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WORLD GAS INTELLIGENCE®

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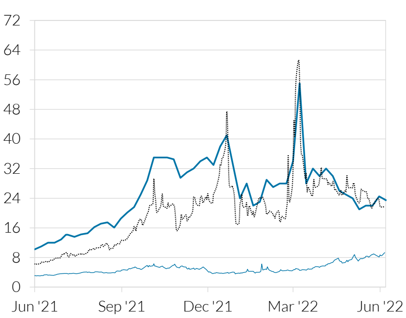
GLOBAL GAS PRICING ($/MMBtu)



VIEWPOINT

Storm Chasers

Tropical Storm Alex has become the first named storm of the Atlantic hurricane season that kicked off last week. The six-month season is expected to be lively. Given the growing appetite for US LNG, storm trackers will have to remain on high alert. Liquefaction plants lie in hurricane-prone areas on the US Gulf and East Coasts, and any disruptions could create global tidal waves, injecting further volatility into markets already jittery over cuts in Russian supply to Europe.

Since the first cargo was shipped from the lower 48 in 2016, the US has steadily risen up the export rankings. It was third behind Australia and Qatar last year, with 67 million tons — nearly 50% up on 2020 — and the GIIGNL LNG importers group reckons it could become No. 1 this year.

So how much might be at risk? Forecasters at Colorado State University predict 19 named storms during this year's season, which runs from Jun. 1 to Nov. 30, of which nine could become hurricanes — four of them major hurricanes with sustained winds of 111 miles per hour (178 kilometers per hour) or more. The probability of at least one major hurricane making landfall on the Gulf Coast from the Florida Panhandle to Brownsville, Texas — where most LNG capacity is located — is 46%, versus a past-century average of 30%. The National Oceanic and Atmospheric Administration (NOAA) also expects an "above-normal" season with up to six major hurricanes.

South of the border, Mexico is an LNG up-and-comer that could gain from sanctions-related upsets to Russian expansion plans. Its Pacific Coast could become a major route for North American exports to Asia, avoiding the congested Panama Canal, in part because of political resistance to projects on the US West Coast. That means the industry will also have to keep a lookout for storms in the Pacific, whose hurricane season is virtually the same as in the Atlantic. NOAA is predicting 10-17 named storms this year and up to three major hurricanes. Mexico's Servicio Meteorologico Nacional forecasts between two and four major hurricanes.

The past two Atlantic seasons were among the most active on record. Last year produced 21 named storms, of which seven were hurricanes; 2020 saw 13 hurricanes out of 30 named storms. LNG exports escaped relatively unscathed. The longest disruptions in 2020 were a 53-day outage at Cameron LNG and a 14-day outage at Sabine Pass. Last year, there was a one-week outage at Freeport LNG.

Gulf Coast infrastructure has since expanded, so the risks are higher. Still, the seven lower 48 operating liquefaction plants cover such a broad area that even a destructive storm would affect only a portion of total export capacity. Five are on the Texas-Louisiana Gulf Coast and two (Elba Island in Georgia and Cove Point in Maryland) on the East Coast. But it's nearly 590 miles (940 miles) from Elba Island to Cove Point, and the Gulf Coast plants also stretch for hundreds of miles. So when a hurricane strikes in one area, plants elsewhere can generally continue operating, particularly if they have onsite power.

DEMAND

China's Imports Face Double-Digit Decline

Chinese gas demand numbers make for pretty grim reading. After a stellar 2021, when the country became the world's biggest LNG importer, industry insiders now think imports could tumble 20% this year if spot prices remain high and strict measures to halt the spread of Covid-19 continue to hit economic growth.

Sources contacted by Energy Intelligence all expect LNG imports to be lower than last year, when they jumped 18% to a record 78.9 million tons. A source with TotalEnergies reckons they will drop by 5 million-10 million tons, while Chinese consultancy SIA Energy puts them 10 million-15 million tons — or up to 19% — lower.

A source with a city gas distributor in Guangdong, a big gas-consuming province in the south, believes they could fall 15%-20%, largely because spot LNG is so expensive and Chinese buyers will resell term LNG to capitalize on the high spot prices.

Figures from China's National Bureau of Statistics (NBS) back up their assertions. These show China falling back to second place in the world rankings behind Japan as LNG imports sank 17.3% year on year to 21.6 million tons in the first four months of 2022 as lockdowns spread.

Imports in May totaled just over 5.1 million tons, according to data provider Kpler — down a startling 30% from an official 7.35 million tons last year. That would take the five-month total to 26.7 million tons, almost 20% less than in the same period of 2021.

