Argus Global LNG

LNG markets, projects and infrastructure

argusmedia.com

Volume XX, 3, March 2024

Scaling the transition

Scale, cost and carbon intensity will be key to gas producers' longevity in the energy transition. Leading LNG producer QatarEnergy's (QE's) announcement of yet another capacity expansion tied to its supergiant North Field reflects this realisation. With the world's lowest-cost gas production, Qatar now plans to future-proof itself by boosting its LNG capacity to 142mn t/yr by 2030.

The high investment cost and long life of LNG projects make longevity of demand the greatest risk that producers face. Amid the uncertainty of when demand may peak, plateau and decline, LNG offers the brightest long-term outlook, as continued demand growth in emerging markets is expected to coincide with declining local production. But affordability remains key in the prime growth markets of China, India and southeast Asia. The course of climate policy and the question of how long gas will be able to claim a role in the transition — by displacing coal and complementing renewables — remain longer-term uncertainties hanging over this demand outlook.

But the geopolitical turmoil of the past two years has seen energy security prioritised over sustainability, and reinforced LNG as a central pillar of this security. Russia's invasion of Ukraine, and the subsequent curtailment of pipeline supplies to Europe, has upended the global LNG market since 2022, with US supply leading the way in filling the shortfall.

Geopolitics continues to weigh on LNG investment. Russia is stepping up its ambitious LNG plans. But while US-led sanctions have carefully avoided shutting in existing supply, they have targeted Russian LNG projects under development in a bid to constrain their growth prospects. Other producers face their own political pressures. Australia has seen waning appetite for major greenfield LNG projects in the face of rising costs and a fraught regulatory environment. The US is the only country able to rival and outstrip Qatar's ambitions. But as energy and climate policy reflect the deepening divide in US politics ahead of the November polls, President Joe Biden has chosen a symbolic pause in new LNG export licences to tout his domestic energy security and environmental credentials. His likely opponent, former president Donald Trump, pledges to reverse this policy.

But neither position reflects the commercial reality that all US projects still face — the same issue as LNG developers everywhere, except Qatar — the need to find long-term offtakers first to guarantee their investments. QE can push ahead without these guarantees, partnering with leading international firms on its own terms, secure in its ability to tie up long-term offtake contracts while it builds out its LNG capacity. Only Qatar appears to have the scale of advantages — political, commercial and reputational — to ensure it has a long-term leading role in LNG whatever the energy transition holds.

Argus Global Gas Markets service to replace Argus Global LNG

Argus is pleased to announce a new, twice-monthly intelligence service, Argus Global Gas Markets, which will present comprehensive supply/demand, investment and policy analysis for the increasingly global natural gas market.

The new service, set to commence on 27 March, will replace the monthly *Argus* Global LNG report, which has published its final edition on 6 March.

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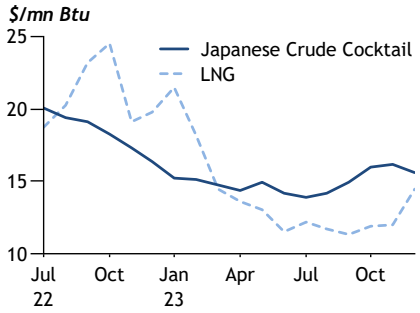
EDITORIAL: Another major capacity expansion reinforces Qatar's LNG leadership advantages

Japanese LNG vs crude



Key price points	$/mn Btu	
	Dec	Jan
ZTP gas month-ahead	14.42	11.48
US Nymex month 1	3.12	2.57
China LNG import price	14.14	na
Japanese Crude Cocktail	16.40	17.07
Japanese LNG import price	14.47	15.19

— Markets and data pp13-28

CONTENTS

Qatar in new expansion 2
US still unclear on licence pause 3
US producers cut output 4-5
Mexico export plans face delays 5
US, UK step up pressure on Russia 6
Egypt to remain seasonal exporter 7
W Australia calls for intervention 8
CNPC expects demand to grow 9
S Korea calls for fairer grid 10-11
Indian importers review options 12
Outlook split on emerging markets 13
Brazil brings more capacity on line 14
Argentina gas output falls in Jan 14

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QATAR

Qatar puts long-term faith in LNG with new expansion

The country's latest capacity expansion assumes demand for its low-cost, low-carbon-intensity LNG well beyond 2050, writes Bachar Halabi

Qatar has announced plans to further increase its LNG production capacity to 142mn t/yr by 2030, underlining its expectation that it will be able to secure demand for the low-cost, low-carbon-intensity resources of its supergiant North Field, whatever the outlook for gas demand in the energy transition.

Qatar's decision took the market by surprise and follows the discovery of "huge additional" gas reserves that will enable state-run QatarEnergy (QE) to expand its LNG capacity further from an already planned 126mn t/yr by 2027, from its current 77mn t/yr. And the tiny Mideast Gulf emirate is seizing a resource opportunity, while other leading LNG producers face growing challenges.

QE is already years into its capacity expansion programme to bring 32mn t/yr on line by the middle of 2026 from the North Field East (NFE) project, before the North Field South (NFS) brings a further 16mn t/yr by 2027. Its most recent discovery adds about 240 trillion ft³ (6.7 trillion m³) to Qatar's gas reserves, and more than 10bn bl to its condensate reserves, as well as "large quantities" of LPG, ethane and helium. This takes Qatar's total reserves estimate to more than 2,000 trillion ft³ of gas and more than 80bn bl of condensate, and underpins the plans for 16mn t/yr of LNG capacity from its new North Field West project.

Qatar predicts demand for gas, particularly in Asian markets, to keep rising well beyond the net zero 2050 cut-off date. "There will be increasing demand for gas in the next 50 years," Qatar's energy minister and QE chief executive, Saad bin Sherida al-Kaabi, says. The IEA sees global gas consumption peaking this decade. But Qatar's views are supported by the potential for large-scale coal displacement in emerging Asia-Pacific markets. And with Qatar touting natural gas as a destination fuel rather than a transitional one, it aims to make its LNG appealing for coal-dependent Asian consumers as part of their decarbonisation strategies.

Qatar's expansion appears strategic and opportune, coming so soon after the US "paused" export licences for new projects

QE's outlook is supported by its policy of agreeing long-term deals of up to 27 years for NFS and NFE supply with major Asian and European customers, starting from 2026. Since 2022, QE has signed long-term contracts totalling 31.3mn t/yr from NFS and NFE, accounting for about 64pc of the additional 49mn t/yr of capacity that it intends to bring on line from them by 2027.

But QE's move to further exploit its giant resources more rapidly could also act as a hedge in case of longer-term demand uncertainty, as it is able to monetise its gas more competitively than rival producers. Its marginal cost of production for LNG is generally treated as negative in the industry thanks to the value of the associated condensate produced, while Doha's financial prowess ensures it has no problem raising and servicing debt.

Taking advantage of a US pause

Qatar's expansion appears strategic and opportune, coming so soon after the US "paused" export licences for new projects. The move by President Joe Biden's administration is largely seen as political signalling ahead of November's elections, but some US projects that already have export licences are struggling to reach final investment decisions (FIDs). Qatar's expansion may jeopardise some higher-cost projects in the US, depending on how the market balance looks towards 2030.

US developers follow a traditional model of LNG financing, securing almost all the offtake to long-term deals before FID. QE's move to expand capacity before buyers commit to taking supply may help convince potential customers they can depend on it for the long term. And a contractual dispute between US LNG exporter Venture Global and some of its key offtakers in Europe may further benefit Qatar's reputation as a reliable supplier of competitively priced LNG — vital for securing the key potential long-term growth markets of China and India.

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US

US still not clear on duration of LNG licence pause

The Biden administration continues to claim the halt is temporary but stops short of providing a specific timeline, write Chris Knight and Xiaoyi Deng

US government officials expect the pause on export licences for new LNG terminals to last 10-14 months, but they have declined to rule out the possibility of it becoming a ban after the ongoing review is completed.

The pause was "going to be somewhere in the 10, 12, 14 months [timeframe]", President Joe Biden's senior adviser for energy, Amos Hochstein, said last month. But at a separate event, energy secretary Jennifer Granholm declined to offer a specific timeline to complete the LNG export review or to rule out the possibility that the decision to "pause" the issuance of new export licenses would morph into a ban on new projects, depending on the results of a pending study from officials at Department of Energy (DOE) laboratories.

"I am not projecting forward what the objective modellers and scientists will tell us," Granholm said when asked about concerns by industry groups that the pause would lead to a ban on new LNG licenses. But she reiterated there would not be a "ban" on US LNG exports, because the administration is not revisiting existing licenses for the 14bn ft³/d in US LNG facilities already operating, the 12bn ft³/d of capacity under construction and the 22bn ft³/d of fully approved projects.

Under the timeframe suggested by Hochstein, the review would conclude after the 5 November election, for which Biden is seeking a second term. Republicans have criticised the pause on export licenses, warning it will prompt allies in Europe and Asia to look elsewhere for gas. But the administration has downplayed the possibility that the pause would affect relationships with allies. The pause was crafted to ensure that "energy continues to flow", Granholm said, allowing the DOE time to scrutinise the impact on greenhouse gas emissions and domestic gas prices. "This is a months-long pause," she said. "This is not going to affect relationships with any of our allies, and should not cause great uncertainty."

'This is a months-long pause. This is not going to affect relationships with any of our allies, and should not cause great uncertainty'
— Jennifer Granholm, energy secretary

Indeed, European officials have expressed little concern about the decision. "What was of course very important for me was reassurance that if it comes to the next two, three years, there should be no impact whatsoever on the supplies of US LNG to Europe," EU vice-president for European green deal Maroš Šefčovič said after meeting with US officials in Washington.

Qualms quelled

European leaders have not raised widespread concerns about Biden's licensing pause, having been given assurances from the administration US LNG export facilities supplying Europe or are under construction will not be affected.

And the LNG licence pause's impact on the global LNG market could be minimal if it remains brief, according to Shell. As long as the ban does not affect ongoing projects and lasts for only "a year or so", the impact on the market will remain limited, Shell's executive vice-president, Steve Hill, says.

The industry remains vocal about the risk to investments in the long term, but also to projects close to being sanctioned but still awaiting approval, such as US operator Venture Global's proposed 20mn t/yr CP2 LNG project in Louisiana. Last month, the company's chief executive, Michael Sabel, asked the US' Federal Energy Regulatory Commission (FERC) to approve the project by no later than 21 March. "We are ready to commence on-site construction of this multi-billion-dollar project as soon as authorised by the commission," Sabel said.

The Biden administration says the licensing pause does not technically apply to CP2 as the project is under review at FERC. But FERC chairman Willie Phillips, without specifically referring to CP2, says the agency acts on matters "when they are ready to be acted upon". FERC's permitting process is entirely separate from DOE's process for authorising exports, and there is no co-ordination, he says.

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US

Gas producers cut output on lower prices

Low gas prices in the US are prompting a supply-side response, write Jason Womack, Julian Hast and Xiaoyi Deng

US natural gas producers are curtailing production this year in response to lower prices and a dim outlook for gas demand ahead of the start-up of new LNG export capacity along the US Gulf coast in 2025.

US independent EQT, the largest producer of US gas by volume, has cut 1bn ft³/d (28mn m³/d) of output since late February, the firm says, pointing at warm winter weather, high gas inventories and gas prices in the country slipping below $2/mn Btu. Fellow US gas producer Chesapeake Energy had already announced in February that it planned to idle a rig in the Haynesville basin of east Texas and northern Louisiana this month and a second one in the Marcellus formation in Pennsylvania and the surrounding states in July. The cuts will leave the company with four rigs in Haynesville and three in the Marcellus still in operation, with production set to drop to 2.65bn-2.75bn ft³/d, compared with the 3.35bn ft³/d that the company produced in the fourth quarter of 2023.

But while EQT expects the production curtailment to last for about a month, Chesapeake Energy gave no firm indication of the duration of the cuts, saying it could begin to restore the lost output in a matter of weeks but without specifying what price would be required. The firm will also delay well completions until the market signals that more supply is needed, creating a backlog of wells that can be brought on line quickly in response to higher gas prices. "Our 2024 operating plan is designed to prudently respond to today's market" and "today, the market is clearly oversupplied", Chesapeake chief executive Nick Dell'Osso says.

US gas prices have fallen sharply in recent months on rising production, mild weather and robust inventories. The front-month contract at the US Henry Hub reached $1.58/mn Btu on 20 February, down from $2.07/mn Btu a year earlier and the lowest since June 2020, before rebounding in recent days following news of the supply curtailments. Chesapeake sold its gas production at an average price of $2.87/'000 ft³ in the fourth quarter of 2023, including hedges, which was down by 16pc compared with a year earlier. This was broadly in line with the average Henry Hub spot price of $2.84/'000 ft³ over the period.

Lower gas prices are also likely to be behind an observed drop in oil and gas drilling in West Virginia, which is the marginal producing state in the Appalachia region, with drilling activity more price-sensitive than in neighbouring Pennsylvania, which has several large dry gas wells with lower production costs, and Ohio, where production is driven by natural gas liquids, FactSet analyst Erica Blake says. These features make drilling in Pennsylvania and Ohio economical even when gas prices are low. The number of rigs in West Virginia was seven in the week ending on 23 February, down from the February 2023 average of 15, according to oil field services firm Baker Hughes. By contrast, the Pennsylvania rig count rose by one over the same period, while the Ohio rig count fell by two.

US producers express confidence in demand growth, particularly as more LNG export capacity is set to start operations next year

Widening gulf

Going forward, US producers express confidence in demand growth, particularly as more LNG export capacity is set to start operations from next year — a sentiment reflected in the steep contango structure in the Henry Hub curve.

But market participants are concerned that the concentration of export capacity on the Gulf coast of the US could widen locational price spreads in the country and the North American gas market more broadly, particularly if the development of the country's transportation network fails to keep pace with rising upstream production and export capacity.

Difficulties in building new pipeline capacity could impede the transportation of gas from US production centres to LNG export facilities on the Gulf coast, re-

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US

New pipelines coming on line in 2024-25 will probably meet only 60pc of demand from new LNG facilities starting up this decade

sulting in wider price spreads between the regional gas markets, Shell's executive vice-president, Steve Hill, says. LNG export capacity from the US, Canada and Mexico are set to reach close to 200mn t/yr by the end of this decade, up from almost 100mn t/yr at present, Hill says, adding that these facilities will become a major gas-consuming sector, equivalent to the power, heating and industrial sectors in North America combined. But new pipelines coming on line in 2024-25 will probably meet only 60pc of demand from new LNG export facilities starting up this decade, according to US gas market analytics firm East Daley Analytics.

EQT, which remains focused on the Appalachian region, says infrastructure constraints prevent output in the region from rising further, citing in particular the 2bn ft³/d Mountain Valley Pipeline, a project aimed at transporting gas produced in West Virginia to southern Virginia, which has been repeatedly delayed.

By contrast, Chesapeake has been concentrating its operations in the Haynesville and Marcellus shale. It recently sold off assets in south Texas' Eagle Ford shale and agreed to buy rival Southwestern Energy. The deal, which is expected to close in the second quarter, would create the US' largest gas producer, with output of 7.9bn ft³/d of natural gas equivalent, and also the biggest producer in the Haynesville, which is close to planned new LNG export capacity along the US Gulf coast. The firm has also agreed to buy 500,000 t/yr from the US' planned 13.1mn t/yr Delfin LNG liquefaction terminal at prices linked to the Henry Hub, for 20 years starting in 2028. Chesapeake will sell its offtake to trading firm Gunvor on a fob basis linked to northeast Asian spot delivered prices.

MEXICO

LNG export plans face delays

Following the US' temporary halt on new export licences, interest for Mexican projects has risen, write Martin Senior, Cerys Edwards and Rebecca Conan

Mexico's LNG export plans have suffered further delays, but the US decision to pause issuing new LNG export licences has boosted interest in planned Mexican terminals that are already fully permitted.

US LNG firm New Fortress Energy expects to begin exports from the 1.4mn t/yr Altamira terminal in April, a further delay from the most recent timeline of mid-February. The start-up has been pushed back repeatedly from early 2023, when the firm planned to start commercial operations in August that year. The facility will use US-sourced feedgas, which requires permits from the US energy department to be exported to countries that do and do not have a free trade agreement with the US — FTA and non-FTA permits, respectively. Altamira has an FTA export permit, but not a non-FTA permit. But New Fortress says it has enough supply commitments with Puerto Rico, Mexico and Nicaragua, which do hold free trade agreements with the US, to cover export capacity from Altamira's first train and its planned 1.4mn t/yr onshore second unit.

Separately, developer Mexico Pacific has delayed taking a final investment decision (FID) on the third liquefaction train at its planned 15mn t/yr Saguaro Energia LNG terminal until the second half of 2024. Saguaro's first phase consists of three trains, with the first two set to start up in 2027. But Mexico Pacific has yet to take an FID at either of these, having previously targeted this for 2022.

