LNG Unlimited

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Henry hub and natgas prices set to rise - EIA

Despite natural gas prices being generally lower than were predicted a few months ago, prices are still expected to rise from current levels, driven by tighter market balances.

In its latest Short Term Energy Outlook (STEO) report published earlier this month, the US Energy Information Administration (EIA) said that US natural gas prices were lower this year than previously predicted with high volumes of natural gas put into storage so far this injection season (April/October).

The US benchmark Henry Hub spot price averaged nearly $3.20 per MMBtu from April through July, $0.80 per MMBtu below the April STEO forecast.

Natural gas inventories in working gas storage were expected to be about 2% higher than the five-year average at the end of the injection season on 31st October, despite a forecast of a 3% drop in the April STEO.

The higher end-of-season storage forecast is largely the result of more natural gas production and fewer LNG exports than were forecast in April, with maintenance at multiple terminals extending into the second quarter of this year.

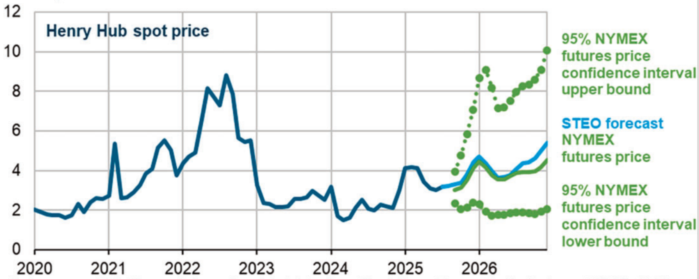
In the this month's STEO forecast, Henry Hub will average around $3.60 per MMBtu in 2H25 and $4.30 in 2026, some 21% and 6% lower, respectively, than the April forecast.

However, monthly forward price curves continued to reflect expectations of gradually increasing prices through the end of 2026.

For 2026, the EIA expected prices to rise to reach more than $5.40 per MMBtu by December.

Although the storage forecast was higher than it was in April, the EIA's latest STEO still forecasts natural gas inventories to fall closer to the five-year average in the coming months, putting upward pressure on prices.

Henry Hub natural gas price and NYMEX confidence intervals
dollars per million British thermal units



Data source: U.S. Energy Information Administration, Short-Term Energy Outlook, August 2025, CME Group, and Refinitiv an LSEG Business
Note: Confidence interval derived from options market information for the five trading days ending August 7, 2025. Intervals not calculated for months with sparse trading in near-the-money options contracts.

After growing by more than 1 bill cu ft per day from 1Q25 to 2Q25, dry natural gas production will fall by a similar amount over 2026.

LNG exports to grow

At the same time, LNG exports are expected to grow around 2 bill cu ft per day, further tightening supply/demand balances and contributing to higher prices later in the forecast period.

Rising natural gas production in recent months has added to higher than anticipated inventory levels. As a result, marketed natural gas production was expected grow by 3% over 2024 volumes, supported by growth of 2 bill cu ft in the Permian region and 0.9 bill in each of the Haynesville and Appalachia regions this year.

This growth has been sustained in part by the deployment of drilling rigs to natural gas intensive shale plays. Baker Hughes reported on 8th August that 19 more active rigs were being utilised for drilling for natural gas, compared to the start of April, an 18% increase.

The EIA forecast that marketed natural gas production will be generally unchanged next year, even though falling oil prices could reduce production of associated natural gas, particularly in the Permian Basin.

However, production declines will be muted as producers strategically position themselves to meet rising demand from several LNG projects that are due to enter service in late 2025 and 2026.

Marketed annual natural gas production is forecast to remain flat in 2026, compared to this year, when increased non-associated gas production from the Haynesville region (0.3 bill cu ft) and Appalachia (0.7 bill) offset declining Eagle Ford and relatively flat Permian production.

The start up of the Louisiana Energy Gateway pipeline, which is planned to enter service during this period, will support rising Haynesville output by improving shipment capacity.

