LNG China

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# Sales of Chinese gas utilities surge, though LNG price spike squeezes profits

**Chinese city gas operators have struggled to fulfil the recent spike in gas demand caused by a rebound in industrial activity and strong heating needs in an exceptionally cold winter. Fitch Rating says suppliers largely managed to cater to the demand spike which propelled up sales and profits, though the sharp rise in spot LNG prices has put pressure on dollar margins.**

Growth in China's gas demand increased at a staggering rate, rising from 5.9% in October to nearly 13% in the three months between November 2020 to January 2021, data from the Chongqing Petroleum and Gas Exchange shows. Though these growth rates are impressive, Fitch Rating said the current supply pressure is lower than it had been in winter 2017/18 given that demand spikes could be "fulfilled to a large extent" and translated into "strong gas sales for local distributors."

Taking some precautions, the Chinese government had urged national oil companies (NOC) and local gas distributors to build additional gas storages after the 2017 shortage, and supply from these facilities reached above 100 million cubic meters per day, or 9.7% of total daily gas consumption in the peak season this winter. Some NOCs also moved some of their long-term contract deliveries to the winter and new LNG terminals and pipelines also contributed additional contracted supply.


**Chinese suppliers turn to cheaper pipeline gas supplies**

## LNG price surge impacts dollar margins

Strong seasonal demand – not only in China but also in Japan and South Korea – created some supply shortages and pushed up prices, notably for spot LNG cargoes which shippers rushed to bring in

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# BP ventures into Chinese down-stream gas markets with direct LNG shipments

**British energy giant BP has carried out the first direct gas shipment to a Chinese gas customer by supplying an LNG cargo to ENN. The delivery was made possible by China's gas market reform which loosened the tight grip of the country's three state-owned importers – CNPC and its subsidiary PetroChina, CNOOC and Sinopec – on gas infrastructure.**

The first LNG cargo was received at the Guangdong Dapeng LNG terminal in Shenzhen, in China's southern Guandong Province. BP underlined "this was the first time [it] created a fully integrated gas value chain into China, directly connecting upstream resources, transportation and trading with downstream gas customers."

BPs first direct LNG delivery to ENN was made based on a gas supply agreement under which BP will provide the Chinese company with pipeline gas derived from 300,000 mtpa of LNG. The LNG will be imported through the Guangdong Dapeng LNG (GDLNG) receiving terminal where BP holds 600,000 mtpa in tolling regasification capacity.

Federica Berra, BP's senior vice president of integrated gas and power, commented the delivery marks an important milestone for the company's operations in China, growing the company's


**Location of Guangdong Dapeng LNG terminal in Shenzhen**

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## AGENDA

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from the Atlantic Basin. In northern China, prices for imported LNG jumped by more than 100% at the height of the cold spell and by 60% in southern parts of the country. In Hebei, Jilin, Liaoning, and Shandong provinces, prices for landed LNG cargoes jumped to more than CNY 10,000 per tonne (US$1,545 per tonne) in late December, from an average of CNY 2,700 per tonne in June-August 2020, according to trading data.

Still, Fitch Rating reckons "the impact of rising spot LNG prices on gas distributors' dollar margins should also be lower this winter than in 2017." Overall dollar margins of the rated gas distributors were flat or slightly better yoy in 2020.

Analysts pointed out that Chinese city gas operators are often partially or fully owned by the county's large oil and gas importers and can hence source their fuel needs at a favourable price. Kunlun Energy, for example, can count on its parent, CNPC, to secure stable gas resources. ENN Energy can utilise the Zhoushan LNG terminal to secure low-cost LNG with long-term contracts signed at a 20-30% discount to the city-gate price.

Binhai Investment's higher gas demand has been satisfied by additional supply from its strategic investor, Sinopec, at a reasonable cost. Beijing Gas has a sufficient piped-gas supply from NOCs to ensure energy security for the capital and fuel cost pass-through has usually been timely in Beijing. Shenergy has its own LNG terminal with long-term contracts, which supplies over 60% of total gas procurement.

Most rated gas distributors have signed long-term gas supply contracts which are typically oil-indexed, and less volatile than spot prices. China's gas sector reform has also given large national gas distributors better access to midstream assets, notably LNG import facilities and pipelines.

"Distributors need to bear a sharper increase in fuel costs from their spot market purchases, although we think the fuel cost pass-through has become smoother since the reform of the gas distribution price mechanism," analysts said. Gas distributors can now better identify target customers to optimise cost structures and have ways to communicate with the government on tariff adjustments. ■

# Sinopec seeks to import more spot LNG, expand shale gas production

**China Petroleum and Chemical Corp. (Sinopec) seeks more volumes on the spot market after the nation's economic planning body NDRC urged companies to increase imports of LNG and thermal coal for power generation. PetroChina, the Hong Kong-listed affiliate of CNPC, and Sinopec also said they would be increasing shale-gas production.**

Sinopec, a shareholder in the Australia-Pacific LNG plant in Queensland operated by ConocoPhillips, said its regasification terminals at Tianjin Port in the north and the east China Qingdao facility would both handle record volumes in January. The company said it would also increase domestic natural gas production by another one million cubic metres per day by the end of January by accelerating the drilling of new development wells. Sinopec said it was additionally extracting gas from its underground storage in central and east China.

At the same time, PetroChina and Sinopec are planning to increase their shale-gas output over the next several years from the Sichuan shale basin in central China. PetroChina aims to more than double its shale gas production in Sichuan to 22 billion cubic metres by 2025.

That will surpass a target set by Sinopec, which led China's shale gas development with the first commercial discovery at Fuling in Sichuan, from the current 7.5 Bcm of output to 13 Bcm by 2025. Sinopec has added 83 Bcm of newly proven reserves that have yet to enter production at the Chuanxi field in Sichuan. The reserves, certified by the Chinese Ministry of Natural Resources, raise the field's total proven resources to 114 Bcm. The reservoir is spread over 138 square kilometres in the western part of the basin at depths of 6,000 metres.