But the uncertainties surrounding the duration of the US government's pause on new LNG export licences has buoyed interest in projects that have already been permitted, including the 3.9mn t/yr Amigo LNG project on Mexico's Pacific coast that has a non-FTA permit valid through to August 2027. The first phase of the project is fully contracted, but it has received six new offtake requests in the last three weeks following the US' decision, project developer LNG Alliance tells *Argus*. Construction is expected to start in July, with exports to begin in 2027.

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RUSSIA

US steps up pressure on Russian LNG, joined by UK

New round of sanctions target ice-class LNG carriers destined to serve Arctic LNG 2, write Haik Gugarats and Martin Senior

The latest package of US sanctions against Russia double down on the country's 19.8mn t/yr Arctic LNG 2 project, now also on the UK government's list of sanctioned entities, by blocking the provision of technologies and equipment and access to crucial ice-class tankers.

The latest move by the US government adds to measures that have already curtailed development plans at Russian firm Novatek's Arctic LNG 2. The sanctions list now includes the Rosneft-controlled Zvezda shipyard, which was contracted to supply 15 ice-class LNG carriers for Arctic LNG 2 and the Smart LNG joint venture between Novatek and Russian freight company Sovcomflot, which was established to lease new ice-class LNG carriers for the export terminal.

The US sanctions against Arctic LNG 2, imposed late last year, have delayed the delivery of LNG carriers for the already completed first train, hampered the completion of the second and probably stalled plans for the third train at the LNG export facility. The first 6.6mn t/yr train arrived at the terminal in August last year but has not shipped its first cargo yet, probably because US sanctions prevent shipowners from dealing with Arctic LNG 2. In December, Novatek declared *force majeure* on supply from the terminal because of a lack of available shipping capacity. The US has also imposed sanctions on Sovcomflot's Cyprus-based subsidiaries Azoria, Elixon and Glorina for planning to acquire LNG carriers to enable exports from Arctic LNG 2.

The UK has joined the US in placing the project under sanctions last month, after it was deemed to be "involved in supporting the government of Russia by carrying on business in a sector of strategic significance to the government of Russia, namely the Russian energy sector". London took the same action over Arctic LNG 2's director, Oleg Karpushin.

Despite the spate of additional sanctions targeting Russian LNG projects, the country has lifted its LNG export capacity target

Washington separately imposed sanctions on another planned Russian project, Gazprom's Ust-Luga 45bn m³/yr gas processing plant and 13mn t/yr LNG terminal. The latest US sanctions list include Ust-Luga operator Ruskhimalyans and its subsidiary, New Communal Technologies. Other energy-related targets include geological services provider Rosgeologia and Globaltek, a private company established to build the Yakutsky gas project in Russia's Yakutia region. Chinese utility Zhejiang Energy last year said it was looking to buy a stake in Globaltek.

Russia's rising LNG ambitions to be tested by sanctions

Despite the spate of additional sanctions targeting Russian LNG projects, the country has lifted its LNG export capacity target, revealed by the deputy prime minister Alexander Novak on 20 February.

Moscow now aims to export 110mn t/yr of LNG by 2030, which is 10mn t/yr higher than the figure Novak gave a year ago and at least 7.5mn t/yr above the "high-growth scenario" for capacity in 2025-30 in Russia's long-term LNG strategy.

Russian LNG production fell by 2pc to 33mn t last year. The greatest capacity increase could come from the far north Yamal and Gydan peninsulas, with Novak projecting production at 60mn t/yr by 2030. Novatek's 17.44mn t/yr Yamal LNG plant is producing more than its nameplate capacity, but the sanctions cast doubt over whether Arctic LNG 2 could operate at capacity from 2027. And there have been no recent updates on other projects in the region, such as the 20mn t/yr Arctic LNG 1 and 5mn t/yr Obsky LNG projects.

Other projects that face an uncertain future include Novatek's plan for 20.4mn t/yr of operational capacity by 2030 near the far north Barents Sea port of Murmansk, the Ust-Luga project and a planned increase in LNG production to 15mn t/yr from Sakhalin island in Russia's far east.

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EGYPT

Egypt to remain seasonal LNG exporter

Cairo's hopes to have more gas available for export hinge on new gas finds and more renewables, write Alexandra Vladimirova, Martin Senior and Auguste Breteau

Egypt will not be able to resume year-round LNG exports for a few years, petroleum minister Tarek El-Molla tells *Argus*, as excess supply available for exports remains tight in the summer.

"When we add more discoveries, add production, accelerate our transition to renewables, this will make more gas available for us to export," El-Molla says. "Until this time, Egypt will stay a seasonal exporter. There is no harm in that."

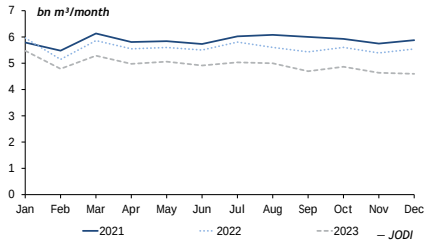
The minister expects this to happen in the next few years, but could not provide a more specific timeline. "We are just updating our strategy", also with the aim "to include new clean fuels, like hydrogen", he says. The country's priority for now is to optimise exports from its two LNG plants, although he notes exports depend entirely on supply availability and price arbitrage opportunities. Egyptian LNG infrastructure "is excellent and there are no plans to improve it", he says.

El-Molla dismissed reported problems with the 850bn m³ Zohr field's productivity, instead attributing the lower output to "natural" decline. The field is "doing well" — it has been "operated by our partners for the last seven years, and it will be operated [for] a few [more] years", El-Molla says.

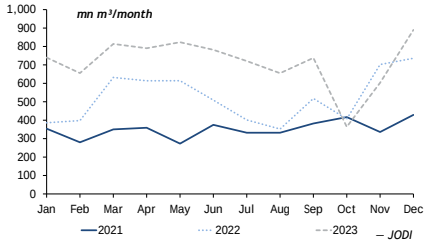
Yet the field's performance has fallen well short of expectations. It produces 2.0bn ft³/d at present, accounting for nearly 40pc of Egypt's overall production of 5.2bn ft³/d, according to state-owned Egas' executive managing director, Magdy Galal. But its output is well below the field's capacity of 3.2bn ft³/d, the level at which the field was run in its first years of operations. And back in 2018, Eni had expected the field to reach plateau production of 3.2bn ft³/d in 2019, a level that it considered possible to maintain for 6-7 years.

Two new projects set to start up in the near future could boost Egyptian output, but the country will still have to import gas this summer because demand is "huge" at that time of year, Galal says, without specifying whether he is referring to pipeline imports from Israel or some spot LNG cargoes. Gas use grew "abnormally" last summer, driven by a heatwave and an influx of refugees, according to Galal. "There is an expansion in infrastructure inside Egypt", and this has boosted gas consumption, he says, adding that 90pc of Egyptian power generation comes from gas.

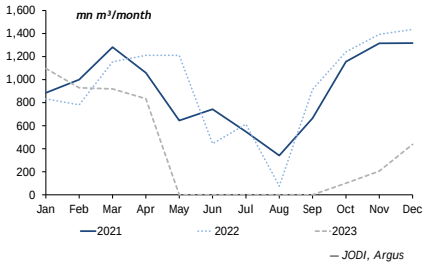
Egypt gas production



Egypt gas imports from Israel



Egypt LNG exports



Imports from Israel recover

The country's LNG exports rebounded in December, as stronger pipeline imports from Israel more than offset a further drop in upstream production.

LNG exports more than doubled to 438mn m³ of equivalent pipeline gas in December, the most recent figures from the Joint Organisations Data Initiative show, from 206mn m³ in November. This was despite gas production edging further down to a five-year low of 4.60bn m³ in December, compared with 4.64bn m³ in November. But Israeli imports reached a record 890mn m³ in December, up from 603mn m³ in November, when the 285bn m³ Tamar field and East Mediterranean Gas pipeline were off line early in that month.

Israeli imports may rise further in the coming years once a third pipeline from the Tamar field is completed. It was expected to be finished in April 2023 but has suffered delays. The development of new pipelines was part of a broader plan to bolster flows from Tamar and the 623bn m³ Leviathan field to Egypt to the full contractual volume of 7bn m³/yr.

Operator Chevron and other partners in Israel's Tamar field have also taken a final investment decision on the second phase of the field's planned expansion, which is set to lift output to 1.6bn ft³/d from 1.0bn ft³/d at present. Both phases of the expansion are scheduled for completion in 2025.

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AUSTRALIA

Western Australia calls for government intervention

Local gas supply shortfalls have prompted calls for a government crackdown, writes Tom Major

A parliamentary inquiry held in the state of Western Australia has recommended government intervention in the LNG sector after finding evidence that LNG operations are not meeting the domestic gas supply mandate.

The inquiry has suggested a crackdown on the sector to prevent local supply shortfalls. Just 8pc of domestic gas output relative to exports from the four LNG projects was reaching the local market since 2006, below the 15pc level required under state regulations, the Western Australia legislative assembly's economics and industry standing committee says in an interim report. There is also "considerable variation between producers", the report notes.

The report did not name any company involved in LNG export or the operators of Western Australia's four onshore plants, Australian independent Woodside Energy and Chevron. Woodside runs the 16.9mn t/yr North West Shelf and 4.9mn t/yr Pluto LNGs while Chevron is operator of the 8.9mn t/yr Wheatstone and 15.6mn t/yr Gorgon LNG terminals.

The report also suggests boosting supply by way of improvements to the approvals process for projects

The Australian Energy Market Operator (Aemo) predicts Western Australia will experience a shortfall of gas this decade. The inquiry backed up the Aemo forecast, reporting a "credible risk" that the state would face substantial gas supply shortfall starting in the near term and continuing for most of the next decade. "Given that the (gas reservation) policy is unlikely to satisfy the state's future domestic gas requirements in its current form, the committee believes there is a case for government intervention, up to and including a legislative response," the interim report says. But an industry-led response would be ideal, bringing more gas to the local market to alleviate supply challenges, the report adds. Government interventions could target individual LNG operators which are not meeting requirements, the inquiry recommends.

The report also suggests boosting supply by way of improvements to the approvals process for projects. It also found "competing evidence" on whether lifting a ban on onshore sourced gas being exported as LNG would address the supply problem. It was not clear whether such action alone would remedy the gas shortfall problem in a timely manner, the report says. The interim report does not make formal recommendations to the Western Australia Labor party government but is likely to foreshadow changes to regulations, which the market expects will come in the middle of the year.

AUSTRALIA

Santos expects first Barossa gas in 3Q 2025

With an environmental lawsuit that delayed it now dismissed, the project is more than half way completed, writes Tom Major

Australian independent Santos expects the first gas flows from its $4.6bn Barossa field in July-September 2025, with the first well having been drilled at the Timor Sea field and the project now 67pc complete.

The project, designed to feed the 3.7mn t/yr Darwin LNG, was delayed by a lawsuit contesting an environmental plan for the gas export pipeline that was dismissed in January.

Early drilling results at Barossa, where one of six wells has been completed, aligned with pre-drill expectations. Carbon dioxide (CO_2) levels were at the lower end of concentration expectations of 14-18pc, chief executive Kevin Gallagher says, which may reduce Barossa's operational costs if these results continue.

Barossa's upstream emissions previously were estimated to total 3.39mn t/yr of CO_2 equivalent, prompting Santos to plan to sequester part of the field's emissions through the proposed Bayu-Undan carbon capture and storage project, with its initial engineering study being 60pc complete, Gallagher says.

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CHINA

CNPC expects gas demand to grow by 6pc in 2024

Lower gas prices and healthier macroeconomics are among the reasons cited for the expectation of demand growth, writes Xiaoyi Deng

State-controlled CNPC's economic and technology research institute in Beijing sees Chinese gas demand rising by 24bn m³, or approximately 6pc, in 2024, an increase broadly in line with the growth recorded last year.

In its annual report published at the end of last month, the institute cites an improving macroeconomic environment and lower international gas prices, although it notes that an increase in availability of alternative fuels — most likely coal — could limit gas demand growth. Combined gas demand stood at 391.7bn m³ in 2023, up by 24.1bn m³ compared with a year earlier, it says. The institute still expects industrial demand to drive growth, accounting for nearly half of the expected increase. The additional 8.8bn m³ in industrial demand last year was higher than the institute's previous forecast of 8.3bn m³, and the institute expects even higher growth of about 10.5bn m³ in 2024 — as public investment in infrastructure and social housing, plus continued urbanisation, could boost demand from gas-intensive industries, such as steel and glass.

But city gas sales and power-sector gas burn also outstripped expectations last year. The former — including residential, commercial and road transport — rose by nearly 10bn m³. China's LNG-fuelled truck fleet expanded sharply in 2023 as LNG remained more competitive than diesel — displacing 18.3mn t, or 9pc, of total diesel demand, according to the institute. And the improving macroeconomic picture and coal-to-gas switching for residential heating could continue to support city gas sales growth in 2024, the institute adds.

Lower hydroelectric output in the first half of last year supported higher power sector gas burn. And power-sector gas burn could keep climbing in 2024, the institute says, citing a continuing rise in overall power demand and the gap between peak-load demand and peak-shaving capacity in regional systems, as well as the addition of more gas-fired units. The Kunming power exchange in the southwestern Chinese province of Yunnan — the main hydroelectric exporter to coastal province Guangdong — has already said it expects fewer power exports from Yunnan to Guangdong — a key region for gas-fired power demand — in March because of lower water inflows in key river systems.

The institute also expects gas use in the fertiliser and chemical industries to recover to 2022's level, after last year's drop.

China gas balance, 2024			bn m³
	2023	2024e	Change
Demand			
City gas	127.7	135.5	7.8
Industries	154.3	164.8	10.5
Power sector	70.9	76.2	5.3
Fertiliser	38.8	39.2	0.4
Supply			
Domestic	235.3	245.8	10.5
Pipeline	67.1	72.6	5.5
LNG	98.4	106.4	8.0

— *CNPC ETRI*

**1mn t of LNG can be regasified to 1.38bn m³ of gas in the institute's calculation*

Demand vs estimation, 2023			bn m³
	Est.	Actual	Diff.
Demand			
City gas	124.9	127.7	2.8
Industries	153.8	154.3	0.5
Power sector	67.8	70.9	3.1
Fertiliser	40.2	38.8	-1.4

— *CNPC ETRI*

Scope for lower spot LNG demand

Supply from all China's gas sources could rise in 2024, but more long-term LNG deals are due to come into force this year than in 2023, which could reduce the amount of supply the country would need to secure on a spot basis.

The institute sees Chinese LNG imports rising by 5.8mn t to 77.1mn t this year, but this is less than the additional supply that can be expected from importers' term portfolios, according to the institute. Some 11.5mn t/yr of extra term LNG is due to start arriving in 2024, compared with just 6mn t/yr in 2023, the institute says. This is much more than the volume arriving under publicly announced term deals — even including supply from the US' Calcasieu Pass and Russia's Arctic LNG 2, additional LNG supply under publicly announced term deals set to begin deliveries this year would amount to just 7.7mn t/yr.

Domestic gas production would still meet most of the country's gas demand growth, but the institute expects output growth to slow to 10.5bn m³ in 2024 from 12.7bn m³ in 2023. And pipeline imports could grow by 5.5bn m³ in 2024, according to the institute. This is roughly in line with the planned increase in receipts through the Power of Siberia 1 pipeline from Russia, which are set to rise to 30bn m³ in 2024 from 25.5bn m³ in 2023.

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SOUTH KOREA

South Korea calls for fairer gas grid operation

Kogas' plan to establish a pipeline operations monitoring body may fall short of the country's private LNG sector's hopes, writes Evelyn Lee

Seoul is pushing to make state-owned gas incumbent Kogas' pipeline operations fairer and more transparent for private LNG importers. But market participants are concerned the company's planned changes may not be enough.

Kogas earlier this year announced that it will create a third-party pipeline operation monitoring body, or a so-called 'pipeline facility use review committee'. The committee will be composed of one official from the ministry of trade, industry and energy (Motie) and six external experts, and will disclose information related to Kogas' pipeline operations. It also plans to introduce a gas grid injection guideline service to increase pipeline utilisation, and set more flexible deadlines when concluding contracts to improve accessibility by private companies, Kogas says.

The announcement came after the 32nd ministerial meeting on 7 December, when the government reviewed regulations deemed to have restricted fair market competition last year. The ministers agreed that existing business restrictions have increased burdens for direct LNG importers, and recommended Kogas's recent steps.

South Korea's gas pipeline network is solely owned and operated by Kogas, with no underground storage facilities. This means that even when the country's private companies import LNG directly from the global market, they still have to use Kogas' pipeline facilities to transmit gas and use the state-operated LNG storage tank if they do not have their own. This has raised concerns among private LNG importers that have expressed concerns Kogas might use its monopoly for its own advantage when competing with private importers.