More export capacity from the new Golden Pass facility and Plaquemines LNG Phase 2 are also set to come online over the next two years, the EIA added. ■

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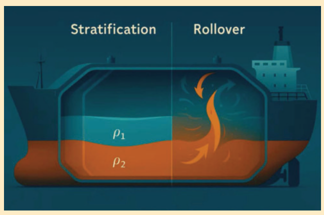

Stratification 8

Spot prices fall ahead of Trump/Putin meeting

Asian spot LNG prices fell last week on soft demand and strong storage inventories and as the markets awaited the outcome of Friday's meeting between US President Donald Trump and Russia's Vladimir Putin.

The average LNG price for September delivery into northeast Asia was at $11.65 per MMBtu, down from $11.90 per MMBtu the week before, industry sources said. The contract for October delivery was estimated at $11.45 per MMBtu.

"This (meeting) may not only be decisive for Ukraine but also for the fate of Russian sanctions and economic development between the two nations. It may not be surprising if Russia would open discussion on Arctic LNG 2, as it's clearest link to LNG markets," said Klaas Dozeman, market analyst at Brainchild Commodity Intelligence, before the results were known.

However, there was no mention of any concrete discussions on energy in any of the communiques after the meeting, the result of which appeared to have been inconclusive.

Under US sanctions, Russia's 19.8 mill tonnes per annum Arctic LNG 2 terminal, which has had two of its three trains installed, could quickly add to global supply if sanctions were to ease.

Conversely, Russia's Yamal and Sakhalin LNG export terminals export about 30 mill tonnes and could be subject to future sanctions, said Martin Senior, Argus' head of LNG pricing.

Geopolitics remained the wild card, said Arturo Regalado, senior LNG analyst at Kpler. "A lack of progress could reignite concerns over tighter sanctions on Russian energy, as well as potential secondary US tariffs on Russian oil and gas buyers," he said.

While the weather has turned slightly hotter again in Asia, this did not attract major spot purchases - partly due to the pressure on oil prices - which meant oil-indexed long term LNG contracts became competitive against spot purchases, Dozeman added.

Chinese demand returns

Senior said that some Chinese demand had emerged, with Beijing Gas buying two cargoes below $12 per MMBtu. Last year, the company had said that it considered $12 per MMBtu and above to be too expensive for LNG imports.

Prices are forecast to fall further this week, as high Chinese inventories continued to keep northeast Asian spot demand soft, with stable Pacific supply and seasonal temperatures adding to the bearish tone, said Kpler's Regalado.

In Europe, Dutch TTF hub gas prices traded in a narrow range last Friday as the heatwave across the continent started to ease and as markets focused on the Trump/Putin meeting.

SP Global Commodity Insights assessed its daily North West Europe LNG Marker (NWM) price benchmark for cargoes delivered in September on an ex-ship (DES) basis at $10.582 per MMBtu on 14th August, a $0.415 per MMBtu discount to the September TTF hub futures price.

The US arbitrage to northeast Asia via the Cape of Good Hope still incentivised US cargoes to deliver to Europe. Similarly, the arbitrage via Panama continued to point to Europe, said Spark Commodities analyst, Qasim Afghan.

He added that global LNG freight rates were relatively steady, with the Atlantic rates assessed at $36,000 per day and Pacific rates at $33,250 per day. ■

Iraq's LNG import projects move a step closer

The Iraq Government has updated progress on the ongoing development of two LNG import terminals, one floating and one fixed, projects, which would help the country import LNG from different countries.

Iraq's government and the Energy Ministerial Council outlined the project's execution procedures, which include inviting LNG specialists to tender, organising technical and administrative committees, and identifying the necessary infrastructure to handle imported gas.

The Ministry of Oil said that it had finished the pipelines to support the projects.

These steps represent a serious shift towards expanding import channels and diversifying supply sources, guaranteeing considerable flexibility in securing LNG and achieving stability in the electricity grid, following years of reliance on a single source, local sources said.