**Sinopec is building five new storage tanks at its Tianjin LNG terminal**

## Limits of domestic supply

However, shale gas output is limited in China in that by 2025 the total annual production by Sinopec and PetroChina combined would only amount to the LNG shipments from one large US Gulf Coast LNG export plant. PetroChina's shale operations are centred in the Yibin, Zigong, Neijiang, Luzhou and Yongchuan regions of the Sichuan Basin. The company started appraising blocks in the Sichuan basin in 2006 and made its first major discovery with the Wei-201 well in 2010. ■

LNG China

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market presence and connecting right along the gas value chain."With our world class technologies, marketing and trading capabilities, we have developed an innovative, diversified and flexible integrated business model enabling us to both provide more LNG to the region and also increase our access to downstream gas markets," she said.

BP is the first oil major to invest into an operation LNG regasification terminal in China. It owns a 30% stake in GDLNG via its shareholding in the Guangdong Energy consortium. According to BP figures, GDLNG has delivered approximately 50% of the accumulative gas consumption to its customers in Guangdong region since 2010, making it one of the busiest LNG terminals in China.

The Chinese government aims to achieve peak CO2 emissions before 2030 and to become carbon neutral by 2060. To that end, it seeks to make enough natural gas available at affordable price to incentivize industry and especially the power sector to switch from coal to more climate-friendly natural gas. ■

# Residential demand surges as over 7 million Chinese households get gas grid access

**China, the world's second-largest demand market, has connected 7.1 million households to its national gas network over the course of 2020, increasing the country's gas demand for heating. LNG imports to China hit fresh records despite pandemic-related lockdowns in the first half of the year.**

Chinese LNG imports increased 11.5% to a total of 67.13 million tonnes, according to customs data. During December, shipments to China's network of over 20 regas terminals reached a monthly high of 7.59 million tons, up 18.2% on the pre-year month and significantly higher than the 6.02 million tons imported by Japan in December.

Imports by China initially increased regardless of the high prices for North Asia spot LNG cargoes. The Japan-Korea Marker (JKM) price in December surged eight-fold from April lows, reaching a more than six-year high of $15.10 per MMBtu. The JKM price for February 2021 delivery surged even higher and was last seen trading at $20.705 per MMBtu.

PipeChina engineers inspect local infrastructure.

## NDRC puts a lid on prices

However, price-sensitive Chinese buyers have started to turn away from high-priced spot LNG and prefer pipeline gas instead as the powerful National Development Reform Commission (NDRC) has stepped in to put a lid on China's domestic gas prices.

Trucked LNG prices are not permitted to exceed 20% of the city gas price guideline, while several LNG import and regas terminals were notified that ex-factory trucked gas prices should not be higher than Yuan 5,500-6,000 per million ton.

Startled by the government's clamp-down, state-controlled CNOOC, PetroChina, Guangzhou Gas and Guangdong Energy are understood to have left purchase tenders, issued in mid-December for January-February deliveries, unawarded. Utility buyers are hesitant to pay double-digit prices for spot LNG as they have cheaper alternatives.

Pipeline gas, or domestic supplies, is currently a cheaper alternative to imported LNG. China recieves pipeline gas from the Central Asian republics of Turkmenistan, Kazakhstan and Uzbekistan, as well as from Russia since December 2019. ■

# Chinese buyers shun spot LNG as NDRC caps domestic gas prices

**Price-sensitive Chinese buyers have turned away from spot LNG for February delivery after Beijing put a lid on domestic prices. Utility buyers in China are reluctant to pay anything above $15 per MMBtu given that they can also revert to pipeline gas, imported from Russia and Turkmenistan, or domestic supplies.**

Buyers were reluctant to offtake cargoes when spot prices surged beyond the $11 per MMBtu level, and Asian traders noted these high prices caused some 'demand destruction, especially in China were importers cannot fully pass on their costs to the downstream market.

Putting a foot down, China's powerful National Development Reform Commission (NDRC) stepped in and effectively capped domestic gas prices. Trucked LNG prices are not permitted to exceed 20% of the city gas price guideline, according to state-run Xinhua News, while several LNG import and regas terminals were notified that ex-factory trucked gas prices should not be higher than Yuan 5,500-6,000 per million ton.

Startled by the government's crack-down on domestic price surges, Chinese buyers have turned their back on expensive LNG cargoes. State-controlled CNOOC, PetroChina, Guangzhou Gas and Guangdong Energy are understood to have left purchase tenders, issued in mid-December for January-February deliveries, unawarded in the face of record high spot prices.

## NOCs step up volumes of pipeline gas imports

In December, Chinese gas companies had bought record volumes of LNG supplies but no spot purchase was reported since the Christmas holidays. Bowing to government pressure, China's three national oil companies (NOCs) are turning to pipeline gas and domestic production, while restricting supplies to non-prioritised industry sectors.

At the peak of January's cold snap, utilities were forced to ramp up gas-fired power plants to full capacity to make up for a temporary dip in coal-fired power output. Zhejiang Energy reportedly supplied a total 400 million cubic meters of gas from January 1-9, up 33.6% year on year, whereby gas consumption for power generation surged 73.7%. In recent weeks, however, utilities have switched to thermal coal-fired plants instead, avoiding to burn expensive regasified LNG. ■


State-owned buyers turn to cheaper pipeline gas supplies.


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# Gazprom sets up subsidiary in Mongolia to advance pipelines to China

**Gazprom has registered a subsidiary in Mongolia to conduct a feasibility study for a trunkline to supply Russian gas to China. With the Soyuz Vostok gas pipeline, 'Power of Siberia II' will extend through Mongolia, and its capacity is meant to be 1.3 times higher than that of 'Power of Siberia'.**

Alexey Miller, chairman of Gazprom, said the new pipeline will allow the Russian gas company to export large amounts of gas from Western Siberia not only westward but also eastward.

The Government of Mongolia agreed in principle to the Russian gas interconnector as it will earn transit fees and volumes are likely to rise as China imports more gas to facilitate a fuel shift from coal to gas for heating and power generation. More than 7.1 million households have been connected to the Chinese national gas network over the course of 2020, particularly in northern China, increasing local gas demand.

## Russia keen to step up exports

The Russian gas major Gazprom has already been delivering more natural gas than contracted to China through the 'Power of Siberia' pipeline. Upon request by China's CNPC, daily deliveries were raised by up to 25% in October and during the first twenty days of November. Further increases are planned in 2021.