South Korea's gas market structure has raised concerns among private LNG users that Kogas may use its monopoly power to limit competition

South Korea's Private LNG Industry Association (PLIA) says the terms and conditions to use Kogas' pipelines are often composed of "vague concepts", so users cannot rule out the possibility of the service being suspended or rejected at Kogas' discretion. One of the conditions — Article 7, paragraph 1 of Kogas' pipeline use regulation — says that "the use of pipeline facilities shall not interfere with the performance of the Kogas' gas supply business", meaning the state-owned company can decide how much injection capacity is available for private firms after meeting their own business needs. It is difficult to set objective criteria and therefore the applicability or scope of the term depends on Kogas' "subjective judgment and discretion", PLIA says.

The same applies to gas flow suspension conditions, the association notes. Kogas stipulates that pipeline use can be restricted when there is "rapid change in gas load fluctuations", a "negative impact on the system" or an "imbalance in demand". One South Korean market participant told *Argus* that private LNG companies have a lower gas calorie requirement, while the threshold is higher for gas supplied under Kogas' contracts. But other market participants pointed out that this is widely accepted by the industry as Kogas imports larger volumes, with gas qualities varying from country to country, and therefore requires more flexibility with regard to specifications.

Unbundling calls

South Korea's LNG market participants suggest the creation of the 'pipeline facility use review committee' may not lead to a fairer business environment for private LNG importers if its function remains that of an advisory body that is based on regulations established by Kogas. They argue the pipeline's operations need to be completely separated and operated by a third party that can prioritise public interest over an operating entity's profitability.

Conflicting interests between Kogas and South Korea's private LNG importers

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SOUTH KOREA

While calls from the country's private sector to unlatch the South Korean gas market grow louder, Kogas has been grappling with ongoing financial difficulties

may escalate in the coming years, as private companies plan to build more LNG import terminals and storage tanks.

Private firms are building a total of 15 storage tanks with a combined capacity of 3.87mn t that is set to bolster the country's regasification capacity by 23.8mn t/yr within the next three years, according to the November 2023 report by the Institute for Energy Economics and Financial Analysis.

This is despite the limitations imposed on them by the Petroleum and Alternative Fuel Business Act, which prohibits private firms from reselling directly imported LNG to other domestic companies. But private companies can resell LNG to domestic users when the country's energy security is at risk, as part of the Special Act on National Resource Security that was passed earlier this year.

Private firms increased direct LNG imports last year, as international spot LNG prices held well below the domestic tariff set by Kogas. This, combined with mild weather curbing overall gas demand, weighed on Kogas' annual gas sales, which fell by 3.6mn t on the year to a three-year low of 34.7mn t in 2023, leaving the firm continuing to struggle to recoup expenses associated with the 2022 energy crisis.

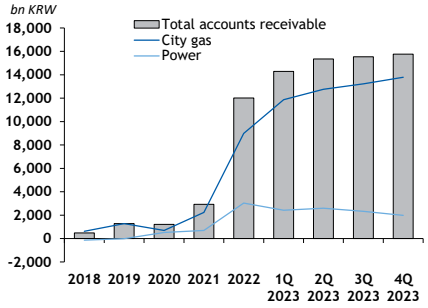
Financial woes

While calls from the country's private sector to unlatch the South Korean gas market grow louder, Kogas has been grappling with ongoing financial difficulties internally and may be reluctant to reform the market.

The firm reported a net loss of 747.4bn won ($559.9mn) last year, according to its latest financial statement, because of weaker gas sales, coupled with a lower unit selling price. Sales revenues were W44.56 trillion in 2023, down from W51.72 trillion a year earlier.

But Kogas also had W15.76 trillion in accounts receivable as of the fourth quarter of last year, compared with W15.54 trillion in the previous quarter and W12 trillion at the end of 2022. Accounts receivable refers to the amount of natural gas import costs that the company has failed to recover from its gas sales. Kogas can classify the deficit amount separately from its expenses and later collect the amount by raising its tariff rates, although Motie can veto the increase if it is deemed to be harmful to economic operations, according to Kogas' gas supply regulations.

Kogas' accounts receivable by sector



Kogas has reflected its fuel purchasing costs in the tariffs it has set for the power sector. This is calculated by an average of its LNG import costs and additional supply costs. But because city gas tariffs are closely linked to the country's economy and public welfare, Motie since 2022 has reserved the right to adjust rates for the city gas sector in accordance with purchasing costs, which pushed Kogas' accumulated accounts receivables to record-high levels last year.

But discussions surrounding any changes to city gas and wholesale electricity tariffs are a politically sensitive topic in South Korea, meaning the government may not rush to recover Kogas' outstanding debts ahead of the forthcoming general election in April.

Kogas' record-high outstanding balance may have forced the firm to look for other sources of income. It reportedly raised its pipeline utilisation tariff by 30pc on the year in 2023, which was an unprecedented move considering the fees had moved within a 10pc range in the past, a market participant tells *Argus*. Kogas' pipeline fees include a capacity tariff, which is a fixed fee charged on contracted capacity, and a pay-as-you-go tariff that is based on actual utilisation, which rose by more than 40pc on the year. A private firm transmitting 1mn t of LNG will have to pay about W12bn to Kogas, a market participant tells *Argus*. The existing fees will be applied until the end of April this year, market participants say.

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INDIA

Importers review their shipping options

Indian firms may charter more vessels to bring contracted LNG from US suppliers, writes Rituparna Ghosh

Some Indian LNG importers are considering chartering more shipping capacity to receive contracted supplies from US export terminals.

Indian state-controlled refiner IOC plans to hire an LNG carrier on a term charter to ship the fuel from the 15mn t/yr Cameron LNG terminal in the US to the 5mn t/yr Ennore import terminal on India's east coast. The firm is seeking delivery of a carrier for a two-year time charter, a person with knowledge of the matter told *Argus*. IOC signed a term contract in 2015 with Japanese trading house Mitsubishi to supply 700,000 t/yr on a fob basis for 20 years from Cameron LNG for shipment to Ennore. The terminal has been operating at low capacity for the past few years because of a delay in laying pipeline connections to inland Indian consumers. It received 471,300t n 2023, down by 27pc from a year earlier, preliminary ship-tracking figures from analytics firm Vortexa show.

Indian state-controlled gas distributor Gail also plans to charter one more LNG tanker to ship cargoes from the US, according to two sources with knowledge of the matter. Gail is seeking a tanker with capacity of 159,000-181,000m^3, for delivery between October 2024 and September 2025, for a minimum period of seven years, which can be extended by another two years. At present, the firm has four LNG tankers, including two time charter agreements with Japan's Mitsui OSK Lines and two with NYK Line.

Gail has a term deal for 3.5mn t/yr of LNG from the US' Sabine Pass terminal and 2.3mn t/yr from Cove Point, valid until 2038. But in recent years it has been swapping most of this supply, as it lacked sufficient shipping capacity to physically deliver it to India. The additional tonnage will help Gail bring more US LNG cargoes to the country instead of swapping cargoes, as well as provide more operational flexibility and reduce supply uncertainty stemming from geopolitical conflicts such as the continuing Red Sea tensions.

An Indo-Japanese shipping consortium is evaluating options to convert two LNG carriers chartered to Petronet LNG into FSRUs

LNG tankers have largely avoided the Red Sea route since attacks on commercial ships by Yemen's Houthi militants began in December 2023. This has affected India more than other Asian importers — avoiding the shorter Suez Canal route adds delays of up to seven days to Gail's US LNG shipments to the 17.5mn t/yr Dahej LNG import terminal on the west coast of India, Gail's director of marketing, Sanjay Kumar, says. By contrast, the alternative Cape of Good Hope route adds only 2-3 sailing days to a typical US-northeast Asia delivery.

Petronet considers FSRU solution

Meanwhile, an Indo-Japanese shipping consortium is evaluating options to convert two LNG carriers chartered to Indian state-controlled importer Petronet LNG into floating storage and regasification units (FSRUs).

The two vessels, *Disha* and *Raahi*, have a capacity of 136,000m^3 each and have been in service since 2004, delivering Qatari supplies to India under a 25-year supply agreement with Petronet that expires in 2028. Petronet agreed with Qatar last month to renew the term contract for another 20 years, but under the new terms Qatar will supply the fuel on a delivered basis. Petronet also has an option to extend the lease by a few years on the LNG charters.

LNG tankers can operate for only 30 years, according to shipping regulations in India and Qatar. They then may have to be scrapped if they are not converted into FSRUs, which have a life of 40-50 years, according to an official from the Shipping Corporation of India. India LNG Transport, a joint venture controlled by Shipping Corporation and Japan's Mitsui OSK, K Line and NYK Line, among others, would need to send the vessels to Hyundai Shipyard in South Korea to install a regasification unit on board each carrier.

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EMERGING MARKETS

Views split on emerging market LNG demand outlook

Shell pins hopes on growth potential of emerging markets but a new report suggests these hopes are unfounded, write Xiaoyi Deng, Cerys Edwards, and Stefka Wechsler

Shell expects emerging markets in China, southeast and south Asia to absorb much of the LNG supply growth until the next decade. But the firm may be overestimating their growth potential, according to the Institute of Energy Economics and Financial Analysis (IEEFA), a US-based think-tank.

Having been restrained by high LNG prices in 2022-23, demand in emerging gas markets in China, southeast and south Asia will start to pick up with new LNG import infrastructure being developed in places such as Vietnam, the Philippines, Ghana and Bahrain, according to Shell's executive vice-president, Steve Hill. Vietnam and the Philippines received their first LNG cargoes last year, while Ghana and Bahrain have completed terminals without having imported any LNG yet. Other countries are looking to develop import facilities, including Australia and Sri Lanka, Hill says.

China is likely to continue leading demand growth for the rest of this decade, Hill says, driven by industrial gas burn and heating needs. China's gas demand rose by 8pc last year, despite registering only modest macroeconomic growth. In a results call on 1 February, Shell said it expects strong Chinese gas demand growth in 2024-25. Demand growth from southeast Asia, on the other hand, would be driven by power-sector gas burn, as countries including Thailand and the Philippines produce less gas. But these countries also need to invest more in import infrastructure, Shell says in its latest global LNG outlook. The company continues to see considerable potential for coal-to-gas fuel switching in India and other south Asian countries, while demand from this region tends to be sensitive to prices.

Barriers to growth

Shell's latest demand projection underestimates barriers to LNG growth in south and southeast Asia

But Shell's latest demand projection underestimates barriers to LNG growth in south and southeast Asia, according to the IEEFA.

The firm's annual report typically "serves to justify the company's own bullish position", the IEEFA says, but this year's update contains two "surprising" findings. Shell curbed its global LNG demand expectations for 2040 by up to 11pc compared with previous forecasts, and predicted demand will peak sometime in the 2040s. Shell is "pinning its hopes" on "breakneck demand growth" in emerging markets to fill the gap left by mature markets such as Japan, South Korea and Europe, and underestimates economic realities, the IEEFA says.

The IEEFA argues that gas is unlikely to play more than a peak-shaving role in much of emerging Asia's electricity mix, citing various examples across the market. Vietnam has completed its first LNG terminal last year, but the country's first LNG-fired power plant has yet to finalise an offtake contract, which could be delayed until 2027. The Philippines has faced repeated contractual issues for gas-fired power plants owing to high LNG costs in recent years. Indian firm Petronet's renewal of its oil-indexed LNG contract with Qatar would probably need to fall by half to compete with coal imports. And Thailand has increased imports in recent years, but the financial sustainability of LNG remains in doubt, with high fuel costs and subsidies in 2022 having thrown the state-owned utility into a liquidity crisis. Thailand instead has aimed to boost domestic gas production and accelerate its shift to cheaper renewable energy.

Regarding China, Shell's view overlooks Beijing's policies designed to limit gas dependence, and "mistakenly" attributes energy efficiency gains and electrification to gas adoption, the IEEFA says. China, whose 14th five year plan positions coal as a provider of energy security and power reliability, has nearly 140GW of coal-fired capacity under construction. Solar and wind capacity in the country are also rising rapidly, having grown collectively last year by nearly 300GW.

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BRAZIL

Brazil brings more LNG import capacity on line

The country added two terminals last month, with another FSRU expected to commission this quarter, writes Martin Senior

Brazil has increased its LNG import capacity with the addition of two more terminals in February, with a third one set to start this month.

The 6mn t/yr Gas Sul LNG import terminal in Santa Catarina and the similarly sized Barcarena terminal in Pará state, both operated by US developer New Fortress Energy, started operations at the end of last month. Both facilities use a floating storage and regasification unit (FSRU) — the 138,000m³ *Energos Winter* in Santa Caterina and the 160,000m³ *Energos Celsius* in Barcarena.

There are gas-fired power plants with a combined capacity of 3.5GW without supply agreements within delivery range of the Gas Sul LNG terminal, New Fortress says. But the terminal may not be able to immediately operate at capacity. Regasified LNG from the terminal will be sent into the grid at the Garuva entry point, which has capacity to inject only up to 5mn m³/d into Brazilian gas transport company's TBG Gasbol pipeline. The pipeline transports gas across Mato Grosso do Sul, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul states. But TBG plans to expand the entry point to up to 15mn m³/d, which would enable the terminal to operate at closer to its maximum capacity.

Unlike the Gas Sul terminal in Santa Catarina, the Barcarena terminal is not linked to the grid but to nearby power plants and industries. New Fortress has a contract to supply 30 trillion Btu/yr of gas (575,000 t/yr of LNG) from Barcarena to Norsk Hydro's refinery, as well as deals to supply gas to two power plants with a combined capacity of 2.2GW.

Brazil's import capacity is set to increase further this month. The 170,000m³ *Hoegh Giant* FSRU at the end of February reached Santos port in São Paulo state, where it will be installed at the planned 4mn t/yr TSRP import terminal. TSRP is expected to start commissioning in early 2024, Brazilian energy and logistics conglomerate Cosan said in November. Cosan subsidiary Compass began a 10-year charter for the FSRU in the third quarter of 2023.

ARGENTINA

Gas output falls again in January

The dip is consistent with seasonally lower demand but may also be connected to stronger hydro generation, writes Ellie Holbrook

Argentinian upstream gas output in January fell on the year, with hydroelectric and nuclear generation having remained high, curbing gas-fired power demand.

The country produced 123mn m³/d of gas in January, down from 128mn m³/d a year earlier, but was higher than the 114mn m³/d produced in December — the lowest since December 2020 — data from the Argentinian energy secretariat show. This is despite the start-up of the 22mn m³/d Nestor-Kirchner gas pipeline linking the Vaca Muerta shale basin with Buenos Aires, which was set to reduce bottlenecks and allow for higher production.

Output has held much lower in recent months than during the southern hemisphere winter, partly because of the seasonal slowdown in demand during the austral summer, but may also be connected to stronger hydroelectric output. Hydroelectric generation was at just under 4TWh in January, compared with 2.7TWh a year earlier and just under 2TWh in January 2022, data from electricity monitor Cammesa show. Nuclear output also stepped up, to 1.1TWh from 633GWh. In contrast, gas-fired output edged lower, to 6.2TWh from 6.3TWh, although this was less of a drop than in December when it fell to 4.6TWh from 5.6TWh.

High hydroelectric generation and much stronger nuclear output could continue to meet a larger share of Argentina's power demand as it heads into its austral winter. But slower upstream output, coupled with dwindling pipeline imports from Bolivia, could leave the country in need of supplementary LNG imports.

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IN BRIEF

US' Gulf LNG export terminal eyes 2025 FID

The US' planned 10.8mn t/yr Gulf LNG export terminal could reach a final investment decision (FID) next year, providing US regulator Ferc approves the firm's request to extend the project's authorisation until 2029. Ferc initially authorised the project, led by Houston-based midstream company Kinder Morgan, in 2019, which granted approval until July 2024. Gulf LNG Energy filed for a five-year extension to the project this month, citing unexpected additional costs, the Covid-19 pandemic and the impact of recent legal proceedings. Gulf LNG Energy said it estimates construction to take 52-56 months and that work would start "immediately" after an FID. The liquefaction facilities would be positioned adjacent to the existing 8.8mn t/yr Gulf LNG regasification terminal.

US' Cheniere targets 2026 FID for Sabine Pass LNG expansion

US LNG producer Cheniere intends to take a final investment decision (FID) on its 14mn t/yr Sabine Pass expansion in 2026, the company says. Cheniere has signed six offtake deals for the expansion project totalling 6.5mn t/yr. Construction is set to start in the first quarter of 2026, with the expansion coming on stream in the second quarter of 2031. Cheniere aims to take an FID on its 3.28mn t/yr Corpus Christi trains 8 and 9 expansion project in 2025. Norway's state-controlled Equinor has signed on for 900,000 t/yr from the trains. Cheniere will file for a permit for the terminal from Ferc this quarter.