LNG Alternatives

The high cost of LNG is prompting greater reliance on cheaper piped gas imports and domestic production. The government sees domestic gas — as well as coal — as an energy security priority. The NBS data show piped imports increasing 7.7% over the first four months of the year and domestic gas production growing 6.2% to 74.7 billion cubic meters. The Guangdong distributor believes piped imports could rise 10% over the full year.

Gas demand is faltering. Apparent consumption in March was 29.75 Bcm, nearly 2.7% lower year on year, according to the National Development and Reform Commission. In April, it was 1.8% lower at 29.7 Bcm but since appears to have stabilized at around last year's levels.

A senior gas analyst with state PetroChina believes consumption will rise by a maximum of 20 Bcm-25 Bcm this year, after jumping 12.7% to 372 Bcm (36 billion cubic feet per day) in 2021. If domestic production increases 14 Bcm, he says, that leaves just 6 Bcm-11 Bcm for imports.

Factors affecting demand include economic growth and post-Covid-19 industrial output. There will be little impact from coal-to-gas switching as end-users have no incentive to turn to gas.

Long-Term Role

Still, LNG remains key to China's long-term energy security. State firms and second-tier buyers have kicked off several term contracts with the US and Qatar this year and committed to new deals underpinning US projects.

More import terminals are also slated for a late-2022 opening. They include Suntien Green Energy's terminal in Caofeidian, in Hebei province in the north; a 3 million ton per year PipeChina terminal in Zhangzhou in Fujian province in the southeast; and a 1 million ton/yr terminal run by local city gas distributors in Jiaxing, in Zhejiang province in the east. But Beijing Gas' Tianjin terminal in the north looks less certain to open this year, and weak gas demand could also delay the others.

Demand could, however, get a nudge from policies designed to stimulate the economy ahead of the 20th National Party Congress later this year. Beijing is targeting GDP growth of around 5.5% for 2022. For now, that looks out of reach, but the government has already signaled infrastructure investment priorities that include oil and gas pipelines.

Dawn Lee, Beijing

SANCTIONS

Russian Flows to Europe Head Down

Direct gas flows to Germany via Gazprom's Nord Stream pipeline wobbled in early June — but because of planned maintenance, not the deliberate supply cuts that hit three Northwest European importers last week. European prices held steady as LNG inflows continue and concerns ease about buyers' acceptance of the Kremlin's new two-step gas payment system.

Little Impact

Gazprom halted supply to Dutch Gasterra on May 31, and to Shell Energy Europe — which supplies Germany — and Denmark's Orsted the following day. All three firms — supplied via Nord Stream — had refused to pay under the new system, which requires euros and dollars to be converted into rubles.

The cutoffs so far seem to have had little effect on flows along the 55 billion cubic meter per year (5.3 billion cubic foot per day) pipe, although maintenance makes it hard to assess the direct impact. The three were importing relatively small amounts and are now understood to be buying at least some replacement Russian volumes from resellers.

After falling 10% to 1.58 terawatt hours (152.6 million cubic meters) on May 31, Nord Stream flows bounced back to 1.75 TWh on Jun. 1, close to technically available capacity of 170 million cubic meters per day. They averaged 1.72 TWh on Jun. 3, 1.6 TWh on Jun. 4-5 and 1.63 TWh on Jun. 6. That means the pipe continues to operate above nameplate capacity of 1.56 terawatt hours per day (151 MMcm/d).

Gazprom-controlled pipeline operator Nord Stream AG has scheduled regular internal inspections from Jun. 3-17, affecting 11% of capacity at the Nel and Opal exit points; from Jun. 17-29, affecting 18.6% of capacity; and from Jun. 29 to Jul. 1, with 7.5% of capacity affected. From Jul. 11-21, Nord Stream will fully shut down for annual maintenance.

Transit flows via Ukraine averaged 41.7 MMcm/d in the first four days of June, 6% less than in the last four days of May. The pipe, which mainly supplies Central and southern Europe, is more vulnerable to demand fluctuations.

Flows Down

Gazprom's exports in May were the lowest this year and could drop further in June. Based on Gazprom data, Energy Intelligence reckons supplies to Europe, including Turkey, totaled 9.6 billion cubic meters in May, down more than 35% year on year.

The decline partly reflects a halt in shipments to Poland, Bulgaria and blacklisted units of Gazprom Germania, and partly generally low demand for Gazprom's pricey hub-linked term gas. It stopped supplying Poland and Bulgaria in late April after they rejected the payment system, and blacklisted Gazprom Germania and its units in mid-May after Berlin seized them from Gazprom.