Alexey Miller, chairman of Gazprom, offered his counterpart at CNPC to increase Russian gas deliveries by an additional 6 billion cubic meters (bcm) after supplied volumes have been "consistently and in excess of the planned amounts" from early October until today. Prices were not disclosed.

Starting from early November, Gazprom has been busy laying the second 800-km section of the 'Power of Siberia' gas pipeline, running between the Kovyktinskoye field Irkutsk to the Chayandinskoye field and onwards to the Chinese border across Mongolia.

The overall 'Power of Siberia' gas contract is for 38 Bcm per annum, while the 5 Bcm delivered in the first year was equivalent to 3.7 million tonnes of LNG, less than from a standard Train at a large-scale plant.


**Map of Russian gas pipelines into China**

## US LNG dismissed as "not viable"

Gazprom underlined, for its part, shale gas production is "not a viable prospect" in view of the company's "extensive proven reserves of conventional gas," which is considerably cheaper to produce. Global energy demand is slowly recovering, notably in Asia, but Gazprom pointed out that American gas exports "have proven insufficiently competitive in 2020, leading buyers to cancel the purchase of a large amount of US-produced LNG."

More than 200 North American oil and gas producers, owing over $130 billion in debt, have filed for bankruptcy since the beginning of 2015, according to a May report from law firm Haynes & Boone. This year alone, at least 20 went bankrupt and analysts expect US shale gas output will fall considerably in the coming years. ■

# Taiwan's CPC imports first US LNG under 25-year deal with Cheniere

**Taiwanese energy company CPC Corp has just received its first shipment of US LNG from the Corpus Christi export plant in Texas under a 25-year supply deal with Cheniere Energy. Taipower, the island's main utility, also strives to import LNG for power generation, separately from CPC.**

The first US LNG cargo from Cheniere's Corpus Christi export plant in Texas arrived in Taiwan on January 10 and was unloaded at the Tai-Chung regas terminal. Cheniere agreed to supply 2 mtpa of LNG to Taiwan for 25 years with the purchase price linked to the US benchmark Henry Hub.

**Bird's eyes view of Taiwanese LNG import terminal**

Taiwan and US energy companies have entered a long-term cooperation which opens up a new supply source for Taiwan's expanding LNG imports, CPC said in a statement. As Asia's fifth largest LNG buyer, Taiwan's annual LNG requirements have risen to nearly 17 million tonnes per annum (mtpa).

Eager to import more LNG for power generation, CPC has expanded the Tai-Chung regas terminal and is currently developing a new import terminal in Datan Borough at Tao-Yuan, northern Taiwan, which is due to start operations in 2023.

Taipower, the island main utility, is also taking steps to import LNG for power generation and as it plans to develop its own regas terminals, one near Tai-Chung and a second at Hsieh-Ho in North Taiwan. State-owned Taipower signed two non-binding LNG supply deals, with imports designated for its CCGT project at Taichung, where unit 1 of 2 is scheduled to start up in early 2024.

The Taiwanese government estimates LNG imports will grow from 150,000 tonnes in 2023 to 3.6 mt in 2032. This growth estimate is based on fuel demand for 1,300 MW of gas-fired generating capacity at a 65% utilisation rate. Taipower currently operates five gas power plants with a combined capacity of over 11,360 MW. ■

# China strives to use more LNG to fuel ships in line with IMO rules

**China has pledged to improve its use of cleaner fuel in the transportation sector where more LNG will be used for shipping, trucking and other industries, while domestic Emission Control Areas are being expanded in line with International Maritime Organization (IMO) regulations and the natural gas pipeline grid will be improved.**


The lengthy list of current and future plans has been published in main state-controlled media under the heading "Sustainable Development of Transport in China". The report noted that the Chinese directives are backed by the most recent 19th Communist Party of China National Congress with goals for realizing more modernization through to 2035.

"The Fifth Plenary Session of the 19th CPC Central Committee proposed that we should accelerate the effort to build China into a country with a strong transport system," the report reads. China said it would be pursuing "green development" by promoting a cleaner and improved transport sector and would achieve real results in energy conservation and carbon reduction.

Today, there are reportedly some 400,000 buses and 430,000 trucks using new energy such as LNG, compressed natural gas and battery power and 180,000 natural gas and new fuel passenger vehicles such as hybrids. China is also planning to have more LNG-powered ships as part of its cleaner shipping policy.

## Tackling air pollution

The government stated that it attached great importance to the prevention and control of transport pollution, and has issued a series of policy documents, including the "Implementation Plan on Domestic Emission Control Areas" in the waters of the Pearl River Delta, the Yangtze River Delta and Bohai Sea Rim (Beijing, Tianjin, Hebei). It was also implementing the IMO's "Global Marine Fuel Oil Sulfur Limits" brought in at the start of 2020.

"With its initial focus on the Pearl River Delta, the Yangtze River and the Bohai Sea, China has set the goal of controlling and reducing emissions of atmospheric pollutants including sulfur oxides (SOx), nitrogen oxides (NOx), particulate matters (PMs) and volatile organic compounds (VOCs) from vessels and improving the air quality of coastal areas and inland river port cities," stated the report. At present, China said its EMAs have been further expanded along the coastal areas and the main streams of the Yangtze and Xijiang rivers, and stricter control standards have been proposed for the waters in Hainan.

The main EMAs outside China are in Northwest Europe and North America and with others planned in the Mediterranean by the nations of Southern Europe where the broader use of LNG fuel for shipping is being promoted and bunkering availability is improving.

China, the world's second-largest LNG importer, also stated that it was building out its natural gas pipeline grid. "A trunk network of gas pipelines is improving with the capacity to transmit gas from West to East China, from Sichuan to East China and from Shaanxi to Beijing, and to bring gas from offshore," said the report. Other infrastructure statistics such China's national railway electrification rate having reached 71.9%.

## Pivot to cleaner fuel sources

About 14% of airport vehicles and facilities are run on new energy sources, substitute facilities for aircraft auxiliary power units (APUs) are in full use, and the numbers of postal vehicles run on new and clean energy such as electricity and gas are steadily increasing in key regions. "More than 7,400 charging piles have been built and operated in 942 expressway service areas across the country, more than 5,800 sets of shore power facilities have been built at ports, covering over 7,200 berths, and container terminals at major ports along the Yangtze and coastlines have switched from oil to electricity for power," the report outlines, adding: The annual energy saved by green transport provinces and cities, green highways, green ports and other demonstration projects has exceeded 630,000 tonnes of coal equivalent.