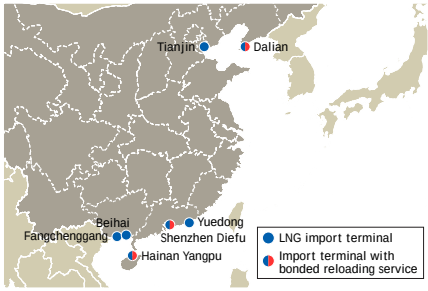
Canada's Pembina delays FID on Cedar LNG to mid-2024

Canadian pipeline developer Pembina aims to make a final investment decision (FID) on its proposed 3mn t/yr Cedar LNG export terminal in British Columbia by the middle of this year, delayed from a previous target of the first quarter. The project still needs "binding commercial offtake, certain third-party consents and project financing" before an FID can be reached, Pembina says. The firm aims to complete the project in 2028. SHI disclosed a preliminary order for a floating LNG vessel by Black and Veatch in January that would be finalised depending on the shipowner issuing a final notice to proceed.

US' Commonwealth LNG delays FID to first half of 2025

US developer Commonwealth LNG has delayed taking a final investment decision (FID) on its planned 9.5mn t/yr export terminal to the first half of 2025, from the first quarter of this year. Commonwealth has also pushed its target for first LNG production back to the fourth quarter of 2028, from a previous early-2027 target. The facility has a total of 6.5mn t/yr in combined firm and non-binding agreements. The FID target date may have been pushed back as the project at present does not have a permit to export to countries that do not have a free trade agreement with the US.

PipeChina LNG terminals



PipeChina's Tianjin LNG terminal launches bonded tank

State-controlled infrastructure operator PipeChina's 6mn t/yr Tianjin LNG terminal has started operating a bonded storage tank, with a cargo having unloaded on 28 February. This is the first bonded tank in the Beijing-Tianjin-Hebei region of northern China. Bonded LNG storage tanks allow terminal users to declare cargo receipts to customs authorities while delaying relevant tax payments. LNG in bonded tanks can be re-exported to adjacent regions with a reloading service or distributed into domestic markets after paying import and value-added taxes. Tianjin LNG has not yet provided a reloading service to users, but such a provision can be expected this year, sources close to the matter tell *Argus*.

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IN BRIEF

Italy to receive first Congo LNG cargo

The first cargo produced from the 600,000 t/yr Congo FLNG project is being loaded and will leave in the next few days for Italy. The cargo, being loaded on to the 155,000m³ *Gaslog Savannah*, which arrived on 26 February, will be delivered to Italy's 5bn m³/yr Piombino import terminal. The Congo FLNG project, which is set to increase to 3mn t/yr next year with a second floating liquefaction unit, was sanctioned at the end of 2022 and came on stream a year later. The facility uses gas from the Marine XII field. The loading marks the first LNG export by Congo.

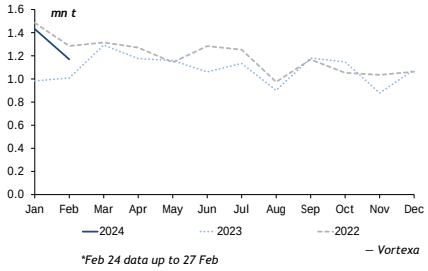
BP spuds new project in gas-short Trinidad

Gas-short Trinidad and Tobago's biggest producer, BP, spudded the first of seven wells in its offshore Cypre field last month and forecasts production of 250-300mn f³/d starting in 2025. Production from Cypre "will be a welcome addition to other projects that will deliver needed feedstock in the near and medium term", an official of the country's energy ministry tells *Argus*. The Caribbean state is a major LNG producer, and the shortage of gas has thwarted exports and suppressed petrochemical and fertiliser production in recent years.

Endesa in price arbitration over Nigeria LNG contract

Spanish utility Endesa is in arbitration proceedings with terminal operator Nigeria LNG regarding the periodic price review for its 1bn m³/yr supply contract, Endesa's chief executive, José Bogas, says. The result of the proceedings or a settlement with the supplier would probably come by the end of this year or the start of next year at the latest. The contract is priced as a percentage of oil and expires in 2026. Endesa may also have received fewer deliveries from the terminal in recent years as exports have slowed from Nigeria's 22mn t/yr Bonny export terminal. Exports in 2023 totalled 13mn t, according to data from oil analytics firm Vortexa — less than the 19mn t under long-term contracts from the terminal in 2023. Operator Nigeria LNG declared *force majeure* on supply from the terminal in October 2022 because flooding disrupted production.

Nigeria LNG exports



Australia's Viva eyes 2025 FID for Geelong LNG terminal

Australia's proposed 3.3mn-4.0mn t/yr Geelong LNG import terminal in Victoria is set to reach a final investment decision (FID) in 2025 at the earliest. Viva Energy in March last year said it planned to push back the timing of an FID because the Victoria state government had requested additional information to assist in its decision as to whether to approve the project. The company at present is undertaking environmental tests as part of the approval process and expects these to continue until the end of 2024. The import terminal will be composed of a floating storage and regasification unit moored alongside the existing 128,000 b/d Geelong refinery.

Japan's LNG demand for city gas lower in 2023

LNG demand from Japan's city gas sector fell in 2023 against a year earlier, as warmer weather weighed on heating demand. Gas firms used 24.37mn t of LNG last year, down by 8pc from the previous year, government data show. LNG demand from the city gas sector accounted for 37pc of Japan's total LNG imports of 66.15mn t in 2023. Japan's city gas sales totalled about 36bn m³ in 2023, down by 7pc from a year earlier. The early onset of warm spring weather, hotter summer weather and the relatively mild start to the 2023-24 winter weighed on heating demand. Lower city gas sales also weighed on LPG consumption within the sector, which dropped by 4pc on the year to 1.5mn t in 2023.

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MARKET OVERVIEW

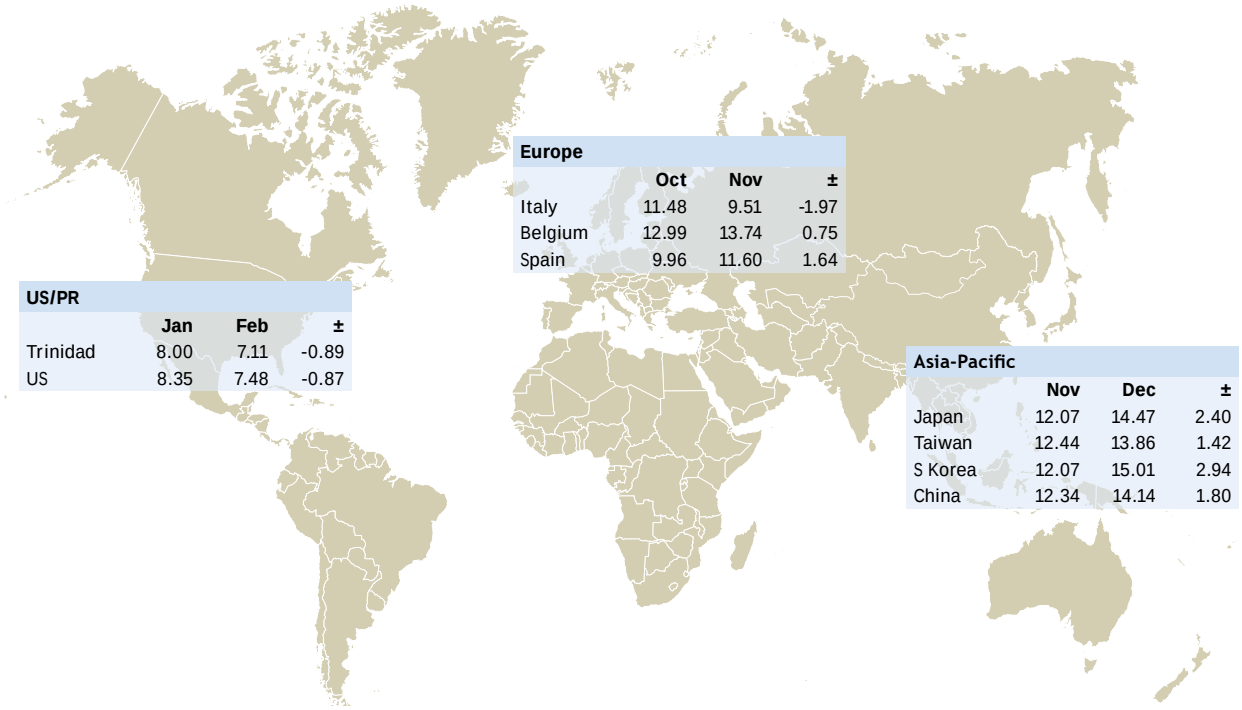
Global LNG imports rise on the year in February

Global imports of LNG in February were higher on the year, as growth in price-sensitive Asian markets offset a fall in European receipts.

Combined LNG deliveries stood at 34.1mn t in February, up from 33.7mn t a year earlier, according to data from analytics firm Kpler. The boost was mainly because of quicker deliveries to Asia. The region imported 22.5mn t, up from 21.7mn t the previous year, although the growth rate slowed significantly compared with January, when Asian imports grew by 2.72mn t on the year. Asian import growth was driven by China, which received 5.74mn t, up from 4.97mn t in February 2023. And receipts to India rose to 1.98mn t from 1.27mn t. Lower prices have supported demand in both countries, after high prices in 2022-23 forced price-sensitive buyers to step back from the market. Deliveries to Thailand also rose, to 1mn t from 750,000t, as the country continues to import LNG to offset lower domestic gas production. These gains offset large decreases in Japan and South Korea, with existing term contracts sufficient to meet demand in both countries, market participants say. Japanese receipts fell to 6.10mn t from 6.49mn t, while deliveries to South Korea declined to 3.76mn t from 5.05mn t. South Korea lifted imports in December in anticipation of a harsh winter, but milder weather left the country with high stocks. Japan's strong nuclear output and negative spark spreads also might have curbed LNG demand.

Imports to Europe, including Turkey, fell to 10.3mn t from 11.3mn t. The inter-basin arbitrage was open at various points in late December and January, when most February deliveries were marketed, which may have pulled cargoes away from Europe and towards Asia. Europe received just 790,000t of Qatari LNG in February, down from 1.16mn t a year earlier. Qatar is directing fewer vessels to Europe, following QatarEnergy's decision in January to divert cargoes around the Cape of Good Hope rather than go through the Suez Canal.

Global LNG prices at a glance ***$/mn Btu***



Europe	Oct	Nov	±
Italy	11.48	9.51	-1.97
Belgium	12.99	13.74	0.75
Spain	9.96	11.60	1.64

US/PR	Jan	Feb	±
Trinidad	8.00	7.11	-0.89
US	8.35	7.48	-0.87

Asia-Pacific	Nov	Dec	±
Japan	12.07	14.47	2.40
Taiwan	12.44	13.86	1.42
S Korea	12.07	15.01	2.94
China	12.34	14.14	1.80

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LNG prices													*$/mn Btu*
Importer/source	**Jan 23**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**
Japan													
Abu Dhabi	33.79		19.91			10.95	9.54	11.56	11.51	13.31	13.02	17.20	15.22
Algeria											11.44		13.15
Australia	19.86	17.34	15.97	14.54	13.10	12.52	12.57	11.85	11.71	11.87	12.13	13.48	13.15
Brunei	15.20	16.66	13.88	13.73	14.31	10.34	11.52	12.21	12.48	11.72	11.32	17.41	
Egypt	29.93			19.10									
Equatorial Guinea	33.80											17.87	
Indonesia	18.85	16.61	12.64	13.44	12.52	12.40	13.50	13.91	11.91	12.20	11.35	13.67	14.17
Malaysia	17.50	17.68	14.37	11.16	10.98	11.93	10.82	11.40	10.89	11.50	11.12	12.74	12.97
Nigeria										11.76	11.32		
Oman	12.68	25.00	13.55	11.45	14.16	11.05	13.75	10.25	9.04	10.48	10.66	13.35	10.63
Papua New Guinea	18.76	14.95	15.82	12.68	11.85	12.14	14.18	12.56	12.14	12.28	12.19	16.10	14.62
Peru	21.25	24.76						10.39					21.63
Qatar	22.16	18.85	14.65	15.61	13.53	13.47	13.59	12.25	11.22	13.13	14.01	14.80	14.05
Russia	16.48	14.22	14.76	13.78	12.86	11.39	12.51	11.81	11.55	11.68	11.71	13.20	12.92
Trinidad			9.92										
US	19.58	15.34	12.07	10.23	10.59	9.12	9.90	10.76	10.65	11.17	10.99	11.55	14.01
unspecified										12.04	15.32	12.32	20.26
Average	**21.53**	**18.14**	**14.49**	**13.57**	**13.06**	**11.53**	**12.19**	**11.72**	**11.31**	**11.93**	**12.04**	**14.47**	**15.19**
China													
Abu Dhabi	15.96			14.07	11.30	10.49	8.91	11.02		9.59		14.50	
Algeria				11.99		10.35			11.82			17.37	
Australia	14.78	13.68	11.44	11.59	11.06	10.56	10.17	10.30	10.66	10.48	12.07	13.98	
Brunei				12.77		12.28	12.72		11.78	11.93	13.10	11.41	
Cameroon												11.45	
Egypt	13.65		15.05	11.56	13.28								
Equatorial Guinea			13.51			10.73						17.79	
Indonesia	18.72	15.93	14.60	13.47	12.72	12.19	11.33	12.16	11.93	12.81	12.29	13.43	
Malaysia	17.37	14.42	11.78	10.10	10.12	9.48	9.01	9.58	9.29	10.16	10.26	12.86	
Nigeria	14.74	12.51	11.83	12.88		10.20	10.44		10.30		11.56	14.01	
Oman	24.67		13.64	11.32	12.73	10.89			10.98	11.69	15.39	15.18	
Papua New Guinea	16.60	25.37	13.59	11.89	13.95	13.29	13.05	11.96	12.83	12.78	12.47	12.48	
Peru			10.90	11.27		11.05							
Qatar	13.88	14.09	11.16	11.59	11.97	10.66	11.13	10.90	10.39	10.84	11.39	11.82	
Russia	18.87	15.71	13.00	12.24	11.49	10.96	10.29	10.74	11.33	10.75	11.98	14.45	
Singapore									10.49	10.59			
Trinidad		9.41		8.87	8.89	8.74					11.41	17.26	
US	17.42	14.89	13.66	14.31	11.19	9.52	9.56	11.72	11.20	12.22	13.81	14.16	
unspecified	13.00	12.87	13.10										
Average	**16.64**	**14.89**	**12.87**	**11.99**	**12.37**	**10.76**	**10.66**	**10.87**	**11.08**	**11.25**	**12.34**	**14.14**	
South Korea													
Abu Dhabi	33.02			8.66			8.34				16.19	13.76	
Algeria	29.98											16.75	
Australia	25.89	25.12	15.67	14.22	12.82	15.95	12.98	11.93	11.96	12.10	13.08	15.66	13.97
Belgium													14.03
Brunei		19.92			14.06			10.69			11.78	16.15	
Egypt	40.25	26.60			13.35								15.02
Equatorial Guinea		17.31						10.99		13.03			11.48
Indonesia	40.25	12.94	19.09	8.51	14.14	8.65	6.86	10.49	8.06	10.77	8.28	16.12	15.27
Malaysia	20.21	16.51	12.91	9.85	12.37	10.15	9.83	9.66	11.37	10.80	10.57	12.89	12.36
Nigeria	15.14	21.09	14.33							10.20	11.53	13.94	16.14
Oman	26.77	22.53	16.63	15.07	14.36	12.98	13.20	15.25	16.05	13.44	14.26	15.05	14.37
Papua New Guinea	32.71	26.34	39.99		13.64	22.07		11.44		12.19		16.49	14.89
Peru	24.59	14.17	13.15	10.41		12.62	12.18						
Qatar	17.90	17.35	21.64	16.26	15.29	14.40	14.30	15.17	14.96	13.80	13.56	14.44	13.81
Russia	14.39	13.65	13.92	12.40		11.91	12.07		10.05	12.54	10.34	11.46	11.35
Spain												16.76	
Trinidad	15.14	15.15											