The Russian gas giant doesn't break out exports to Europe in monthly statistics. Exports to "far-abroad" countries outside the former Soviet Union — Europe (including Turkey) and China — tumbled 27% year on year to 61 Bcm in the first five months of 2022. They crashed 31% to 10.9 Bcm in May.

Staff Reports

SUPPLY

Germany Eyes Senegal in Global LNG Hunt

Germany intends to work with Senegal on gas and LNG projects as part of a broad energy cooperation agreement dovetailing with Berlin's grander strategy to pivot away from Russia. The plan was unveiled as German Chancellor Olaf Scholz visited Dakar last month during a three-day trip to Africa. He said "intensive" technical talks had opened, but details remain vague. The sides will also consider backing local renewable power projects and green hydrogen.

The West African country — which has been invited to attend a G7 summit in Germany at the end of June — is an interesting target in Berlin's hunt for global gas supplies, which also focuses on the US and Qatar.

A potential entry point could be future phases of the Greater Tortue Ahmeyim LNG development and Yakaar-Teranga gas fields, two BP-operated projects that have yet to take final investment decisions (FIDs). Senegal's domestic market is small — up to 2 billion cubic meters per year (193 million cubic feet per day) by 2030 — but the country has potential to develop exports alongside neighboring Mauritania.

Tortue partner Kosmos Energy estimates that initial gas in place in Senegal and Mauritania could total 100 trillion cubic feet (2.7 trillion cubic meters), of which 60 Tcf could be recoverable. Aside from the volumes allocated for Tortue, an estimated 25 Tcf lies in Senegal's Yakaar and Teranga fields in the Cayar Profond offshore block. This gas is expected to be developed in two phases, with first gas planned for 2024. The first phase is expected to meet domestic demand and the second could be for export.

In addition to BP and Kosmos, Tortue is being developed by Senegal's state Petrosen and Mauritania's SMHPM. The first phase was 75% complete at the end of March and should start up by December 2023 following Covid-19-related delays. BP will offtake the entire 2.5 million ton per year output for 20 years.

Further phases could follow. Concerns about their viability have evaporated as global gas prices have recovered and EU countries start courting Senegal, Oxford Institute for Energy Studies Senior Research Fellow Mostefa Ouki tells Energy Intelligence. Kosmos CEO Andy Inglis said last month that Phase 1 will launch at a time when Russia's war in Ukraine is increasing "both the strategic and financial value of gas" and reinforcing the need for "greater security and flexibility."

Kosmos says a decision on Phase 2 is expected this year. The original plan was for Phases 2 and 3 to have capacity of 3.75 million tons/yr each, but the delays may have changed the approach. Yakaar-Teranga is also expected to reach FID this year. A Kosmos spokesman says Berlin has not approached it about cooperation, but Inglis spoke to Senegalese President Macky Sall "about the way forward on the gas projects and their relevance to European LNG demand requirements" during Scholz's visit.

The company believes regional gas projects are "advantaged ... with negligible carbon content in the gas and much shorter shipping distances to Europe." But they won't help Europe in the short term. Ouki says the next tranche of available Senegalese gas won't emerge before 2025 and will be tiny compared with Russian volumes. "But if you look at it as an overall approach, every pocket of supply from African exports could help Europe's gas supply diversification objectives."

Another complication is how Germany plans to balance global climate commitments against the need to finance extra supply. "If European companies want to develop African gas supply projects, the African parties will require long-term commitments which then raises a vexing question of whether such a commitment would be consistent with the EU's long-term decarbonization targets," Ouki says.

Germany has pledged to end direct international public financing of fossil fuels by the end of 2022. But Sall asked Germany and other developed countries to finance gas projects for a transitional period during Scholz's visit. "You have to put all these solutions on the table," he said, "and not just dogmatically say that fossil fuels should no longer be available."

Jaime Concha, Copenhagen

HORIZON

Australia Feels Heat as Europe Races for FSRUs

Europe's rush for floating storage and regasification units (FSRUs) could create problems for aspiring LNG importers in Australia, potentially derailing plans to use FSRUs to ease east coast gas shortages.

Despite being a net exporter of gas and coal, Australia has been whipsawed by the jump in global energy prices that followed Russia's invasion of Ukraine. Domestic wholesale prices spiked on the east coast last week because of cold weather, lack of coal, power outages and lower solar generation. Wholesale prices in Victoria soared to A$80 per gigajoule ($60.50 per million Btu), prompting market operator AEMO to impose a $40/GJ ($30/MMBtu) price cap in the state on May 30.