Coal logistics corridors are now better configured and a railway corridor for energy and commodities transport running across the country has taken shape. Looking ahead, China stressed it is "engaged in an all-out effort to build a great modern socialist country. Transport will play a stronger part in leading economic and social development. China will implement the new development strategy and develop safe, convenient, efficient, green and economical transport to lay a solid foundation for modernization by 2035." ■

## NEWS NUDGES

### Charter rates tumble

Shipping charter rates for LNG carriers in the spot market have plunged for a third week by up to $24,500 dollars per day. Rates were quoted at an average of between $87,000 per day and $83,000 per day for vessels of between 155,000-165,000 cubic capacity in the West of Suez market. In the East of Suez charter market, rates were offered for ships at between $82,000 per day and $78,000 per day, according to various brokers. One-year time charters for the most modern vessels were available for around $49,000 per day.

### Japan LNG appeal

Japanese utility and liquefied natural gas buyer Kyushu Electric Power in late January issued a statement saying it was urgently seeking cargoes for its gas-fired plants. "As an emergency measure, we have begun buying 2,000-4,000 tonnes of LNG left in carriers in Asia after having discharged their cargoes to secure our fuel," said the utility in reference to the heel left in tankers to maintain cool-down.

Kyushu Electric, based in the city of Fukuoka in the southernmost Japanese island, said it was also asking other Japanese power companies to swap deliveries if possible. Benchmark power prices in Japan have reached a record high of 232.20 Japanese yen ($2.23) per kilowatt hour. Other Japanese utilities have asked customers to try and save power usage because of gas shortage. ■

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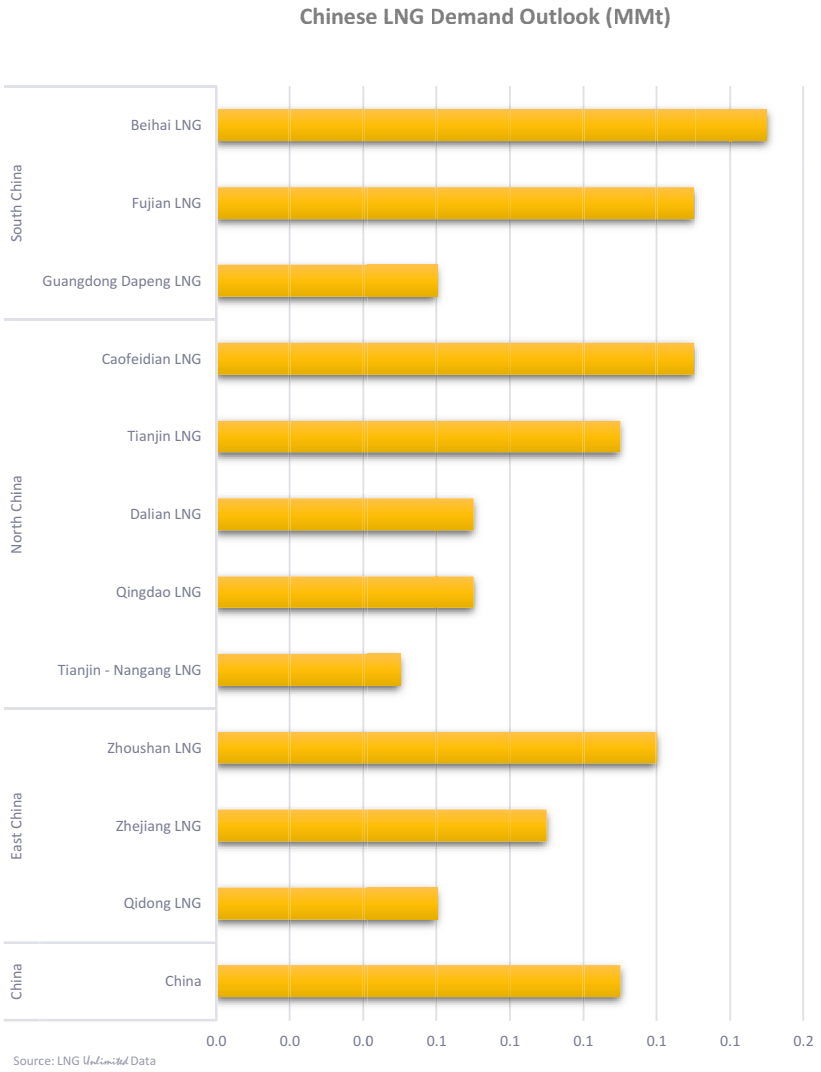
# Chinese LNG Demand Outlook

*1.15mmt on the water with a delivery horizon of 22nd February and c. 37 percent due in the North China region. At the time of writing, there was also a Qatari cargo of 0.11mmt with unconfirmed destinations in China as well as 65 cargoes broadly destined for the Pacific.*




According to our data, a further 65 cargoes were also making their way to the Far East and the Pacific at the time of writing. Almost half of these cargoes had sailed from the United States, amounting to 2.17mmt of loaded LNG. Whilst we do not anticipate all of these US cargo volumes to make landfall in China due to strong Japanese and South Korean demand for US LNG, we nonetheless highlight that Chinese LNG imports are very likely to come in above the figures for available import visibility quoted below. We therefore suggest take these as a baseline.

## North China

Of total LNG currently en route to China, we are anticipating 0.43mmt to be delivered to North China – comprising the wider Beijing area and China's industrial north – with a delivery horizon of 22nd February.

Among the roster of northern Chinese terminals, CNOOC's Tianjin - Nangang LNG is looking to receive 0.05mmt via the Methane Shirley Elisabeth by 15th February, taking a 12 percent share of LNG headed to the region. The cargo was exported by Queensland Curtis LNG on 2nd February.

**US LNG continues to flow into China**

Current market visibility indicates at least 0.07mmt are destined for PetroChina's Dalian LNG by 8th February, comprising a cargo from the United States' Sabine Pass LNG via the Ribera del Duero Knutsen, meanwhile, at the North China region's southernmost border, expected deliveries to Qingdao LNG also comprise a Sabine Pass cargo via the LNG Schneeweisschen (0.07mmt, which we expect to arrive by 6th February. The vessel departed the United States on 1st January.