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LNG prices													$/mn Btu
	Jan 23	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24
US	29.06	25.96	21.04	9.55	8.93	10.83	10.05	10.33	9.99	12.25	11.91	13.44	12.36
unspecified		68.04	12.13							13.08	11.15	14.34	17.70
Average	**25.65**	**22.85**	**18.23**	**11.66**	**13.22**	**13.28**	**11.09**	**11.77**	**11.78**	**12.20**	**12.06**	**14.97**	**14.06**
Taiwan													
Abu Dhabi									11.08				
Australia	24.98	19.58	16.96	12.66	11.95	11.13	10.63	11.16	11.61	12.56	13.17	12.47	
Brunei	15.69			12.52				11.79				17.48	
Cameroon												17.73	
Egypt		14.08										13.36	
Indonesia		24.75		8.94			9.53	11.23	12.23	12.57			
Malaysia	33.86		13.45		11.98		11.28	12.62	12.32	13.29	14.12		
Nigeria	15.06					9.52	13.07					13.36	
Oman			17.38	13.69		10.85		11.88				17.16	
Papua New Guinea	17.00	16.34	16.31	14.30	12.93	13.46	13.27	12.44	13.00	13.54	13.12	15.12	
Peru			15.79										
Qatar	8.95	8.02	7.89	9.00	9.00	9.05	9.25	7.13	9.06	7.90	8.26	8.88	
Russia					10.88	8.85	8.67	8.64	11.33	9.03			
US	13.49	12.29	10.35	7.92	6.91	7.35	7.48	7.54	9.61	9.00	8.14	8.65	
unspecified		26.93			26.75						17.85		
Average	**18.43**	**17.43**	**14.02**	**11.29**	**12.91**	**10.03**	**10.40**	**10.49**	**11.28**	**11.13**	**12.44**	**13.86**	
Thailand													
Australia	33.06	23.80	18.41	16.62	11.98	11.75	11.30	14.63	14.04	12.63	16.91		13.84
Brunei			10.62	13.97			10.96		11.15	14.14			
Indonesia		11.24		10.73	11.95	9.73	9.88	11.06				17.28	
Malaysia	13.13		10.01	12.28	11.10	11.53	9.25	8.72	12.17	11.40	9.08	9.50	9.11
Nigeria	13.93			10.29						13.09		16.07	
Qatar	19.71	17.04	24.67	14.67	13.59	13.32	14.41	12.09	12.65	12.82	13.25	13.57	13.98
Trinidad		14.48							9.77	9.79			16.72
US		19.22	11.29		14.23	14.30		14.83	14.36			17.25	
unspecified	34.02	36.19	24.88			9.50	12.33		10.65		15.48	16.47	16.94
Average	**22.77**	**24.29**	**16.65**	**13.09**	**12.70**	**12.16**	**11.49**	**11.83**	**11.93**	**12.31**	**13.68**	**15.02**	**14.12**
India													
Algeria						10.46			12.38	12.59		15.52	
Angola					13.56	12.79	12.36	10.77	11.60	11.90	14.42	6.85	
Australia			12.56	11.50	11.96			11.16					
Belgium											11.20		
Cameroon							12.36	11.83				11.29	
Egypt	15.83		14.57	13.88									
Equatorial Guinea					13.80	12.90		12.01	12.20		14.21		
France							12.35	11.66	12.44	12.84			
Nigeria			8.02	13.70	13.21	8.72		9.11	12.36	11.29			
Oman	13.60		11.56	11.61	12.97	11.35	11.10	7.26		8.47		10.20	
Qatar	12.04	13.96	11.47	11.22	11.16	10.83	10.24	9.93	11.60	11.36	11.53	12.16	
Russia					20.41								
Trinidad									10.10		15.70		
UAE	26.48	25.76	18.21	12.41	11.93	10.71	10.02	11.85	10.95	11.18	10.30	12.39	
US	13.26	10.54	9.93	7.87	8.17	7.08	6.98	9.13	7.13	8.57	9.25	7.19	
unspecified									13.60				
Average	**16.24**	**16.75**	**12.33**	**11.74**	**13.02**	**10.61**	**10.77**	**10.47**	**11.63**	**11.03**	**12.37**	**10.80**	
Belgium													
Algeria					6.75								
Angola										9.46			
Norway				14.28									
Qatar	35.42	22.73	14.58	16.04	13.64	12.26	10.08	9.45	8.89	10.26	9.37	14.33	
Russia	18.30	17.29	18.03	13.61	11.36	8.44	8.85	7.78	8.81	10.21	12.20	12.30	
Average	30.90	19.02	15.79	14.57	11.25	10.75	9.95	9.44	9.19	10.59	12.91	13.31	

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LNG prices													*$/mn Btu*
	Jan 23	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**
Greece													
Algeria	36.14	32.23	28.33	13.31		9.52		22.72				24.73	
Egypt	27.81	32.23	17.94	10.72									
Nigeria	38.06									8.97			
Norway	32.07					8.17							
Qatar		22.73											
US	31.85	25.19	12.80	12.39	16.90		7.94	10.62	8.48	10.44	11.82		
Italy													
Algeria	13.29	11.26	11.84	14.78	14.82	14.68	16.24	14.34	11.10	10.94	13.58		
Egypt	26.48	18.5		13.37	13.22						12.41		
Equatorial Guinea	25.06												
Qatar	22.60	22.22	14.08	11.62	10.49	9.25	8.66	8.11	8.53	8.88	9.86		
US	21.26	13.81	12.58	11.25	12.14	8.50	9.07	13.42	13.84	11.06	11.54		
Average	**24.09**	**19.42**	**18.42**	**15.32**	**14.40**	**11.59**	**9.51**	**8.76**	**9.25**	**11.48**	**9.511**		
Portugal													
Nigeria	9.56	7.47	7.38	8.15	7.10	7.02	6.99	6.69	6.84	7.00	7.33	8.15	
Other	9.72	17.93						11.22	11.02		11.17		
Trinidad							9.61	10.67		13.53		11.38	
US	18.61	11.03	9.43	8.34	8.45	7.71	7.87	9.37	8.00	9.65	10.28	11.1	
Spain													
Algeria		13.06	12.85	13.01	12.66	16.32	23.97	22.80	12.24	12.44	14.30	13.44	
Angola					10.21		11.79						
Australia		15											
Egypt		17.87		11.74			12.15					13.64	
Equatorial Guinea			13.38										
Nigeria	18.73	7.41	12.06	11.15	10.52	8.95	7.84	9.34	9.79	13.05	10.99	10.83	
Norway				8.36				7.48		7.92		8.21	
Oman				12.91	12.76								
Peru					8.68	7.51		8.04					
Qatar	8.54	8.02	11.34	7.70	7.78	7.64	7.22	6.95	7.38	8.33	7.90	7.70	
Russia	19.38	14.89	13.75	11.49	9.79	10.39	10.29	11.42	10.97	11.96	12.90	11.98	
Trinidad	19.31	17.21		12.43	11.58		10.75						
US	17.45	15.26	11.11	14.36	7.15	6.62	14.20	9.13	7.67	9.72	11.92	12.03	
Average	**17.70**	**13.06**	**12.42**	**11.26**	**10.13**	**9.57**	**12.28**	**10.74**	**9.61**	**9.96**	**11.60**	**11.43**	
UK													
Algeria					10.95			9.26	10.85	10.47			
Egypt		15.53	15.92	13.38									
Nigeria			15.62	11.52						10.14			
Norway		18.97		11.67	18.25		18.20	8.91	10.28	13.01			
Qatar	32.09	18.97	21.62	10.71	12.37	7.90	4.69	7.29		8.54			
Trinidad			16.50		8.48					10.07	13.41	13.24	
US	28.73	19.92	15.58	17.94	10.74	6.47			11.13	10.11	11.74	11.26	
Average	28.08	16.42	**17.46**	14.98	**11.68**	7.19	13.78	8.49	10.75	**13.34**	**13.42**	**12.57**	
Brazil													
Algeria					12.39								
US				12.46	9.84	8.46	7.06		10.43	11.70	13.65		10.65
Average				12.46	11.12	14.65	7.22		10.43	11.70	17.23		9.22
Lithuania													
Norway	30.78		14.36	18.33	11.13	7.43	9.17	10.91	9.22		14.00	17.18	
US	27.68	30.47		18.77	11.58	10.12	9.96	8.16	10.63	11.01	15.85	13.37	
unspecified	33.39	21.74	16.23		15.89	11.26	14.57	10.81	13.54	11.84	15.61	16.10	
Average	31.73	**23.48**	15.85	16.63	14.08	10.43	12.57	10.17	11.73	**11.67**	15.27	14.79	
Netherlands													
Norway		23.07	25.53	16.39					14.36		13.66	13.56	
Nigeria				16.39									
Trinidad										12.10	13.66	13.56	
unspecified	30.40	23.07	25.53	16.39	17.85	14.64	14.60	13.94	14.36	12.04	13.66	13.56	
Average	**30.40**	**23.07**	**25.53**	**16.39**	**17.85**	**14.64**	**14.60**	**13.94**	**14.36**	**12.05**	**13.66**	**13.56**	

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DECLARED IMPORTS

Import volumes												'000t
Importer/source	**Feb 23**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**
Japan												
Abu Dhabi		121.60			60.88	59.24	59.52	180.39	59.30	182.03	59.57	180.50
Algeria										58.54		
Australia	2,905.29	2,395.38	2,053.72	2,209.62	1,794.00	2,319.02	2,266.22	2,329.14	2,397.70	1,829.97	2,675.86	2,234.76
Brunei	327.38	260.52	202.58	198.51	64.20	325.06	196.18	67.66	262.05	135.47	67.95	199.63
Egypt			67.29									
Equatorial Guinea											65.71	
Indonesia	366.65	231.60	303.84	55.50	118.82	285.42	325.15	236.34	179.11	231.62	289.59	216.05
Malaysia	1,105.55	1,053.12	666.63	925.95	735.92	578.54	725.67	794.56	694.95	733.58	1,238.02	1,119.95
Nigeria									121.62	131.77		
Oman	123.03	323.57	126.00	58.65	124.86	58.14	312.80	193.12	126.47	218.91	201.07	257.59
Papua New Guinea	264.42	310.79	366.65	218.71	372.23	294.37	290.76	501.58	138.59	286.33	353.39	217.50
Peru	71.68						128.76					290.23
Qatar	380.99	214.44	74.48	89.76	255.80	261.49	327.86	63.59	235.08	366.44	252.70	653.70
Russia	522.38	424.97	353.54	610.10	485.45	260.71	392.28	386.17	505.93	655.11	832.58	
Trinidad		62.76										600.80
US	334.20	267.55	315.06	182.12	517.63	647.58	647.99	707.28	567.90	444.61	390.79	6,109.42
unspecified								66.54	124.72	56.02	68.62	68.26
Total	**6,401.57**	**5,723.35**	**4,529.79**	**4,614.02**	**4,529.79**	**5,089.57**	**5,673.19**	**5,526.37**	**5,413.42**	**5,330.40**	**6,495.85**	**6,109.42**
South Korea												
Abu Dhabi			63.08			59.45				75.13	58.88	
Algeria											67.56	
Australia	1,153.96	573.53	900.01	791.11	730.25	504.28	1,042.00	444.72	931.00	804.15	1,383.27	1,180.02
Brunei	66.46			64.03			66.25			196.79	135.33	130.69
Egypt	64.88			69.86								68.09
Equatorial Guinea	185.38						64.06		67.90			130.49
Indonesia	322.39	131.11	254.69	299.25	306.32	178.91	306.57	121.03	235.74	118.32	317.84	317.60
Malaysia	761.80	638.46	288.20	439.20	485.94	358.50	357.06	337.76	665.29	627.83	615.25	604.93
Nigeria	125.67	54.76							180.82	58.97	123.63	71.04
Norway												71.40
Oman	647.10	490.17	362.22	287.60	252.62	296.33	488.61	400.49	308.02	364.66	445.24	366.47
Papua New Guinea	77.99	77.92		67.04	91.23		6.53		66.98		73.60	71.40
Peru	99.84	195.48	56.08		68.35	204.66						
Qatar	843.05	887.96	845.18	639.14	684.32	632.31	815.60	993.72	448.47	478.87	762.80	
Russia	127.39	318.18	190.86		127.12	62.21		129.59	126.40	257.46	191.01	
Spain											125.26	691.42
Trinidad	7.36											4,912.40
US	531.80	545.72	196.16	460.20	197.26	324.36	310.62	540.56	390.68	586.38	555.52	691.42
unspecified	72.66								10.00	166.16	55.46	210.32
Total	**5,087.73**	**4,033.72**	**3,156.48**	**3,117.43**	**2,943.41**	**2,621.01**	**3,457.60**	**2,967.87**	**3,431.30**	**3,734.72**	**5,005.36**	4,912.40
China												
Abu Dhabi			60.66	124.36	59.12	64.86	54.69		62.82		189.16	
Algeria			66.22		71.12			134.20			75.00	
Australia	1,434.53	1,897.14	1,500.02	2,326.72	2,170.54	2,213.82	2,156.61	1,695.70	1,750.24	2,626.84	2,534.31	
Brunei			131.44		129.66	67.72		129.17	64.69	130.31	64.27	
Cameroon											72.46	
Egypt		69.89	75.97	72.64								
Equatorial Guinea					67.86						67.76	
Indonesia	377.94	131.87	420.22	246.07	375.38	237.08	343.39	486.44	132.79	358.86	520.07	
Malaysia	495.77	659.78	401.23	921.51	419.26	524.97	579.91	461.39	459.88	733.73	721.90	
Nigeria	64.37	63.44	62.78		64.62	256.65		63.40		201.17	361.76	
Oman		66.37	66.45	63.83	129.66			66.47	205.95	124.97	191.74	
Papua New Guinea	308.83	233.30	158.89	313.74	149.79	238.88	287.73	81.72	234.69	232.06	226.45	
Peru		69.31	7.32		70.49							
Qatar	1,675.00	1,320.56	1,225.36	1,207.30	1,172.91	1,262.61	1,260.72	1,283.18	1,221.88	1,288.85	2,120.26	
Russia	590.40	602.58	529.83	903.74	858.56	583.92	1,000.12	745.77	748.60	621.47	519.22	
Singapore								9.66	8.66			

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DECLARED IMPORTS

Import volumes												'000t
Importer/source	**Feb 23**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**
Trinidad			56.89	65.08	59.44					66.67	69.10	
US	212.54	236.31		167.91	70.35	353.20	541.55	334.81	263.88	215.53	535.83	
unspecified	50.41				89.23	55.45	73.32	195.49		200.93		
Total	**5,209.79**	**5,363.05**	**4,766.68**	**6,412.94**	**5,957.99**	**5,859.16**	**6,298.09**	**5,687.40**	**5,169.25**	**6,801.39**	**8,401.23**	
Taiwan												
Abu Dhabi	59.71							66.24				
Australia	760.55	849.51	657.50	559.29	617.15	727.17	592.23	627.52	667.08	692.00	630.29	
Brunei			63.80				64.65				129.58	
Cameroon											70.88	
Egypt	58.70											
Indonesia	56.63		63.44			59.91	108.91	123.67	59.35			
Malaysia		64.52		59.17		126.86	63.66	65.40	62.32	135.27		
Nigeria					59.80	68.24					61.49	
Oman		66.13	63.53		59.49		63.57				142.28	
Papua New Guinea	77.42	69.89	136.78	157.48	79.77	80.46	141.68	70.05	223.95	147.81	141.11	
Peru		139.54										
Qatar	381.44	376.38	618.21	494.33	433.15	559.50	440.50	430.76	311.52	622.96	555.54	
Russia				139.54	69.48	69.63	70.08	137.01	70.19			
US	190.37	137.47										
Total	**1,531.92**	**1,693.90**	**1,725.22**	**1,598.40**	**1,504.89**	**1,890.58**	**1,800.42**	**1,722.16**	**1,651.89**	**1,651.70**	**1,859.71**	
Thailand												
Australia	144.26	272.74	696.45	208.36	404.38	262.82	216.67	222.66	132.38	66.25		209.88
Brunei		66.45	64.33			64.63		67.65	62.67			
Indonesia	59.04		63.88	55.40	69.19	70.53	55.42				71.78	
Malaysia		114.04	119.15	327.77	251.01	123.85	178.36	131.79	176.07	118.51	173.51	57.47
Nigeria			59.29						72.52		72.91	
Qatar	250.66	61.02	249.55	185.53	326.52	165.02	371.57	180.46	305.33	180.66	180.42	90.18
Trinidad	58.66							68.85	68.73			61.63
US	70.97	32.23			79.51		147.43	289.87			284.58	
unspecified	217.46	61.84	72.17	79.79	205.76	130.75	207.88	118.93	72.20	338.18	108.47	
Total	**801.05**	**608.32**	**1,324.82**	**1,047.45**	**1,406.88**	**817.60**	**1,177.33**	**1,080.21**	**889.90**	**703.60**	**891.67**	**490.57**
India												
Algeria					144.70			65.54	69.43		68.01	
Angola				70.22	70.81	70.49	134.47	70.07	141.21	69.22	**140.65**	
Australia		67.77	65.96	143.34			71.94					
Belgium										135.28		
Cameroon						217.84	66.16				127.52	
Equatorial Guinea				67.02	10.80		69.11	62.19		8.78		
Egypt		62.30	70.80									
France						71.73	68.07	72.32	67.67			
Nigeria		66.01	68.88	135.97	209.38		129.31	81.02	63.47			
Oman		73.05	64.10	66.92	72.65	137.32	66.71		131.79		133.76	
Qatar	1,055.27	1,120.66	1,022.88	866.00	679.11	863.63	871.29	830.11	802.74	940.43	983.90	
Russia				70.80								
Trinidad								197.80		69.28		
UAE	189.18	253.70	320.36	376.44	395.66	126.63	187.04	181.88	318.39	190.97	252.99	
US	140.03	280.78	214.24	287.98	212.85	289.67	395.86	327.14	339.90	340.61	150.72	
unspecified				69.24				61.49	67.98			
Total	**1,384.48**	**1,924.27**	**1,897.62**	**2,153.93**	**1,795.96**	**1,777.31**	**2,059.96**	**1,950.19**	**2,002.58**	**1,823.68**	**1,929.84**	
Belgium												
Algeria				135.86								
Qatar	484.86	61.63	61.73	244.01	484.22	311.34	61.12	418.82	182.46	121.40	122.18	
Russia	8.19	230.12	547.71	393.81	245.85	206.00	107.88	54.46	329.89	127.89	165.74	
Total	**563.74**	**361.96**	**832.16**	**898.03**	**886.19**	**719.00**	**423.54**	**536.80**	**838.30**	**484.39**	**420.75**	
Greece												
Algeria	**32.16**	**32.20**	**34.52**		**32.93**		**33.12**				**33.08**	

