pluto LNG truck-loading facility, further demonstrating Woodside’s commitment to the Australian domestic gas market. ■

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	Storage 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
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
	Ogishima	JERA	1998	3.0	4	850,000

Conventional LNG Terminals (Continued)

Country	Location (Project)	Owners	Start up	Nom. Capacity (MTPA)	Storage Tanks	Storage Capacity
Japan (continued)	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
	Batangas FSRU	First Gen Corp.	2023	3.5	1	162,400
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
Hong Kong, China	FSRU Bauhinia	CLP Power	2023

Country	Location (Project)	Owners	Start up
India	Dhamra	Adani, TotalEnergies	2023
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	Batangas	AG&P International	2023
Russia	Kaliningrad FSRU	Gazprom	2020
Senegal	Dakar	KarMOL	2023
Turkey	Iskenderun & Saros FSRUs	BOTAS	2016 & 2023
	Aliaga (ETKI LNG)	Etki Liman	2017
UAE	Ruwais, Abu Dhabi	Gasco (UAE)	2016
	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
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
Colombia	Zhangzhou LNG	PipeChina	2024	3	3	–	U. Construction
	Buenaventura FSRU	Unidad de Planeación Minero Energética (UPME)	2024	–	–	–	Speculative
Cyprus	Vasilikos FSRU	DEFA	2023	0.6	–	–	U. Construction
Ecuador	Jambelí FSRU	Sycar LLC	2025	0.38	–	–	Proposed
Estonia	Paldiski LNG	Espa	2024	1.8	–	–	Proposed
France	Le Havre FSRU	TotalEnergies	2023	1.8	–	–	U. Construction
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
	Alexandroupolis FSRU	GasTrade	2023	4.04	1	135,000	U. Construction
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 m³
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	2	7.6	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
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
	Tangguh LNG T3	BP, MI Berau B.V., CNOOC, Nippon Oil Expl. et al	2023	1	3.8
Malaysia	ZLNG FLNG	Petronas	2027	1	2
Mauritania	Greater Tortue Ahmeyim FLNG	BP, Kosmos Energy	2023+	—	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	2023+	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	Eni Congo	2025	2	3
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
	Obsky 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

LNG OneWorld.com



World LNG Carrier Fleet

LNG Carrier	Capacity m ³	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 Khattiya	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

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

CARRIER FLEET

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

CARRIER FLEET

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	Pamama	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 Oceonix 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

CARRIER FLEET

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 Pouse	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 Gakkel	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.	Severnnav 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	Severnnav 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



NEXUS OF CLEAN™

"Chart's vision is to be the global leader in the design, engineering and manufacturing of cryogenic process technologies and equipment for the Nexus of Clean™ — **clean power, clean water, clean food and clean industrials**, regardless of molecule."

A handwritten signature in blue ink, likely belonging to Jill Evanko.

JILL EVANKO / CEO / CHART INDUSTRIES

CLEAN
CLEAN
CLEAN
CLEAN

 CHART DELIVERS CLEAN SOLUTIONS FOR



Power



Water



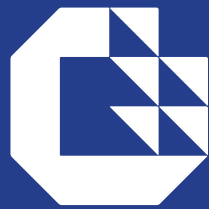
Food



Industrials



Learn more at chartindustries.com



Gastech



Hydrogen



Climatech

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 towards a hydrogen-powered decarbonization



Climatech 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

500

Ministers and
global energy
CEOs

1,000

Speakers

125

Countries
represented

Host City:



Supported by:



Organized by:



gastechevent.com

@gastechevent #Gastech [in](#) [@](#) [f](#) [X](#)