Caofeidian LNG, meanwhile, is looking to receive two cargoes by 9th February. The delivery horizon for deliveries to the terminal is determined by the Castillo de Santisteban carrying a Queensland Curtis LNG cargo, our LNG Market Tracker data indicates. In addition, we anticipate the Gorgon LNG-derived Prachi to arrive at Caofeidian by 8th February, delivering c. 0.07mmt.

Completing the demand outlook for northern China are 0.18mmt scheduled to arrive at Sinopec's Tianjin LNG via a Queensland Curtis LNG cargo as well as an Angola LNG shipment. The former was aboard the Methane Mickie Harper (0.06mmt) whilst the latter one will arrive via the Malanje (0.06mmt). The Australian cargo is scheduled to arrive on 5th February whilst the Angolan cargo is expected on 8th February.

## East China

We currently see the East China region – comprising the wider Shanghai area and Zhejiang province – to receive 0.27mmt by 22nd February. Zhoushan LNG is scheduled to receive 0.12mmt from Freeport LNG in the United States via the GasLog Hong Kong (0.06mmt) by 14th February. Moreover, we are anticipating a Gladstone LNG cargo via the Seri Camar (0.06mmt) to arrive at Zhoushan by 15th February. Additionally, we are seeing an Australia Pacific LNG cargo travelling to Qidong LNG via the Grand Elena (0.06mmt). At the time of writing the vessel was indicating arrival on 12th February. Finally, our data indicated Zhejiang LNG was due to receive a cargo from Qatar's Ras Laffan LNG complex via the Q-Flex vessel Al Sahla (0.09mmt) by 22nd February.

## South China

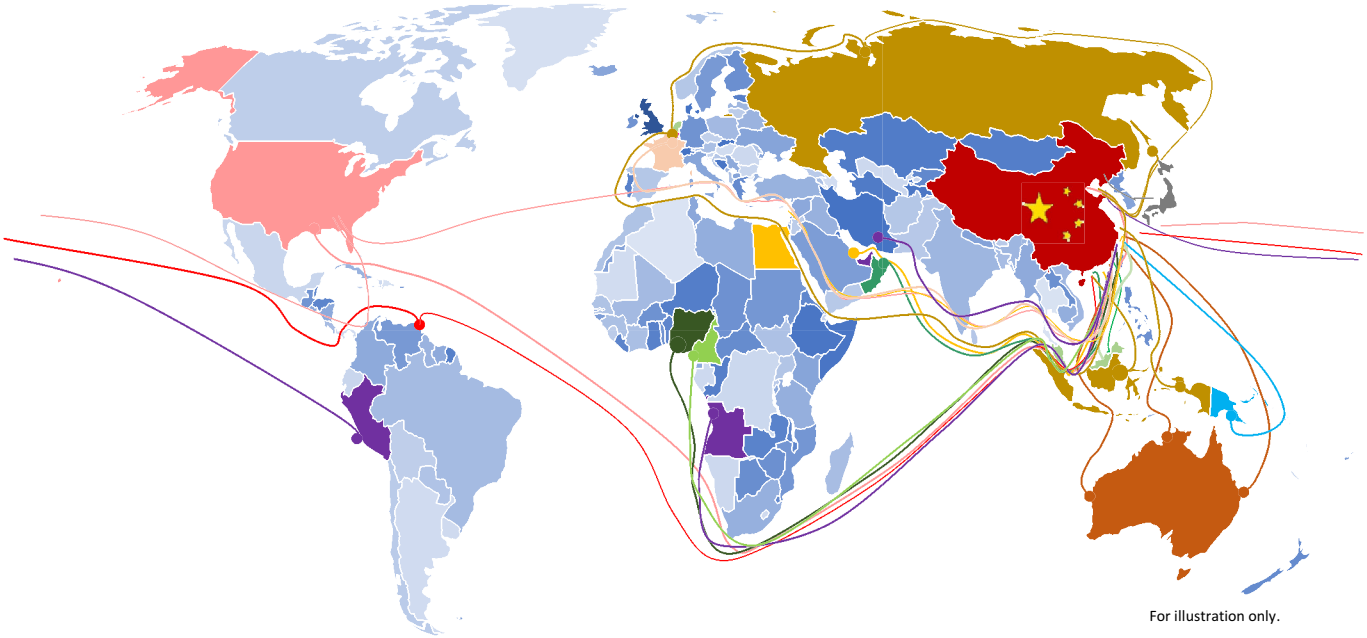
In the south of the country, we are currently expecting 0.34mmt to be delivered by 14th February, led by two Australia Pacific LNG

cargoes aboard the CESI Wenzhou (0.08mmt) and the CESI Tianjin (0.07mmt). We expect the two vessels to arrive at Sinopec's Beihai LNG terminal by 14th February.

Another Australian cargo aboard the NWS LNG-derived Methane Rita Andrea (0.06mmt) was headed for Guangdong Dapeng LNG. The cargo was scheduled to be delivered on 10th February, our data indicated.

Indonesia and the United States also had one cargo each at sea to the South China region, which we both expect to arrive at Fujian LNG. Indonesia's Tangguh facility had shipped a cargo via the Min Lu (0.06mmt) with an expected arrival on 5th February whilst the Corpus Christi LNG -derived BW Pavilion Vanda (0.07mmt) was due to delivery its Fujian-bound cargo by 8th February.

# Chinese Demand: November '20 - January '21



For illustration only.

China's LNG offtake in January amounted to 8.37mmt, which was 1.63mmt higher than the country's total imports of 6.74mmt in November, thus increasing significantly by 24 percent. Since this report spans three months of imports, this November-January increments needs some unpacking. Total Chinese offtakes had grown by 1.64mmt (32 percent) month-on-month in November to reach 6.74mmt. October's total stood at only 5.10mmt. Subsequently, China's monthly demand growth continued to be robust in December, when offtakes totalled 8.16mmt, meaning that China's December demand had increased by 1.41mmt (21 percent) over its November equivalent. Finally, given the above-nameplate capacity utilisation in December already, demand growth in January was comparatively modest as offtakes increased by only 0.21mmt (3 percent) month-on-month.