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DECLARED IMPORTS

Import volumes												'000t
Importer/source	**Feb 23**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**
Egypt	5.27	66.64	29.5									
Nigeria									61.82			
Norway					60.72							
US	100.48	68.31	47.55	146.27			39.54	86.89		34.91		
Total	**137.91**	**236.22**	**111.57**	**215.37**	**162.83**		**206.90**	**86.89**	**204.38**	**34.91**	**101.79**	
Italy												
Algeria	60.86	91.02	125.04	121.57	187.20	260.06	245.56	30.25	204.71	154.54		
Egypt	70.19		6.12	76.45						34.98		
Qatar	277.95	365.22	370.73	272.06	460.43	415.90	368.70	459.51	453.14	406.50		
US	236.90	206.36	388.60	338.68	265.76	343.66	340.89	349.25	363.81	347.71		
Total	**830.95**	**975.87**	**1,061.36**	**885.35**	**958.65**	**1,062.30**	**980.96**	**861.07**	**1,045.52**	**980.07**		
Portugal												
Nigeria	64.50	122.13	126.87	183.37	192.38	139.75	177.61	61.56	121.30	61.93	181.70	
Other									73.07			
Trinidad						26.57	53.59		34.78		52.99	
US	116.23	115.13	117.58	154.04	129.26	126.40	112.82	132.79	128.78	113.41	55.32	
Total	**252.10**	**237.44**	**315.38**	**339.08**	**323.28**	**294.36**	**418.00**	**195.99**	**357.93**	**176.98**	**291.65**	
Spain												
Algeria	183.66	270.92	213.94	272.55	51.88	14.89	21.23	423.19	257.82	149.52	287.50	
Angola				67.48		68.86						
Australia	4.64											
Egypt	67.78		72.18			58.36					48.84	
Equatorial Guinea		126.78										
Nigeria	125.34	453.09	316.26	384.16	132.38	241.03	436.45	407.25	115.32	250.16	172.43	
Norway			61.66				61.60		60.50		61.28	
Oman			64.79	63.02								
Peru				71.28	189.67		72.50					
Qatar	119.26	123.08	60.83	57.35	57.32	59.96	60.61	57.36	118.63	57.65	117.38	
Russia	834.25	288.18										
Trinidad	64.66		17.52	27.07		69.46						
US	433.46	773.05	648.22	201.06	347.38	256.79	722.16	254.06	343.04	827.34	245.52	
Total	**1,359.69**	**2,034.60**	**1,955.06**	**1,500.72**	**1,209.03**	**1,274.31**	**1,447.47**	**1,426.34**	**1,112.78**	**1,635.87**	**1,226.47**	
UK												
Algeria				167.63			58.94	91.58	58.91			
Egypt	67.53	70.03	58.12									
Nigeria		194.94	68.91						106.91			
Norway	60.70		65.27	0.42			62.93	65.37	64.25			
Qatar	114.95	146.03	435.08	319.34	185.53	107.90	226.39		258.18			
Trinidad		120.36		72.26					36.53	87.34	69.44	
US	1,237.62	1,548.70	1,291.02	1,376.51	207.70			72.53	73.89	676.30	1,045.04	
Total	**1,699.69**	**2,367.54**	**2,072.76**	**2,210.21**	**393.23**	**108.57**	**348.26**	**229.48**	**828.77**	**1,097.30**	**1,266.02**	
Brazil												
Algeria				27.56								
US			48.78	20.09	182.82	71.20		63.66	8.58	78.77		123.76
Total			**48.78**	**47.65**	**225.35**	**89.70**		**63.66**	**8.58**	**120.31**		**164.68**
Lithuania												
Norway		192.26	64.60	60.71	161.37	122.37	62.76	61.82		88.32	8.70	
US	133.01		126.52	69.38	70.35	69.26	184.50	78.68	195.01	71.80	59.58	
unspecified	0.40	66.32		1.15	3.48	0.51	0.76	0.61	51.21	0.65	60.40	
Total	**133.41**	**258.58**	**191.77**	**131.24**	**235.20**	**192.14**	**248.02**	**141.11**	**246.22**	**160.77**	**128.68**	
Netherlands												
Norway	234.66	320.39	113.77	93.45				115.19		138.14	136.35	
Nigeria			144.06									
Trinidad					151.87				119.16	80.52	79.20	
unspecified	1,189.12	1,430.58	1,625.93	1,896.41	1,721.01	1,955.27	1,813.32	1,287.93	1,735.30	1,561.15	1,496.13	
Total	**1,423.78**	**1,750.97**	**1,883.76**	**1,989.86**	**1,872.88**	**1,955.27**	**1,813.32**	**1,403.12**	**1,854.46**	**1,779.81**	**1,753.60**	

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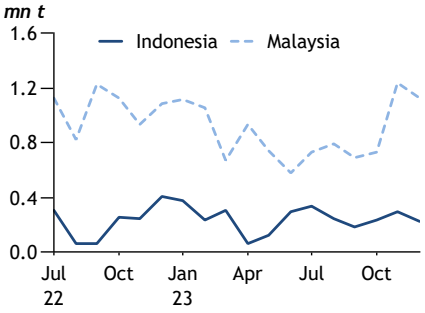
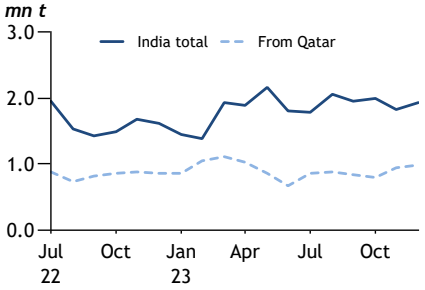
LNG MOVEMENTS

Japanese imports

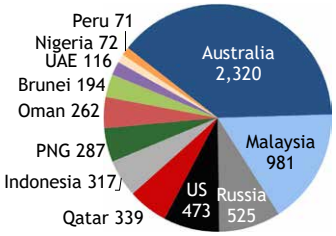


India imports



Japan LNG import sources

'000t



Global LNG production jumps in February

Combined LNG output rose last month from a year earlier, driven by much stronger US LNG output and a small increase in Australian production.

Global LNG exports reached 34.6mn t of LNG in February, compared with 33.0mn t a year earlier and 37.6mn t in January, data from trade analytics firm Kpler show. US LNG exports underpinned the growth in global exports, with the country having exported 7.4mn t, compared with 6.4mn t a year earlier. Output from the 17.4mn t/yr Freeport export terminal rose on the year, despite unplanned downtime at one of the facility's trains. Freeport loaded about 1mn t last month, up from just under 200,000t a year earlier, when its three liquefaction trains were still gradually lifting output after being fully off line from June 2022.

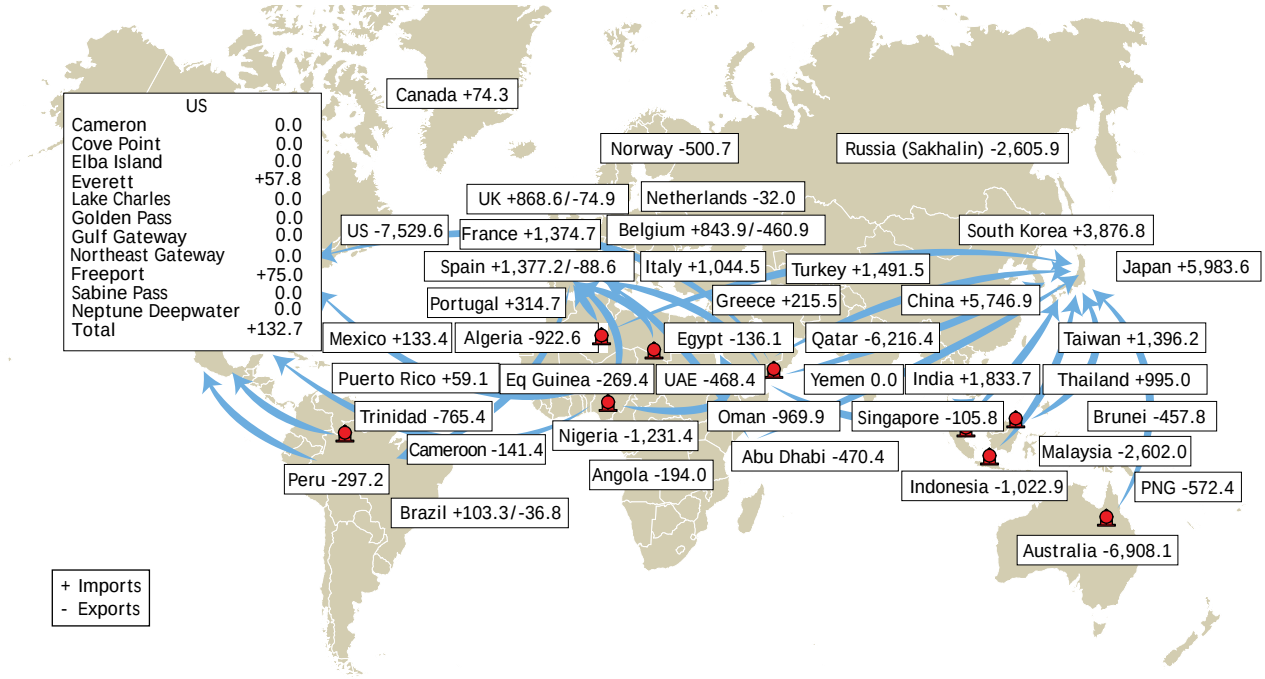
Nigerian output also held stronger in recent weeks, with the country's loading rising to 1.3mn t from 1.0mn t. But Nigeria's February output was lower than the 1.5mn t exported in January. The country's 22mn t/yr Bonny facility had been receiving less feedgas because of issues with upstream production, but supplies have partially recovered, according to the terminal operator. The operator is ensuring that the improved gas availability is consistent before lifting the existing *force majeure*, which was originally declared in October 2022.

Egyptian exports fell sharply, to about 140,000t in February from 630,000t a year earlier, following a drop in Egypt's upstream output in recent months. Egypt produced 4.60bn m³ in December, down from 4.64bn m³ in November, the latest data from the Joint Organisations Data Initiative show. Lower output is set to reduce LNG shipments this year, according to Egypt's energy ministry.

Australian LNG output edged higher, to 6.85mn t from 6.40mn t. Less planned maintenance in the coming months could support Australian exports this year. But the country's 7.8mn t/yr Gladstone LNG liquefaction terminal had a short period of unplanned downtime last month and recently added more works to its March schedule. Production from other major producers, such as Malaysia and Russia, was broadly unchanged, while Algerian and Angolan exports edged lower.

Latest estimated gas imports and exports

'000 t/month



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EUROPE MARKET WRAP

Weak gas demand weighs on LNG sendout in February

Combined LNG sendout from European terminals declined in February because of mild weather and low consumption, slipping below output in 2022 before Europe turned to LNG to make up for a shortfall in Russian pipeline receipts.

Total European sendout fell to 3.9 TWh/d in February, from 4.9 TWh/d a year earlier and 4.1 TWh/d in February 2022. Withdrawals from underground storage sites also slowed, with only 3.6 TWh/d having been withdrawn across the region last month, down from 4.4 TWh/d a year earlier. Overall demand across Europe's five largest consumers — Germany, Italy, the UK, the Netherlands and Spain — fell to an average of 13.5 TWh/d in February, the lowest for the month since 2016.

Key LNG transit markets showed slower sendout in the month on lower re-export gas demand. LNG sendout from the UK's LNG terminals in February fell to 490 GWh/d, the slowest for the month since 2018 and halving from a record-high 1 TWh/d in February 2022. The UK's net gas exports to continental Europe declined to 23 GWh/d from 390 GWh/d a year earlier. But Italian sendout set a February record of 531 GWh/d, despite a fall in domestic demand, as withdrawals from underground storage slowed and the country's pipeline imports continued to decrease during that month. Withdrawals averaged just 49mn m³/d in February, the lowest for the month since 2016, with operator Edison Stoccaggio having started net injections across its three sites since 8 February.

Gas demand could step up in northwest Europe towards the end of the heating season, with temperatures in some densely populated regions forecast to stay below seasonal norms in late March and early April. Daily minimum temperatures for Essen could drop to as much as 2°C below the seasonal norm on 23 March–6 April, according to recent weather forecasts.

Argus European long-term contract prices *€/MWh*

Delivery month	May 23	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb	Mar*	Apr*	May*
Oil index	35.75	33.35	31.68	31.07	30.63	31.13	32.48	33.43	34.23	34.47	34.55	34.09	33.22
+5pc discount	33.96	31.68	30.10	29.51	29.10	29.58	30.85	31.76	32.52	32.75	32.82	32.39	31.55
+7.5pc discount	33.07	30.85	29.31	28.74	28.34	28.80	30.04	30.93	31.66	31.89	31.96	31.54	30.72
+10pc discount	32.18	30.01	28.52	27.96	27.57	28.02	29.23	30.09	30.81	31.03	31.09	30.68	29.89
+12.5pc discount	31.28	29.18	27.72	27.18	26.80	27.24	28.42	29.25	29.95	30.17	30.23	29.83	29.06
+15pc discount	30.39	28.35	26.93	26.41	26.04	26.46	27.61	28.42	29.09	29.30	29.37	28.98	28.23
+20pc discount	28.60	26.68	25.35	24.85	24.51	24.91	25.98	26.75	27.38	27.58	27.64	27.27	26.57
TTF													
Oil index 90pc + 10pc TTF	36.35	33.14	31.76	30.88	31.04	31.69	33.91	34.66	34.41	34.01	33.55	33.15	32.38
Oil index 80pc + 20pc TTF	36.96	32.94	31.84	30.69	31.45	32.25	35.35	35.88	34.59	33.55	32.55	32.20	31.54
Oil index 70pc + 30pc TTF	37.56	32.74	31.92	30.51	31.86	32.81	36.79	37.11	34.77	33.09	31.55	31.26	30.70
Oil index 60pc + 40pc TTF	38.17	32.54	32.00	30.32	32.26	33.37	38.22	38.33	34.95	32.63	30.55	30.32	29.86
Oil index 50pc + 50pc TTF	38.77	32.33	32.07	30.14	32.67	33.93	39.66	39.55	35.13	32.17	29.55	29.37	29.02
THE													
Oil index 90pc + 10pc THE	36.43	33.22	31.82	30.92	31.09	31.73	33.95	34.70	34.46	34.07	33.57	33.18	32.41
Oil index 80pc + 20pc THE	37.12	33.09	31.95	30.78	31.54	32.33	35.43	35.97	34.70	33.66	32.60	32.28	31.61
Oil index 70pc + 30pc THE	37.80	32.95	32.09	30.64	31.99	32.93	36.90	37.24	34.93	33.26	31.62	31.37	30.80
Oil index 60pc + 40pc THE	38.48	32.82	32.22	30.50	32.44	33.53	38.38	38.51	35.17	32.85	30.65	30.46	30.00
Oil index 50pc + 50pc THE	39.17	32.69	32.35	30.36	32.89	34.13	39.85	39.78	35.40	32.45	29.67	29.55	29.20
VTP													
Oil index 90pc + 10pc VTP	36.57	33.31	31.92	31.08	31.23	31.80	33.92	34.58	34.38	34.06	33.67	33.29	
Oil index 80pc + 20pc VTP	37.40	33.27	32.16	31.09	31.82	32.47	35.36	35.73	34.52	33.64	32.79	32.49	
Oil index 70pc + 30pc VTP	38.22	33.23	32.40	31.11	32.42	33.14	36.80	36.88	34.67	33.22	31.92	31.69	
Oil index 60pc + 40pc VTP	39.04	33.19	32.64	31.12	33.01	33.80	38.25	38.03	34.81	32.81	31.04	30.89	
Oil index 50pc + 50pc VTP	39.87	33.15	32.88	31.13	33.60	34.47	39.69	39.18	34.96	32.39	30.16	30.09	

**provisional*

Please see the methodology for the Argus European Natural Gas Report at www.argusmedia.com/en/methodology

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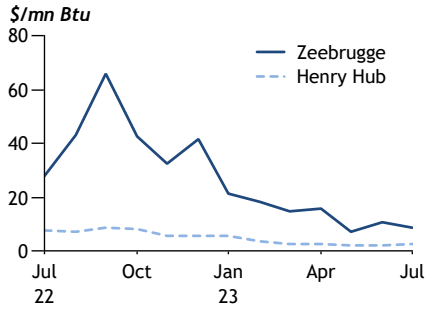
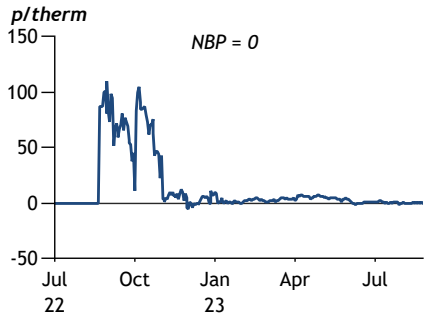
US MARKET WRAP

Henry Hub vs Zeebrugge



Zeebrugge front month vs NBP



Henry Hub prices fall in February

Near-curve contracts at the US Henry Hub ended February at a much lower level than at the start of that month, with a late-month rally fuelled by news of supply curtailments by some of the country's largest gas producers only partly offsetting losses posted earlier in the month.