According to the Energy Ministerial Council, six foreign interests were asked to make technical and commercial proposals for this project. The Ministry of Oil established a technical committee to analyse the proposals, in addition to a combined ministerial committee comprised of the Ministries of Oil, Electricity, and Transport.

These committees were tasked with assessing bids and making suitable choices, while maintaining the greatest standards of transparency.

The country is developing two offshore facilities:

Khor Al-Zubair: An FSRU project is underway at Khor Al-Zubair in Basra. Iraq's South Gas Company (SGC) is managing the project, with negotiations reportedly progressing with US-based Excelerate Energy, a potential supplier and operator.

This facility is planned to handle at least 500 mill cu ft per day of regasified LNG and will connect to Iraq's gas network via a 40 km pipeline. This could substitute about 50% of the gas currently imported from Iran.

Two companies have been shortlisted with a decision pending.

Grand Al-Faw: A tender for a fixed regasification terminal has been issued for the Grand Al-Faw Port, which is expected to be finalised by the end of 2025.

Iraq had looked towards Qatar as a potential LNG source for this terminal. ■

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China re-enters the market

China's LNG buyers have started to increase imports, due to falling prices and the need to replenish inventories concluding months of sparse deliveries.

The 30-day moving average for LNG imports into China have been above the five-year average thus far this month, according to ship-tracking data compiled by Bloomberg.

Earlier this month, Beijing Gas Group purchased at least two shipments for September, while Zhejiang Energy bought a cargo, according to traders.

This marks a reversal for China, which had cut imports for months after a mild winter left storage facilities full.

At the same time, high international spot prices prompted importers to scale back overseas purchases and even resell cargoes into more lucrative markets abroad.

Instead, gas firms relied more on cheaper domestic supply and pipeline imports.

However, Asian LNG prices have been on the decline and are trading in the low-to-mid $11 per MMBtu range, around the lowest since April.

At this level, imports become more profitable for reselling into some of China's domestic markets, traders said.

Chinese interests have also become more active in optimising supply. Several cargoes for September delivery were bought and sold by Chinese companies in the low-$11 per MMBtu range on Friday, according to the traders.

However, buying may taper off as Chinese firms refill inventories drained over the last few months.

Demand for gas hasn't significantly risen, and the recent purchases are more to do with taking advantage of better prices and refilling stockpiles, traders said.

Northern Chinese industrial users may have to stop or reduce operations in late August to cut pollution during a military parade in Beijing, ENN said on its data platform earlier this month. ■

Chinese terminals have seen a downturn this year

Golar adds to EBITDA backlog - progressing next FLNG project

Golar LNG Limited has reported net income of $16 mill, adjusted EBITDA of $49 mill and a total cash injection of $891 mill, for the second quarter of this year.

In addition, the company added $13.7 bill in adjusted EBITDA backlog, with a further increase in contracted FLNG tariff CPI escalation and significant commodity upside.

During the period, Golar concluded the 20-year charter of FLNG 'Hilli' with Argentina's Southern Energy (SESA), with adjusted EBITDA backlog of $5.7 bill.

The company also signed definitive agreements with SESA and reached a final investment decision (FID) for a 20-year charter for the MKII FLNG with adjusted EBITDA backlog of $8 bill. The remaining regulatory approvals and customary conditions precedent for the unit were expected this year.

Golar's commodity revenue will be around $100 mill per year for every US dollar of offtake priced above $8 per MMBtu.

In addition, Golar's FLNG 'Gimi' reached her commercial operations date (COD) during 2Q25.

The company also revealed that it was progressing its next FLNG project. With the existing fleet now committed to 20-year charters, Golar said it had increased its focus on securing attractive FLNG growth units.

Golar revealed is was working with three shipyards for different FLNG designs (MKI, MKII and MKIII with liquefaction capacities ranging from 2 to 5.4 mill tonnes per annum) to obtain updated EPC prices and delivery schedules.