We have previously highlighted that LNG predominantly fuels China's industrial sector instead of heating private households (although the number of private households connected to the national gas network is continuing to grow fast). As a result, the country's demand is strongly linked to economic growth. The clampdown on industrial and social activity through COVID-19 related quarantine measures had previously hampered gas demand. However, China's official manufacturing index plummeted to the record low figure of 35.7 in February but rebounded to 52.0 in March. After declining to 50.6 in May, China's PMI has continued to trend upwards, albeit on a gentle slope. Accordingly, China's PMI remained stable following a jittery past in 1H 2020 once the country had begun producing Christmas goods for export.

**Chinese economy still in growth mode**

The Chinese economy thus remained in growth mode and thus kept increasing its energy demand. By the end of October, China's manufacturing PMI had climbed to a near-decade high as the PMI rose to 53.6, better than market expectations and September's figure of 53.0. This pointed to the sixth month of continued growth in factory output and the strongest growth spurt since January 2011. That trend continued as China's PMI rose to 54.9 in November but cooled off in December 2020 and January 2021 – presumably as the Christmas rush subsided – as evidenced by a lower PMI of 53 and 51.5, respectively.

As a result of higher energy demand as well as a tightening spot market amid South Kore and Japan increasing offtakes at the same time, the local price for LNG in China increased sharply, especially in the colder north and the industrious south. This in turn helped to considerably slow Chinese demand growth in December and January, we think, although capacity constraints probably had the most impact. Notably, China still maintains abundant coal-fuelled power capacity to switch to in case the immediate cost of alternatives rises too quickly.

Nevertheless, demand in January this year still exceeded the demand level seen in January 2019, allowing overall Chinese LNG offtakes to show a robust y/y growth of 2.39mmt (40 percent). This in turn translated into capacity utilisation of roughly 120 percent in January this year, an increase of more than 24pp year-on-year.

**Chinese gas price rally**

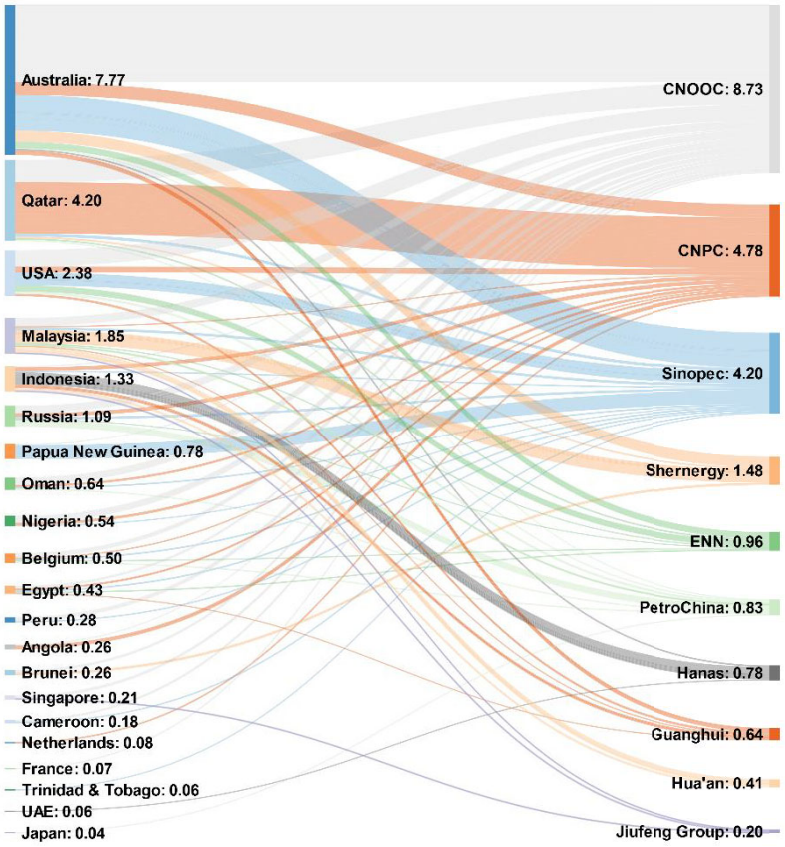
Chinese domestic LNG prices have been trending upwards since the end of May.

However, privately quoted price increases began to accelerate from $7.20/mmBtu in August to c. $7.84/mmBtu in September. The domestic price increase continued throughout November and December. On 31st December, prices had climbed to $16.69/mmBtu from $12.11/mmBtu on 30th November, a jump of 27 percent. Private price quotes for domestic LNG found their preliminary peak at $16.87/mmBtu on 5th January but had plummeted to $10.79mmBtu on 4th February, according to our data and calculations.

Meanwhile, the average domestic price indicated by the National Bureau of Statistics (CNBS) stood at $20.09/mmBtu on 31st December and had decreased to $14.78/mmBtu as of 29th January, the latest available data point. As such, China's average domestic LNG price of $11.32/mmBtu in November was c. 17 percent higher than in October, whilst the average price up until 29th January had increased further to $17.10/mmBtu, which was up 51 percent on November's average.

Concurrently, we highlight that landed LNG saw an average price of $13.79/mmBtu as of 31st January, according to Chinese customs data. This represents a notable preliminary increase of $2.75/mmBtu (25 percent) between November and January. In our view, that rally was likely pushed by higher spot demand in the Far East.

**Chinese LNG Buyers**




Source: LNG Journal

## North China

Chinese demand saw significant monthly growth in the north of the country over the report period of November-January, increasing by 1.29mmt (71 percent) from 1.81mmt at the end of October last year to 3.10mmt in January this year. Robust month-on-month demand growth set in in November, when offtakes increased by 0.75mmt (41 percent). Nevertheless, month-on-month growth in December had already begun to slow down, increasing by 0.67mmt (26 percent) to 3.23mmt. Finally, month-on-month growth in North China was negative, decreasing by 0.13mmt (-4 percent) in January.