The front-month contract at the US benchmark expired at $1.62/mn Btu on 27 February, down from $2.05/mn Btu at the start of that month, although it had recovered slightly from a low of $1.58/mn Btu on 20 February, after US producer Cheasepeake announced production cuts in response to low prices. The front-month market finished last week 14pc higher than a week earlier amid the expiration of the March contract. The April contract continued to rise in late February and early March, with fellow producer EQT also announcing production cuts. The contract closed at $1.96/mn Btu on 5 March.

Prices were also buoyed by forecasts of slightly cooler, but still mild, weather and expectations that the recent downturn in prices to below $2/mm Btu would yield further output cuts. And stocks have dropped by 1.405 trillion ft³ since early November, or 17pc smaller than the five-year-average draw for this period of 1.698 trillion ft³, according to US Energy Information Administration data.

US gas in underground storage						*bn ft³*
Region	**23 Feb**	**26 Jan**	**±**	**Year ago**	**Five-year av.**	**± % 5-yr ave**
East	453	605	-152	584	579	-21.8
Midwest	600	727	-127	715	689	-12.9
Mountain	169	185	-16	133	137	23.4
Pacific	217	223	-6	141	199	9.0
South Central	935	919	16	1,031	925	1.1
Total	**2,374**	**2,659**	**-285**	**2,604**	**2,529**	**-6.1**

Spot market natural gas prices (pipeline)													
	Feb 23	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan 24**	**Feb**
Europe *p/th*													
UK NBP, 1st month	131.37	109.23	99.76	72.12	79.85	72.30	87.23	92.26	116.86	115.90	90.24	74.16	63.19
UK NBP, 2nd month	131.95	110.63	101.63	71.67	82.22	76.90	97.43	110.28	131.00	122.26	91.69	73.36	63.09
UK NBP, 3rd month	133.57	112.08	101.54	78.83	87.25	87.70	119.27	127.00	138.36	124.62	91.39	73.50	63.42
ICE, 1st month	131.41	109.29	100.11	72.21	79.97	72.66	87.47	92.43	117.64	116.04	90.25	74.17	63.29
ICE, 2nd month	131.89	110.69	101.93	72.14	82.40	77.60	98.29	110.52	131.33	122.22	91.61	73.35	63.18
ICE, 3rd month	133.46	112.01	102.27	79.21	87.58	88.80	119.53	127.00	138.24	124.36	91.36	73.36	63.49
Europe *€/MWh*													
UK NBP, 1st month	50.55	42.19	38.60	28.25	31.73	28.72	34.64	36.49	45.92	45.41	35.71	29.45	25.21
UK NBP, 2nd month	50.72	42.69	39.29	28.04	32.63	30.51	38.65	43.58	51.42	47.85	36.25	29.11	25.15
UK NBP, 3rd month	51.28	43.21	39.21	30.81	34.58	34.74	47.24	50.13	54.24	48.71	36.10	29.14	25.25
Germany VTP, 1st month	52.94	44.56	42.58	32.04	33.02	29.65	35.15	37.13	47.23	46.13	36.58	30.42	26.03
Germany VTP, 2nd month	53.65	44.88	42.84	32.43	33.72	31.33	39.73	45.01	51.04	47.57	37.06	30.53	26.27
Germany VTP, 3rd month	54.00	45.17	43.15	33.50	35.54	36.62	48.80	49.90	52.97	48.02	37.03	30.64	26.39
US *$/mn Btu*													
Henry Hub, 1st month	3.13	2.46	1.99	2.12	2.17	2.60	2.48	2.55	2.77	3.17	2.71	2.65	2.50
NY (Transco Zone 6)	3.64	2.23	1.74	1.47	1.42	1.78	1.28	1.45	1.43	2.23	2.26	4.61	1.71
Columbia TCO	2.03	2.08	1.83	1.77	1.52	1.72	1.34	1.38	1.39	1.98	1.94	2.84	1.40
SoCal border	6.93	5.39	3.58	2.01	2.33	4.52	4.24	2.69	3.03	4.03	3.28	4.56	2.24
Nymex, 1st month	3.61	2.43	2.46	2.17	2.31	2.43	2.65	2.63	2.68	3.10	3.12	2.57	2.76
Nymex, 2nd month	5.87	3.33	2.51	2.59	2.37	2.48	2.52	2.64	2.74	2.97	3.44	3.34	2.49

Please see the methodology for the Argus European Natural Gas report and the Argus Natural Gas Americas report at www.argusmedia.com/en/methodology

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COMPETING FUELS

Crude													$/bl
	Feb 23	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb
Japanese Crude Cocktail	87.88	85.43	83.53	86.45	82.14	80.52	82.16	86.56	92.76	93.90	90.22	93.90	90.22
Tapis	89.99	84.39	90.07	79.59	78.75	84.82	92.37	102.59	100.45	91.52	87.31	88.33	91.52
Dubai (1st month) London close	81.70	78.32	83.44	74.51	75.02	80.77	86.43	93.75	89.27	83.33	77.16	78.74	81.14
North Sea dated	82.50	78.29	84.84	75.49	74.73	80.09	86.18	93.96	91.12	83.05	77.85	80.26	83.90
WTI (1st month)	76.84	73.37	79.44	71.59	70.24	76.39	81.41	89.57	85.57	77.44	72.08	73.93	76.77

Please see the methodology for the Argus Crude report at www.argusmedia.com/en/methodology

International fuel oil prices													$/t
	Feb 23	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb
HSFO 180 fob South Korea	417.41	436.73	474.62	440.01	436.41	485.62	552.34	545.05	493.84	470.67	446.81	451.58	456.79
HSFO 180 fob Singapore	406.41	425.73	463.62	429.01	425.41	474.62	541.34	534.05	482.84	459.67	435.81	440.58	445.79
LSWR fob Indonesia*	581.57	539.17	560.59	518.39	536.73	530.45	589.64	610.98	612.77	606.37	542.68	550.22	573.61
1pc fuel oil fob NWE	464.61	424.04	466.63	436.29	449.65	482.14	538.40	570.54	518.11	483.89	456.11	466.24	467.93
1pc fuel oil fob W Med	490.95	453.84	493.64	463.78	474.50	503.38	559.75	590.65	544.16	514.73	489.28	500.35	502.74
New York 1pc	483.72	450.25	481.42	439.81	444.04	478.92	531.14	567.56	531.98	511.18	510.15	519.88	530.44

**LSWR fob Indonesia changed to 0.45pc sulphur specification with price in $/t from 31 July. Prices before this date are for 0.35pc LSWR*

Please see the methodology for the Argus European Products, Argus Asia-Pacific Products and Argus US Products reports at www.argusmedia.com/en/methodology

International gasoil prices													$/t
	Feb 23	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb
C+F Japan	799.56	755.85	745.25	685.28	697.06	768.98	893.71	948.32	874.16	782.11	744.81	777.78	798.59
Fob South Korea	758.83	715.19	693.85	634.47	664.98	737.05	857.60	890.57	831.04	762.41	718.55	733.77	757.56
German heating oil	813.88	789.88	751.36	680.54	710.28	773.76	903.81	967.83	902.82	853.81	783.78	794.43	834.87
Heating oil fob W Med	796.35	758.58	724.71	649.36	685.44	765.73	892.07	952.51	883.18	805.19	756.11	779.65	815.17
No 2 oil New York	702.38	677.46	645.75	575.33	599.58	684.92	822.07	891.34	836.53	794.39	744.65	768.75	807.36

Please see the methodology for the Argus European Products, Argus Asia-Pacific Products and Argus US Products reports at www.argusmedia.com/en/methodology

International electricity prices													€/MWh
	Feb 23	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb
France month-ahead	147.51	117.67	107.14	85.96	97.56	80.68	91.92	91.96	111.38	100.28	89.04	77.61	57.76
Spain month-ahead	111.14	98.13	96.82	87.76	97.37	91.74	99.59	100.52	104.52	91.45	81.57	68.46	36.99
PJM West (off peak)($/MWh)	24.06	26.21	25.41	23.17	17.84	20.89	19.58	21.45	27.17	37.19	33.98	47.57	23.50
Entergy (off-peak)($/MWh)	19.62	22.36	20.31	18.69	18.47	21.49	21.58	20.92	22.23	24.16	22.76	32.96	15.89

Please see the methodology for the Argus European Electricity report at www.argusmedia.com/en/methodology

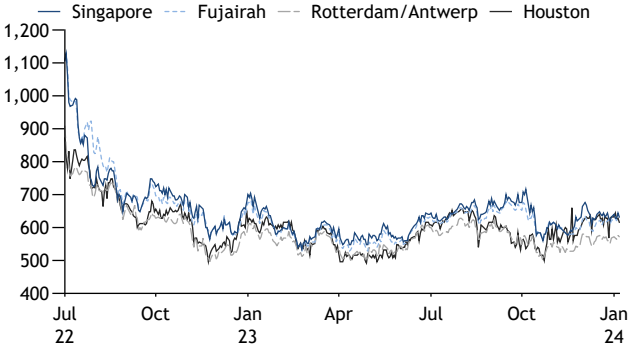
International coal prices													$/t
	Feb 23	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 24	Feb
Japan	240.05	197.52	201.88	179.85	141.75	142.86	155.31	171.63	155.02	138.41	154.58	144.88	134.56
South Korea	205.48	192.42	182.87	167.12	135.68	126.34	121.34	124.46	130.21	126.94	126.11	126.39	126.25
Indonesia	198.80	183.76	174.29	159.86	128.82	120.07	114.23	115.86	121.45	118.03	117.06	118.59	117.49
ARA	139.85	137.15	140.08	116.11	117.95	110.34	118.66	123.68	135.69	122.10	117.46	104.63	96.68
Nymex spec Q1	106.38	89.15	85.69	81.69	72.35	71.75	75.13	71.10	74.00	75.00	75.00	73.00	71.25

Please see the methodology for the Argus Coal Daily and Argus Coal Daily International reports at www.argusmedia.com/en/methodology

International shipping fuel prices						$/t
	Sep	Oct	Nov	Dec	Jan 24	Feb
Singapore 380cst	657.19	660.93	682.28	604.93	614.15	633.67
Fujairah 380cst	644.63	646.05	657.73	596.83	596.48	614.55
Rotterdam/Antwerp 380cst	609.52	595.08	568.10	536.33	542.97	564.81
Houston 380cst	644.83	605.75	563.98	554.77	592.89	624.20

Please see the methodology for the Argus Marine Fuels report at www.argusmedia.com/en/methodology

Key shipping fuel prices $/t



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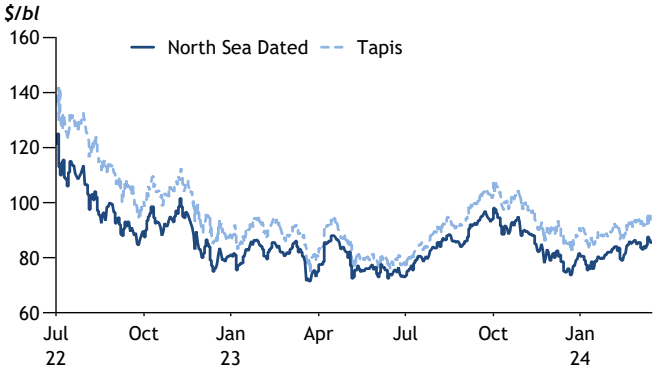
COMPETING FUELS

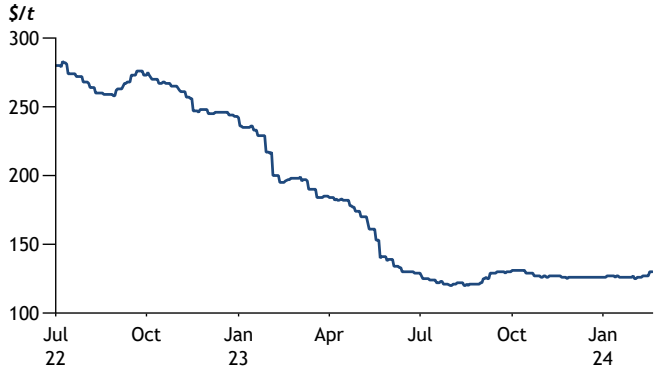
North Sea Dated vs Tapis



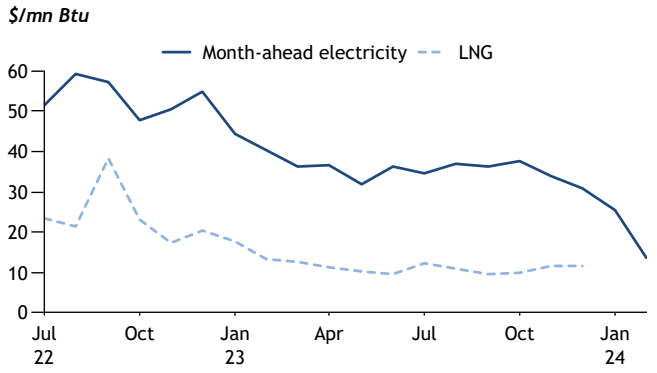
180cst fuel oil fob Singapore



Coal cif South Korea



Spain: Month-ahead electricity vs LNG



Crude prices hold steady

Crude prices were broadly steady in Europe as the market proved resilient to the Red Sea disruptions. A move to a sweeter crude slate, undisrupted flows from Saudi Arabia and rising imports from Latin America helped to stabilise crude supply in Europe. Lower demand from Asia-Pacific in Caspian crude as a result of the Red Sea conflict left more CPC Blend crude locally. Atlantic basin benchmark North Sea Dated inched up by $1.17/bl to close at $84.66/bl in February. But US market WTI rose by $4.44/bl to $78.26/bl. US prices were largely supported by US government agency Energy Information Administration's weaker 2024 domestic crude production outlook.

Lower receipts support European diesel

European refined products cracks broadly found support in February. Vessel diversions from the Suez Canal slowed arrivals from India and the UAE, weighing on European diesel imports to drop to their lowest level since at least 2016. US exports to the continent also fell as Gulf coast refinery maintenance peaked. Diesel cargo premiums to North Sea Dated averaged $32.70/bl, up by $4.47/bl on the month. High-sulphur fuel oil discounts to Ice Brent narrowed by 62¢/bl to $13/bl. Very-low sulphur fuel oil premiums to Ice Brent were wider on average but closed the month at less than $5/bl from more than $7/bl at the start.

Cif ARA rises on US sanctions

The northwest Europe-delivered high-grade coal price edged below the $100/t mark for most of February, although prices started to increase following the imposition of US sanctions against Russian producer Suek. European coal prices increased more sharply than South African prices on strong dry bulk freight rates. Houthi rebel attacks on commercial vessels in the Red Sea forced Capesize vessels to reroute, increasing sailing distances and journey times. But coal-fired generation remained low across northwest Europe throughout February as a result of mild weather and strong renewables output in Germany.