To secure attractive delivery dates, Golar said it was planning to sign slot reservations for long lead equipment within 3Q25. ■

NEWS BRIEFS

Taranaki favourite for NZ's LNG import facility

New Zealand's Taranaki ports' existing oil and gas infrastructure has made it a lead contender as a hub for importing LNG, a report recently concluded.

The feasibility study was commissioned by major NZ energy firms – Clarus, Contact, Genesis, Meridian and Mercury – to investigate the opportunities, risks, energy security and costs of importing LNG into the country.

Produced by Gas Strategies with consultants Wood Beca and publicly released last month, it comes on the back of a rapid decline in the availability of gas for electricity generation.

This has led large users to scale back during electricity shortages.

Six North Island ports were identified in the report but only Port Taranaki was named as a site for an LNGC import terminal, which would handle shipments from Australia.

The report said that Taranaki would offer material advantages over other locations in terms of the use of existing infrastructure, including the Ahuroa gas storage facility, which offers the opportunity to reduce the volume of expensive cryogenic storage.

The report estimated the costs to build and run a small onshore LNG terminal at the port or use nearby facilities at $140 mill to $295 mill. ■

Team effort drives Cheniere forward

Last week, US LNG developer Cheniere Energy highlighted its role in helping meet the world's growing need for secure and reliable energy.

In its 2024 Corporate Responsibility Report, entitled 'Together, We Deliver'. the company explained that this was being undertaken with the support of its stakeholders, including employees, communities and shareholders.

The report's highlights included:

- Produced 11% of global LNG in 2024, including 25% of Europe's import volumes.
- Established a voluntary Scope 1 methane emissions intensity target of 0.03% across its two liquefaction facilities by 2027.
- Updated its life cycle assessment (LCA) methodology to include a gas-pathing algorithm, which improves the estimation of greenhouse gas (GHG) emissions across the supply chain.
- Advanced its projects, including the production of the first LNG from Corpus Christi liquefaction stage 3 expansion project's Train 1.
- Achieved a 0.15 Total Reportable Incident Rate (TRIR), a top-quintile safety performance in the industry.
- Contributed $5.8 mill in direct giving and about 11,000 volunteer hours in support of its communities.

"It is a privilege to share Cheniere's 2024 Corporate Responsibility Report, which highlights the accomplishments of our teamwork and reiterates our commitment to safely and responsibly meeting the world's demand for reliable and affordable energy, while enhancing energy security and delivering significant benefits to the US and our customers worldwide," said Jack Fusco, Cheniere's President and CEO.

"Looking ahead, we are focused on safely delivering supply to meet LNG demand, while advancing the environmental competitiveness and sustainability of our LNG.

"We are committed to working together to responsibly deliver a reliable, competitive and integrated source of LNG in a safe and rewarding work environment," he said.

Centrica signs SPA - will purchase Grain LNG

Centrica's trading arm, Centrica Energy, has signed a natural gas sale and purchase agreement (SPA) with US-based Devon Energy Corp.

Under the agreement, Devon Energy will supply 50,000 MMBtu per day of natural gas for 10 years starting in 2028, which is the equivalent of five LNG cargoes per year.

The LNG will be indexed to the European TTF gas hub price.

Centrica said that this SPA supported its objective of managing market price risk in its LNG portfolio by aligning feed gas pricing with European gas prices whilst providing Devon Energy with international price exposure.

Chris O'Shea, Group CEO, said: "Gas remains an essential transition fuel and, through long-term agreements like this, Centrica ensures competitively indexed gas supply for our LNG business and builds on the deep and important energy trade links between the US and the UK."

The physical volumes will be handled and optimised by Centrica Energy's US subsidiary that recently announced the opening of an office in New York.