**China's North led by Caofeidian LNG**

Leading the roster of northern terminals by volume imported, Caofeidian LNG took in 2.49mmt in during the report period of November-January. Imports consisted predominantly of 16 Middle Eastern cargoes amounting to 1.65mmt. Qatar's Ras Laffan LNG complex delivered 14 of these shipments, supplying 1.54mmt via its massive Q-Max vessels such as the Zarga, Umm Slal, Shagra and Rasheeda. The remaining two Middle Eastern shipments originated in Egypt and Oman and were delivered by the Exemplar (0.05mmt) and the Sohar LNG (0.06mmt).

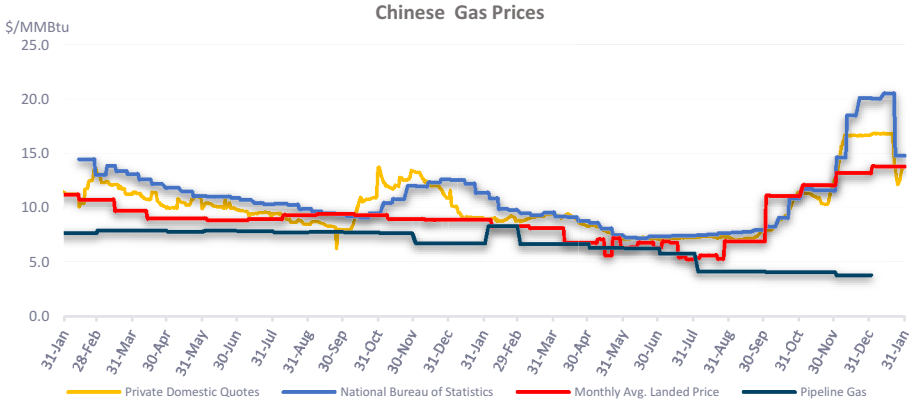
The Atlantic Basin was the second largest source of supply to the Caofeidian terminal, led by the United States with 0.22mmt via the Global Energy (II), the Patris and the Shinshu Maru. Russia also delivered a Yamal LNG cargo via the Vladimir Voronin in November, one of the last Russian cargoes via the Northern Sea Route in 2020. Atlantic Basin supply was completed with a Zeebrugge re-export via the Clean Planet and a Nigerian cargo aboard the LNG Port Harcourt II.

Unsurprisingly, Australia was the origin of the majority of Pacific supply and directed 0.34mmt to the Caofeidian terminal between November and January. The terminal's remaining Pacific supply comprised a single Tangguh LNG cargo via the Tangguh Sago.

**Tianjin LNG**

Tianjin LNG, meanwhile, had offtakes amounting to 2.02mmt over the report period. The terminal saw robust offtake activity from the Pacific Basin, which at 1.06mmt was the origin of more than half of LNG shipped to the terminal. Australia exported 0.71mmt to Tianjin LNG between November and January, inter alia via the Yari LNG, the Stena Blue Sky

**Chinese Gas Prices**




Source: LNG Journal, CNBS, GACC, Domestic Traders

and the Maran Gas Roxana. Leading Australian shipments to Tianjin was QCLNG with 0.32mmt delivered.

Atlantic Basin shipements 0.71mmt to the terminal were thus more conservative, with the United States directing 0.38mmt to Tianjin LNG. The remaining Atlantic shipments came from Trinidad & Tobago, Russia (Yamal), Nigeria, Cameroon and via a re-export from Belgium. In comparison, Tianjin LNG's imports from the Middle East were minor at only 0.25mmt, comprising one cargo each from Qatar, Egypt's Idku LNG and Oman.

**Qingdao LNG**

China's imports at Qingdao LNG were also strong, pegging the terminal among the country's top five import sites between November and January. Although the facility did not import Middle Eastern gas, it imported 1.68mmt from Pacific suppliers, more than any other Chinese terminal over the report period. Pacific supply was led by Australia's APLNG with 0.86mmt delivered, followed by PNG LNG in Papua New Guinea with 0.64mmt. Atlantic cargoes brought up the rear, comprising a total of 0.22mmt via three cargoes from Sabine Pass LNG, Cove Point LNG and Freeport LNG in the United States.

**Tianjin-Nangang and Dalian LNG**

The remaining two northern terminals – Tianjin-Nangang and Dalian LNG – imported 1.72 and 0.76mmt over the report period, respectively, which in the case of Dalian LNG stemmed predominantly from Russian Yamal LNG supply (0.35mmt). The United States, meanwhile, shipped two cargoes totalling 0.12mmt from Corpus Christi LNG and Freeport LNG in addition to a Belgian re-export. The Middle East and Pacific Basin were relatively minor sources of LNG supply, comprising four cargoes, including a re-export from Japan's Tobata terminal.

In contrast, the majority November-January supply to the Tianjin-Nangang terminal came from Australia, constituting offtakes of 0.87mmt split between five cargoes out of Gorgon LNG with four additional shipments supplied by APLNG, two from QCLNG and one each from Pluto and Wheatstone LNG. Finally, Tianjin-Nangang's LNG offtakes were completed by four Malaysian cargoes and one each from Brunei and Russia's Sakhalin-2 plant. Finally, only one Middle Eastern shipment made its way to the terminal: the Ras Laffan-derived Q-Max al Mafyar.

## East China

Demand in East China was dominated by the coastal province of Zhejiang south of Shanghai, where Zhejiang LNG imported 1.98mmt during the report period. This placed the terminal at number four in the top five Chinese terminals. Accordingly, the terminal operated at above nameplate capacity.

**Zhoushan LNG**

Its neighbouring terminal, Zhoushan LNG, saw equally robust demand amounting to 0.96mmt over the report period as grid access restrictions to private operators eased, we think. Consequently, the terminal's utilisation reached 128 percent over the report period with LNG mainly supplied by the United States and Australia. Zhoushan LNG is one of the few LNG import terminals not controlled by one of the state-owned petrochemical giants PetroChina, Sinopec and CNOOC.

**Wider Shanghai area sees capacity utilisation decrease**

Meanwhile, the wider Shanghai area – comprising Jiangsu LNG, Qidong LNG, Shanghai LNG and the metropolis' peak-shaving facility – imported a total of 4.71mmt over the report period. The sub-region's imports were led by Jiangsu LNG, which took in 2.29mmt and thus took second place among China's busiest terminals in November-January. Shanghai LNG also saw robust offtakes of 1.48mmt whilst the city's peak-shaving facility was also busy with 0.30mmt in imports. Qidong LNG, meanwhile, imported 0.64mmt. Overall capacity utilisation for the wider Shanghai area therefore stood at 138 percent over the report period.