Power demand drops on warmer weather

Warmer weather across Europe in February pushed down demand, which, coupled with higher renewables output, weighed on thermal generation. German gas-fired output fell to a three-month low of 6.95GW as combined wind and solar generation stepped up to a two-year high of 27.3GW, while demand dropped by about 1.7GW on the month. Minimum temperatures in Essen averaged 3.6°C above seasonal norms in February, compared with more than 1°C below long-term averages across January. In France, demand fell by about 8GW to 55.8GW, while total output dropped by about 5.7GW. Gas-fired output declined to 3.4GW.

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Spot charter rates edge higher in February

Spot charter rates across all three Argus Round Voyage (ARV) routes rose slightly throughout February, but remained well below rates from a year earlier, as thin market activity and a closed inter-basin arbitrage weighed on demand.

The ARV1 prompt spot rate for Australia-northeast Asia round trips by tri-fuel diesel-electric carriers ended February at $37,000/d compared with $35,500/d at the start of that month. The ARV2 rate for US-Europe journeys also edged higher, to $37,857/d by 29 February, compared with $35,500/d on 1 February. Rates for ARV3 — the US-northeast Asia route — were at $37,000/d at the end of last month, compared with $36,000/d at the start.

Rates hardly shifted throughout the month, edging up to about $40,000/d for ARV1 and ARV3 rates in mid- to late February, while ARV2 rates held slightly lower. Very slow demand for cross-basin transit, with limited interest in both Atlantic and Pacific markets for spot fixtures, along with few LNG tender offerings made on a fob basis, kept the market slow.

And no LNG carriers — laden or empty —transited the Panama Canal last month, making it the first month since at least early 2017 without an LNG transit, according to Kpler data. No LNG carriers have transited the Suez Canal this month either, following attacks on shipping by Houthi rebels in recent months. This has left the Cape of Good Hope route as the sole passage between the Atlantic and Pacific basins.

Netbacks for 138,000m³ tanker Feb

	Sailing days, one-way	Bunker fuel $	Manning $	Insurance $	Repairs & maintenance $	Stores and lubes $	Capital costs $	Total shipping and storage $	Gas delivered, minus boil-off '000m³	Delivered value of cargo $	Transport and regas costs $/mn Btu	Delivered price $/mn Btu	Reporting month	Netback $/mn Btu
Qatar-Japan	14	1,872,942	129,115	72,261	10,602	24,955	803,786	2,913,661	125,320	38,384,416	1.09	14.05	Jan 24	12.96
Qatar-S Korea	15	1,966,196	134,946	75,524	11,081	26,082	840,086	3,053,915	125,174	37,684,642	1.14	13.81	Jan 24	12.67
Qatar-Spain	11	1,499,929	105,791	59,207	8,687	20,447	658,586	2,352,646	125,906	21,134,648	0.87	7.70	Dec 23	6.83
Abu Dhabi-Japan	14	1,872,942	129,115	72,261	10,602	24,955	803,786	2,913,661	125,320	41,580,841	1.09	15.22	Jan 24	14.13
Qatar-Belgium	3	621,958	40,817	22,844	3,352	7,889	254,100	950,960	127,539	39,842,278	0.35	14.33	Dec 23	13.98
Algeria-S Korea	20	3,622,229	179,095	100,233	14,706	34,615	1,114,929	5,065,807	124,065	45,302,335	1.91	16.75	Dec 23	14.84
Algeria-Spain	1	152,036	19,159	10,723	1,573	3,703	119,271	306,466	128,083	37,527,177	0.11	13.44	Dec 23	13.33
Algeria-US	11	1,977,502	103,292	57,809	8,482	19,964	643,029	2,810,077	125,969	11,341,509	1.04	4.13	Mar 20	3.09
Australia-Japan	8	1,128,193	78,302	43,823	6,430	15,134	487,457	1,759,338	126,597	36,291,540	0.65	13.15	Jan 24	12.50
Australia-S Korea	8	1,213,331	83,300	46,620	6,840	16,100	518,571	1,884,763	126,471	38,516,351	0.70	13.97	Jan 24	13.27
Brunei-Japan	5	702,500	53,312	29,837	4,378	10,304	331,886	1,132,216	127,225	48,286,599	0.42	17.41	Dec 23	16.99
Brunei-S Korea	6	816,018	59,976	33,566	4,925	11,592	373,371	1,299,448	127,057	44,733,055	0.48	16.15	Dec 23	15.67
Indonesia-Japan	7	1,028,864	72,471	40,559	5,951	14,007	451,157	1,613,010	126,743	39,151,797	0.59	14.17	Jan 24	13.58
Indonesia-S Korea	7	986,295	69,972	39,161	5,746	13,524	435,600	1,550,297	126,806	42,212,000	0.57	15.27	Jan 24	14.70
Malaysia-S Korea	5	674,120	51,646	28,904	4,241	9,982	321,514	1,090,408	127,267	34,291,711	0.40	12.36	Jan 24	11.96
Nigeria-Spain	8	1,525,654	82,467	46,154	6,772	15,939	513,386	2,190,371	126,492	29,864,073	0.81	10.83	Dec 23	10.02
Oman-Japan	13	1,739,723	120,785	67,599	9,918	23,345	751,929	2,713,299	125,530	29,089,511	1.01	10.63	Jan 24	9.62
Oman-S Korea	12	1,673,113	116,620	65,268	9,576	22,540	726,000	2,613,117	125,634	39,356,978	0.97	14.37	Jan 24	13.40
Oman-Spain	12	1,646,470	114,954	64,336	9,439	22,218	715,629	2,573,045	125,676	31,315,248	0.96	11.43	Dec 23	10.47
Oman-US	9	1,246,812	89,964	50,350	7,387	17,388	560,057	1,971,958	126,304	11,371,652	0.73	4.13	Mar 20	3.40
Trinidad-US	5	966,216	52,479	29,371	4,309	10,143	326,700	1,389,218	127,246	11,456,430	0.51	4.13	Mar 20	3.62
USGC-Japan	20	4,002,325	179,095	100,233	14,706	34,615	1,114,929	5,445,903	124,065	37,891,684	2.05	14.01	Jan 24	11.96
Algeria-UK	4	730,402	45,815	25,641	3,762	8,855	285,214	1,099,689	127,413	29,081,508	0.40	10.47	Oct 23	10.07
Nigeria-India	15	2,718,533	137,445	76,923	11,286	26,565	855,643	3,826,395	125,111	30,792,631	1.43	11.29	Oct 23	9.86
Qatar-India	3	407,531	37,485	20,979	3,078	7,245	233,357	709,675	127,622	33,831,127	0.26	12.16	Dec 23	11.90

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Age of fleet

Owner	No	Ave	Min	Max	Total capacity
Teekay	29	8	1	27	4,602,900
Maran Gas Maritime	26	4	1	7	4,370,925
Nakilat	25	11	10	12	6,055,700
GasLog	24	7	1	14	3,870,600
MISC	22	18	11	39	3,098,900
Mol	17	5	1	16	2,901,447
BW	16	11	1	17	2,467,100
BGT Ltd	13	11	4	18	2,029,000
Dynagas	12	7	1	13	1,771,970
Knutsen OAS	12	9	1	16	1,957,600
NYK	12	10	1	14	1,894,600
BP	10	6	1	13	1,662,800
Golar LNG	10	7	5	17	1,594,000
J4 Consortium	10	22	16	24	1,374,100
SK Shipping	10	14	1	26	1,525,900
Golar LNG Partners	9	20	6	43	1,281,003
Hoegh	9	5	1	14	1,508,332
Hyundai LNG Shipping	9	17	3	26	1,288,200
Excelerate Energy	8	12	6	15	1,191,000
National Gas Shipping Co	8	24	23	26	1,082,300
NYK, K Line, Mol, Iino, Mitsui, Nakilat	8	12	12	12	1,704,200
Sovcomflot	7	4	2	6	1,198,000
Chevron	6	5	3	6	960,000
Flex LNG	6	2	1	2	1,041,600
Korea Line	6	12	3	20	921,400
Maran Gas Maritime, Nakilat	6	12	2	15	902,000
Shell	6	15	10	18	886,200
Brunei Gas Carriers	5	9	5	18	740,600
China LNG Ship Mgmt	5	11	11	12	736,800
China Shipping Group	5	3	2	3	870,500
K Line	5	8	2	13	804,300
Nakilat, Teekay	5	12	12	14	1,020,600
Petronas	5	3	2	4	751,000
Teekay, Marubeni	5	11	10	12	830,900
TMS Cardiff Gas	5	8	6	16	788,100
Commerz Real, Nakilat, Pronav	4	12	12	13	840,800
Hanjin Shipping Co	4	22	20	25	544,400
Mitsui, NYK, Teekay	4	9	8	9	641,200
Mol, China LNG	4	5	4	5	684,223
Mol, NYK, K Line, SCI, Nakilat, Petronet	4	12	4	16	604,200
Nakilat, OSC	4	12	12	13	864,800
North West Shelf Venture	4	28	26	31	507,400
OSC, Mol	4	16	14	19	579,500
Sinokor Merchant Marine	4	20	16	31	543,900
Teekay, China LNG Shipping	4	1	1	1	688,000
Tepco, NYK, Mitsubishi	4	13	11	17	568,800

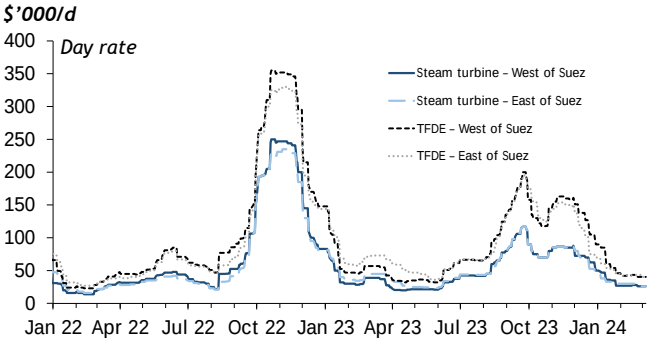
Age of fleet

Owner	No	Ave	Min	Max	Total capacity
BW, Pavilion LNG	3	4	1	5	497,400
Golar Power	3	5	2	7	490,000
Hyproc	3	8	3	16	490,900
K Line, PT Meratus	3	12	11	12	464,800
Mitsui, Sonangol, Sojlitz	3	9	9	9	480,000
Mol, Kepco	3	7	4	12	467,900
Mol, NYK	3	11	10	12	440,600
Mol, NYK, K Line	3	27	15	36	399,200
Shell, Gaslog	3	13	13	14	435,000
Stena Bulk	3	11	9	14	491,700
Thenamaris	3	6	5	7	480,000
Others	81	11	1	43	11,909,500
Total	534	3	1	43	85,798,800

Key ship deliveries 2022-26

Owner	No of vessels	Del period
Knutsen OAS Shipping	14	2022-25
Mitsui OSK Lines	11	2023-26
Celsius Shipping	8	2023-25
Hyundai LNG Shipping	8	2023-25
Global Meridian	8	2024-25
Maran Gas Maritime	8	2022-25
Cosco Shipping Energy Transportation	6	2022-25
Pan Ocean	5	2023-24
BW LNG	4	2022-25
Dynacom	4	2023-24
Panama LNG	4	2022-23
Korea Lines	4	2022-23
Sovcomflot/NYK	4	2023-24
Qatar Gas Transport	4	2024-25
JP Morgan	4	2022-23
Capital Gas	3	2023-24
K Line	2	2022
MISC	2	2023
CSSC Shpg Leasing	2	2024
N.Y.K. Line	2	2022
Meridian	2	2022
Dynagas	2	2022
H-Line Shipping	1	2022
Others	39	2022-26

LNG vessel rates



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SPARK SPREADS

International spark spreads							*$/MWh*
			Spark spreads at varying conversion rates				
Feb	**Fuel**	**Electricity**	**30pc**	**34pc**	**38pc**	**49.13pc**	**55pc**
Japan							
LNG	51.65	62.56	-109.43	-89.34	-73.36	-42.57	-31.35
Coal, cif Japan	19.28	62.56	-1.66	5.84	11.81	23.31	27.49
HSFO 180, cif Japan	38.84	62.56	-66.80	-51.69	-39.67	-16.51	-8.07
South Korea							
LNG	47.80	86.50	-72.69	-54.09	-39.30	-10.80	-0.42
Coal, cif Korea	18.09	86.50	26.25	33.29	38.89	49.68	53.61
HSFO 180, fob Korea	38.15	86.50	-40.55	-25.71	-13.91	8.84	17.13
Belgium							
LNG	45.25	86.02	-64.68	-47.07	-33.07	-6.09	3.74
Zeebrugge pipeline natural gas	32.47	86.02	-22.11	-9.48	0.57	19.93	26.98
Coal	13.85	86.02	39.88	45.27	49.56	57.82	60.83
Fuel oil 1pc fob NWE	39.08	86.02	-44.13	-28.93	-16.84	6.47	14.95
France							
LNG	32.33	83.63	-24.04	-11.46	-1.46	17.82	24.84
Pipeline natural gas, Russia	95.88	83.63	-235.65	-198.35	-168.68	-111.52	-90.70
Coal	13.85	83.63	37.50	42.89	47.17	55.43	58.44
Fuel oil 1pc fob w Med	41.99	83.63	-56.20	-39.87	-26.87	-1.84	7.28
Italy							
LNG	32.33	106.51	-1.17	11.41	21.42	40.69	47.72
Pipeline natural gas, Russia	105.91	106.51	-246.17	-204.98	-172.21	-109.06	-86.06
Coal	13.85	106.51	60.37	65.76	70.04	78.31	81.31
Fuel oil 1pc fob w Med	41.99	106.51	-33.33	-16.99	-4.00	21.03	30.16
Spain							
LNG	39.00	73.86	-56.01	-40.84	-28.77	-5.52	2.95
Pipeline natural gas, Algeria	96.97	73.86	-249.04	-211.32	-181.32	-123.51	-102.45
Coal	13.85	73.86	27.72	33.11	37.40	45.66	48.67
Fuel oil 1pc fob w Med	41.99	73.86	-65.97	-49.64	-36.65	-11.61	-2.49
US Gulf coast							
LNG	14.09	15.89	-31.03	-25.55	-21.19	-12.79	-9.73
Natural gas, Henry Hub Nymex	5.85	15.89	-3.58	-1.31	0.50	3.99	5.26
Coal Central Appalachia	10.21	15.89	-18.11	-14.14	-10.98	-4.89	-2.68
HSFO 3pc fob USGC	34.87	15.89	-100.24	-86.67	-75.88	-55.09	-47.52
US Northeast							
LNG	14.09	53.63	6.71	12.19	16.55	24.95	28.01
Natural gas, Transco Z6 NY	5.81	53.63	34.27	36.53	38.33	41.80	43.06
Coal Central Appalachia	10.21	53.63	19.63	23.60	26.76	32.85	35.06
HSFO 3pc fob NYH	37.45	53.63	-71.09	-56.52	-44.93	-22.60	-14.47

Please see the methodology for the Argus Coal Daily and Argus Coal Daily International reports; Argus European Products, Argus Asia-Pacific Products and Argus US Products reports; and the Argus European Natural Gas report and the Argus Natural Gas Americas report at www.argusmedia.com/en/methodology

Conversion factors (left-hand column units are multiplied by the factor shown to convert to units in the top row)								
Equals	**Million British thermal units**	**Barrels of oil equivalent**	**Tonnes of oil equivalent**	**Cubic feet (ft^3) gas**	**Cubic metres (m^3) gas**	**m^3 LNG**	**Tonnes LNG (specific gravity 0.425)**	**Tonnes LNG (specific gravity 0.475)**
1 million *Btu* (1mn *Btu*)	1	0.172	0.0235	1000	28.3	0.0459	0.0195	0.0218
1 barrel of oil equivalent (boe)	5.8	1	0.136	5800	164.2	0.266	0.113	0.126
1 tonne of oil equivalent (toe)	42.5	7.33	1	42.5	1200	1.95	0.828	0.925
1 ft^3 gas	0.001	0.000172	0.0000235	1	0.0283	0.0000458	0.0000195	0.0000218
1 m^3 gas	0.0353	0.0061	0.00083	35.3	1	0.00162	0.000688	0.000769
1 m^3 LNG	21.8	3.76	0.513	21,824	618	1	0.425	0.475
1 tonne LNG (specific gravity 0.425)	51.3	8.85	1.207	51,350	1,450	2.353	1	
1 tonne LNG (specific gravity 0.475)	45.9	7.91	1.081	45,950	1,300	2.105		1

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Argus *Global LNG* is published by Argus Media group

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ISSN: 1746-4013

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