Grain LNG purchase

This announcement closely followed the news that Centrica had linked up with Energy Capital Partners (ECP) to buy the UK's National Grid's Grain LNG terminal and storage plant in a deal worth £1.5 bill.

Grain supplied some 15% of the UK's gas demand last year, but this is forecast to grow to about 60% by 2050.

After taking into account some £1.1 bill worth of project finance debts on Grain's balance sheet, Centrica's equity investment totals about £200 mill, the company confirmed.

National Grid, which operates most of the UK's electricity needs, had been looking to sell the asset as part of a broader effort to offload parts of its portfolio to help fund investment plans.

O'Shea, said: "The Isle of Grain terminal is a strategic asset that will support the UK's energy security for many decades to come, keeping energy flowing reliably and affordably to households and businesses across the country as we transition to net zero."

The acquisition is expected to be finalised during the last three months of this year, subject to regulatory approvals.

Latham & Watkins advised the entity owned 50/50 by ECP and Centrica, on the acquisition.

The law firm also advised the purchaser on its debt financing, and ECP on its shareholder arrangements with Centrica.

Latham's team was led by London corporate partners, David Walker and Beatrice Lo, with associates, Becky Wee and Darragh Hyland, and finance partners, JP Sweny and Alexander Buckeridge-Hocking, with counsel Evelyne Girio.

Centrica has agreed to purchase Grain LNG

LNG demand to surge 50% by 2030 - Meg O'Neill

Woodside Energy's Meg O'Neill said there will be a 50% surge in global LNG demand by 2030.

This growth will be driven by increasing Asian demand, particularly for countries moving away from coal such as China and India, to attain lower emissions, plus population growth and economic development.

Woodside is actively investing in cost-competitive LNG projects to meet this rising demand, including its major project in Louisiana, she said in the company's half year earnings call.

The Australian oil and gas developer is already seeing customers seeking LNG supply contracts that extend into the 2040s, highlighting the long-term confidence in LNG as a fuel source.

Woodside is focused on cost-competitive projects and strategic investments, such as the Louisiana LNG project, to capitalise on the growing LNG market, she said.

The company reported a 24% drop in its first-half profit, on the back of lower realised prices and depreciation costs in its Senegal Sangomar oil project.

Volatility in oil prices, driven by OPEC+ production increases, geopolitical uncertainty, and US tariffs, resulted in the company achieving an average price of $61.8 per barrel of oil equivalent in the first half, down from $62.6 per barrel in the previous year.

As for Sangomar, production costs, depreciation and amortisation came in at $773 mill during 1H25.

Consequently, Woodside reported an underlying net profit fall after tax to $1.25 bill for the period, compared with $1.63 bill in 1H24.

However, Woodside's operating revenue rose by 10% to $6.59 bill, with Sangomar contributing nearly $1 bill.

As a result, the company declared an interim dividend of 53 cents per share, compared with 69 cents declared last year.

Woodside claimed it continued to receive "strong interest from high-quality potential partners" as it explores further sell-offs of its $17.5 bill Louisiana LNG project.

A 40% stake in the company holding the project's infrastructure assets has already been sold to US investor Stonepeak for $5.7 bill and Woodside has agreed to explore potential collaboration with Saudi giant Aramco on a possible equity investment and offtake agreement in the project.

The company also confirmed that it was continuing to consult with the Australian government on the proposed conditions tied to the environmental approval of its North West Shelf LNG project extension.

Woodside's Meg O'neill bullish on LNG future

Woodside is the operator and has 33% participating interest in this project, which is the country's oldest and largest LNG plant and a key supplier to Asian markets. ■

Ocean Yield expands LNGC portfolio

Norwegian ship leasing specialist, Ocean Yield, together with its parent KKR's managed investment vehicles, are to acquire CapeOmega Gas Transportation from private equity firm, Partners Group.

CapeOmega has joint ownership of 10 x 174,000 cu m LNGCs operated by Knutsen.

Seven are already in service, averaging two years in age, while the remaining three are due for delivery this year and next.