## South China

Regional imports in South China – where LNG demand is primarily determined by the southern industrial centre of Shenzhen – also saw high demand levels in November-January in line with the country overall. The region's imports amounted to 6.74mmt over the report period, even pushing up utilisation at the normally underutilised Jieyang terminal.

**Imports led by Shenzhen area**

South China's imports were led by Shenzhen's three terminals – Guangdong Dapeng, Shenzhen Diefu and the adjacent peak-shaving facility. The region's most prominent terminal – Guangdong Dapeng LNG (GDLNG) – saw offtakes of 1.87mmt, placing it just outside the country's top five terminals. Still, its capacity utilisation stood at 109 percent. Accordingly, neighbouring Shenzhen Diefu LNG imported 0.96mmt in November-January, pushing terminal utilisation to 97 percent. Shenzhen Diefu typically only takes in cargoes when GDLNG is at capacity or unavailable. Finally, the Shenzhen Peak-shaving terminal imported 0.11mmt.

**Zhuhai LNG**

Zhuhai LNG also saw high demand of 1.37mmt over the report period, thereby pegging overall capacity utilisation at 167 percent. More than half of Zhuhai's imports derived from the Pacific Basin, led by Australia's APLNG on Curtis Island. Atlantic Basin supply was comparatively minor, amounting to five cargoes and 0.33mmt, split almost equally between the United States and Russia (Yamal). Nigeria also exported one cargo to Zhuhai. The remaining three Middle Eastern shipements were exported by Oman, Egypt and Qatar.

In similar vein, Jieyang LNG came to the fore. Having suffered from frequent periods of inactivity since its commissioning in 2017, Jieyang LNG saw utilisation jump to 84 percent on imports of 0.43mmt over the report period.

**Steady imports at Fujian LNG**

In contrast, Fujian LNG saw monthly offtakes remain broadly steady, taking in only 0.78mmt over the report period or c. 0.26mmt per month on average. In comparison, following maintenance in April last year, the terminal quickly grew monthly imports to 0.37mmt in August and 0.30mmt in September and October. Capacity utilisation thus stood at c. 49 percent.

**Beihai LNG reduced activity**

Similarly, Beihai LNG curtailed offtakes after seeing high demand in August and September. However, October demand came in at only 0.19mmt, down 0.08mmt (-29.6 percent) month-on-month. Relatively low activity continued in November-January, amounting to just 0.28mmt with capacity utilisation of just 37 percent over the report period.

**Robust demand on Hainan Island**

The remaining two regional LNG terminals on Hainan Island – Hainan LNG and the Hainan Transfer Station – also saw robust demand. Whilst the Transfer Station continued to receive its regular cargoes via the Lucia Ambition (0.01mmt), its larger counterpart on the island – Hainan LNG – increased imports to c. 0.22mmt per month from 0.07mmt in October. LNG capacity utilisation on Hainan Island thus remained high at 88 percent over the report period, up from just 28 percent in October.

| Region | Terminal | Export Basin | | | January 2021 | November 2020 | % Change | January Utilisation |
|---|---|---|---|---|---|---|---|---|
| | | Atlantic | Middle East | Pacific | | | | |
| North | Caofeidian LNG | 0.14 | 0.62 | 0.13 | 0.89 | 0.58 | 53.4% | 164% |
| | Dalian LNG | 0.20 | 0.07 | 0.04 | 0.31 | 0.21 | 47.6% | 62% |
| | Qingdao LNG | 0.07 | - | 0.59 | 0.66 | 0.68 | -2.9% | 264% |
| | Tianjin - Nangang LNG | 0.13 | - | 0.38 | 0.51 | 0.48 | 6.2% | 57% |
| | Tianjin LNG | 0.18 | 0.16 | 0.39 | 0.73 | 0.61 | 19.7% | 121% |
| East | Jiangsu LNG | 0.14 | 0.52 | 0.25 | 0.91 | 0.68 | 34% | 312% |
| | Jieyang LNG | - | - | - | - | - | - | - |
| | Qidong LNG | 0.12 | 0.05 | 0.07 | 0.24 | 0.19 | 26% | 240% |
| | Shanghai LNG | - | 0.09 | 0.53 | 0.62 | 0.42 | 48% | 248% |
| | Shanghai Peak-Shaving | - | - | 0.10 | 0.10 | 0.12 | -19% | 20% |
| | Zhejiang LNG | 0.07 | 0.27 | 0.38 | 0.72 | 0.53 | 36% | 288% |
| | Zhoushan LNG | 0.23 | 0.07 | 0.06 | 0.36 | 0.28 | 29% | 144% |
| South | Beihai LNG | 0.07 | 0.06 | 0.15 | 0.28 | 0.00 | - | 112% |
| | Dongguan LNG | - | - | 0.09 | 0.09 | 0.09 | 2% | 150% |
| | Fujian LNG | - | - | 0.24 | 0.24 | 0.22 | 9% | 46% |
| | Guangdong Dapeng | 0.06 | - | 0.27 | 0.33 | 0.71 | -54% | 58% |
| | Hainan LNG | 0.07 | - | 0.10 | 0.17 | 0.25 | -32% | 68% |
| | Hainan Transfer | - | - | 0.02 | 0.02 | 0.04 | -32% | 99% |
| | Jieyang LNG | 0.04 | - | 0.13 | 0.17 | 0.06 | 183% | 102% |
| | Shenzhen Diefu LNG | 0.15 | 0.16 | 0.24 | 0.55 | 0.08 | 588% | 165% |
| | Shenzhen Peak- | - | - | 0.03 | 0.03 | 0.05 | - | - |
| | Zhuhai LNG | 0.08 | 0.15 | 0.21 | 0.44 | 0.47 | -6% | 157% |
| | Total | 1.75 | 2.22 | 4.40 | 8.37 | 6.74 | 24% | 121% |

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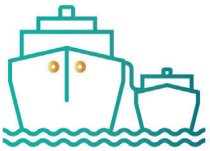
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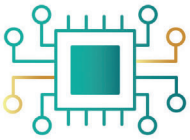
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