All 10 vessels are on long-term charters to energy majors, Shell, Engie, and QatarEnergy, for an average of nine years. Including option periods, the average charter duration could extend to 16 years.

Ocean Yield said the deal would add around $120 mill to its adjusted EBITDA backlog.

"We are pleased to co-invest with KKR in this transaction, which provides attractive exposure to modern LNG carriers, all employed on long-term charters to investment grade-rated counterparties," said Ocean Yield CEO, Andreas Røde.

This transaction is expected to close in the second half of this year.

Parent KKR is also expected to inject further equity into the company.

Ocean Yield entered the LNG space by taking a stake in France LNG Shipping via a deal with Geogas LNG, which has since grown to 45%. France LNG Shipping is a joint venture between Geogas and Japan's NYK, owning a fleet of 12 LNGCs.

Partners Group acquired CapeOmega in 2019 and last year, oversaw the sale of the company's natural gas pipeline and terminal business to the Norwegian Government.

The company has also announced a second quarter 2025 EBITDA of $57.5 mill and adjusted EBITDA of $101.1 mill. Net profit was $22.9 mill.

Ocean Yield said that it continued its robust balance sheet, with an equity ratio of 29.1% and $98.7 mill in available liquidity.

Ocean Yield CEO Andreas Røde

Røde, said: "I am pleased to report another strong quarter for Ocean Yield, delivering a net profit of $22.9 mill.

"Together with KKR, we announced a significant investment in 10 LNG carriers operated by Knutsen LNG, all secured on long-term charters to investment-grade rated counterparties.

"Our fleet continues to grow and diversify, and with an EBITDA charter backlog of $4.3 bill and an average remaining contract duration of 9.9 years, we are well-positioned for sustained growth and value creation," he claimed. ■

NEWS BRIEFS

EU imports of Russian LNG continue to rise

The European Union (EU) imported around €4.48 bill of Russian LNG in the first half of 2025, a rise from €3.47 bill recorded over the same period last year, according to EU statistics agency, Eurostat.

Overall, the EU imported LNG valued at about €26.9 bill during the period with the the largest share - around €13.7 bill - coming from the US.

For the whole of last year, the US accounted for nearly 45% of the EU's total LNG imports, making it the bloc's largest LNG supplier, the European Commission reported.

Unlike Russian oil and coal, the EU has so far not imposed sanctions on gas, due to ongoing dependencies among some member states, although discussions are ongoing.

Both LNG and pipeline gas, including via the TurkStream link, continued to flow into the bloc. ■

Hanwha Aerospace to enter US LNG export arena

South Korea's Hanwha subsidiary, Hanwha Aerospace, is to establish a framework to tap into US produced LNG.

The company plans to become actively involved in the global LNG market through business synergies with group affiliates, such as Hanwha Ocean.

Last week, Hanwha Aerospace and Hanwha Energy announced that they had signed a memorandum of understanding (MoU) with Korea South-East Power for building Team Korea to strengthen global LNG co-operation.

This agreement was put together to pursue LNG procurement and supply chain diversification, as the need for US LNG imports had increased, as part of the South Korea/US tariff negotiations.

Through this agreement, Hanwha Aerospace and Hanwha Energy, together with South-East Power, plan to accelerate energy supply chain stabilisation by pursuing the joint import of US LNG, strengthening the supply through domestic LNG swaps, and exchanging information on the global LNG market, the Korea Economic Daily (KED) reported.

In particular, they will strengthen the Hanwha Group's synergies by establishing an LNG value chain that links procurement, transport, and supply using Hanwha Ocean's LNGCs.

Hanwha Aerospace recently announced investment possibilities amounting to Won 11 trill at its future vision presentation, saying that it is actively considering investments in energy fields, such as LNG.

Some of the money will be invested in expanding North American LNG opportunities to strengthen its business portfolio. For example, in June last year, it secured a 6.83% stake in US LNG developer, NextDecade, for Won180.3 bill.

Son Jae-il, Hanwha Aerospace CEO, said, "Beyond defence, we will strive to contribute to Korea's energy security through collaboration with South-East Power and group-level synergies."

Kim Jun-dong, Korea South-East Power President, added, "Amid geopolitical risks such as recent Middle East conflicts and internal and external changes, such as the conclusion of Korea/US tariff negotiations, it is very meaningful to increase the competitiveness of direct LNG imports together with the private sector.

"I hope this 'Team Korea' agreement will be a cornerstone for contributing to the national economy through practical cooperation such as joint import of US LNG," he said. ■

> **"Beyond defence, we will strive to contribute to Korea's energy security through collaboration with South-East Power and group-level synergies."**
>
> *– Son Jae-il, CEO, Hanwha Aerospace*

NEWS BRIEFS

KBR to undertake Abadi's onshore FEED

Engineering technology firm, KBR has been awarded a contract by INPEX Masela to provide front-end engineering design (FEED) for the onshore LNG facilities for Indonesia's Abadi LNG project.

Abadi, which will have peak production capacity targets of 9.5 mill tonnes per annum of LNG and 150 mill standard cu ft per day of pipeline gas, has been designated a project of national strategic importance by the Indonesian government.

Under the terms of the contract, KBR will collaborate with Samsung E&A and PT Adhi Karya to provide comprehensive FEED services for the onshore LNG facilities.

"We look forward to strengthening our collaboration with INPEX and helping Indonesia sustainably achieve its national energy security objectives," said Jay Ibrahim, KBR President, Sustainable Technology Solutions. "The production targets of this project underscore its critical significance and the potential to deliver substantial long-term value to stakeholders. KBR's robust engineering solutions and FEED services will support INPEX in reaching its final investment decision (FID), " he said.

Seatrium joins Karpowership on FSRU projects

Singapore based engineering company, Seatrium has signed a Letter of Intent (LOI) with Karpowership, the owner, operator and builder of the world's largest powerships (floating power plants).

Under the LoI, Seatrium will undertake the integration of four new powerships, with an option for another two units.

Karpowership will deliver the hulls and the main equipment for the units to Seatrium's shipyard in Singapore, where integration work will begin in the first quarter of 2027.

Seatrium will be responsible for the mechanical and electrical, equipment integration, mechanical completion, and pre-commissioning work.

The LoI also includes the conversion, life extension and repairs on three LNGCs, turning them into FSRUs, which involves the installation of regasification modules, spread-mooring systems, and the integration of supporting systems, such as cargo handling, offloading, utility, electrical, and automation systems. ■

BlackRock backs Saudi gas project

A consortium led by the world's largest independent investment firm, BlackRock, has agreed an $11 bill lease deal involving Aramco's natural gas facilities.

A BlackRock Global Infrastructure Partners' (GIP) subsidiary will lease the Jafurah gas project's infrastucture and lend it back to Aramco for 20 years.

Saudi Arabia's state controlled energy giant Aramco is developing the $100 bill plus Jafurah project to supply fuel to domestic power plants, as well as for export.

Aramco has been seeking international capital by selling stakes in some assets, being a major source of revenue for the government's economic transformation plan in preparation for a future in which oil demand begins to decline.

A newly-formed subsidiary, Jafurah Midstream Gas Co, will be created as part of the deal in which Aramco will hold a 51% majority stake and the GIP-led group will own the remainder.

BlackRock was the first major global investment manager to open an office in Riyadh, and has also invested in the Gulf states of Kuwait, Qatar and the United Arab Emirates.

Aramco's CEO, Amin Nasser, has been on the BlackRock's Board since 2023.

Aramco's CFO, Ziad Al-Murshed, said on an 5th August results conference call that the company was reviewing its portfolio and could decide to spin off assets.

"What we're looking at across the portfolio is to unlock capital that's locked into relatively low-return, and invest in core activities," he said. "When we look at assets, it is typically low-return that is tied up in things like infrastructure and where other investors would be interested."

Jafurah is an unconventional field, meaning the gas is trapped in hard-to-access rock formations and requires special techniques to extract it. ■

P&I Club warns of cargo 'stratification'

Norwegian based P&I Club Skuld has warned that if two separate LNG batches with different compositions and densities end up in the same tank, and don't mix properly then the liquefied gas could settle into two layers, called stratification.

Another term, 'rollover', describes the rapid mixing of the LNG layers inside the tank, which could lead to a sudden uncontrollable increase in the boil-off gas (BOG).

With a BOG increase, the cargo tank pressure will rapidly rise, resulting in potential flammable gas venting to the atmosphere through the vent mast, opening of the cargo tank safety relief valves, or in the worst case scenario, structural damage.

Skuld warned that once the cargo tank relief valve had been opened, there is a risk of seal damage, which may result in the valve being unable to be closed fully, subsequently leading to cargo loss and delays.

Stratification commonly occurs when lighter LNG is loaded above heavier LNG, or vice versa.

There are indicators that can provide an early warning of stratification, such as density and temperature profiles, plus a reduced BOG rate.

The BOG rate will be reduced before the rollover event, which will rapidly cause a boil-off spike.

The most effective method of preventing stratification and rollover is to avoid mixing LNG and load it into empty cargo tanks. SIGTTO guidelines define an empty cargo tank as less than 800 cu m of LNG.

However, this could vary depending on the type and size of the vessel. To gain the exact figure, the cargo tank's manufacturer should be consulted.

It's important to properly plan and manage LNG loading operations, Skuld said. A quality certificate should be requested prior to loading and the density compared to the LNG (heel) already on board, which will provide additional time for potential internal cargo transfer or other means to prevent stratification.

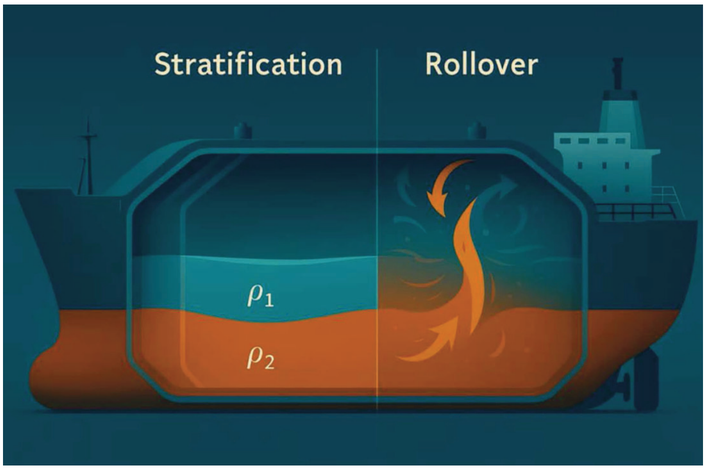
The cargo's ageing and weathering means a gradual composition change over time, due to lighter components evaporating (boiling-off), making the remaining liquid richer in heavier components, which should be taken into consideration.

Usually the LNGCs are equipped with top filling systems on one or several tanks. If the incoming LNG is heavier, the top filling should be utilised to mix the cargo properly.

Skuld warned that there are potential liquid level restrictions with respect to the utilisation of the top filling. In addition, top filling increases BOG generation and can limit the feasible loading rate, depending on the BOG handling capacity.

As for FSRUs, the rate at which the cargo is regasified and sent ashore will affect the mixing in the cargo tank. With a higher sendout rate, there is less time for the LNG to form layers and eventually rollover.

The P&I club advised that the actual risk and controls depend on the ship and project specific factors and must be confirmed against the vessel's Safety Management System (SMS) and technical limits, such as tank layout, BOG handling capacity and sendout profiles.



Source: Skuld