Australia's competition watchdog said in February it expected the southeastern states of Victoria, New South Wales and Tasmania to face gas shortages of 10 petajoules — equivalent to 9.4 billion cubic feet — this year, two years earlier than expected. The outlook has deteriorated primarily because Cooper Basin gas is being redirected to Queensland, where shortages are now expected in 2028, one year earlier than anticipated.

Europe's need for LNG has prompted German firms Uniper and RWE to secure two FSRUs each from Hoegh. Speculation is rife that two might originally have been destined for Australia. Hoegh is also expected to send *Hoegh Esperanza* to Europe as well as *Hoegh Giant,* originally intended for India's H-Energy at Jaigarh. Hoegh said recently it terminated the contract after H-Energy defaulted on terms.

Australia's Viva Energy could be affected. The company is planning an import terminal next to its Geelong refinery, one of five proposed in south and southeast Australia. It signed a heads of agreement with Hoegh last December, but has yet to take a final investment decision. "Viva has lost the FSRU and will try to source a vessel from [Japan's] Mol," according to an industry player based in Australia. Viva did not respond to a request for comment.

Australian Industrial Energy (AIE) also looks vulnerable. It signed a "conditional binding charter agreement" for *Hoegh Galleon* last November, but has yet to firm up domestic supply deals and has again delayed start-up from mid-2023 to late 2023. AIE has begun building facilities at Port Kembla in New South Wales, but Chairman John Hartman says a decision to bring in the FSRU is "highly dependent upon gas retailers committing to use" the terminal.

Lead times of 30 months and lack of slots at shipyards building new LNG tankers may prompt aspiring importers to consider LNG carrier conversions. Venice Energy and Vopak both plan this, the former from GasLog. "A newer vessel is more efficient, but this has to be balanced with meeting gas demand with an economically viable solution," the source said. A Vopak Victoria LNG spokesperson said it still plans to start importing gas in 2026 and commercial talks are based on this schedule.

The FSRU competition presents another challenge for companies having trouble winning environmental approval and nailing down customers.

AGL Energy, which was first to study the feasibility of importing LNG into Australia in 2016, was last year forced to abandon its planned Port Crib project in Victoria after failing to win environmental approval.

Whether Viva wins environmental approval should be known before Victoria state elections in November. Opponents cite damage from dredging and emissions, but it has support from partners including Woodside, Vitol, Engie and Mitsui with an eye on imports in 2024.

AIE has received all necessary approvals, making it the front-runner. But customers are in no hurry to buy before 2026, a second Australian source says. The company last year signed a memorandum of understanding to link the terminal to Jemena's Eastern Gas Pipeline, which flows gas from Victoria to New South Wales. The deal would make the pipe bidirectional, shipping gas to Victoria and Queensland. The second source says Jemena is "reluctant to order long lead items without a firm commitment from AIE ... which can't do that without users committing to a terminal use agreement."

Vopak was the last company to enter the import race in March 2021, but has since kept a low profile. One industry observer suspects it may ramp up if Viva does not get environmental approval. Others reckon Vopak may be more focused on a converted FSRU due to be deployed to Hong Kong later this year.

Venice is still trying to secure customers and an investor for its Outer Harbor project in Adelaide. EPIK, further north, is not believed to have started its approvals process.

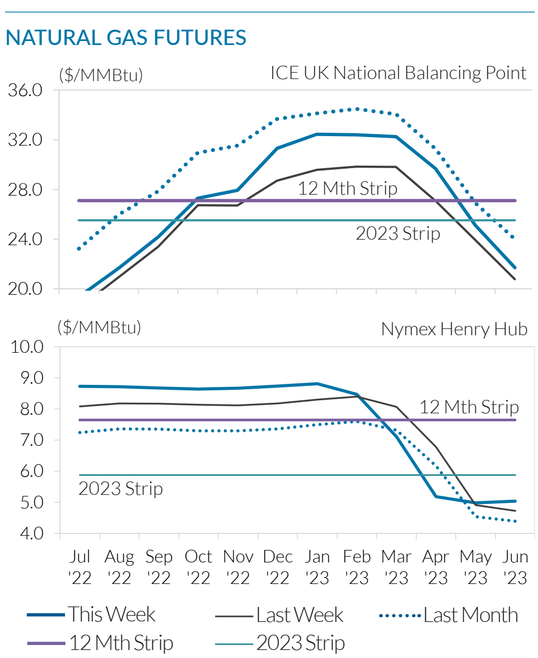
Clara Tan, Singapore

MARKET INSIGHT

US Stalled at Crossroads as Canadian Gas Forges Ahead

Downward pressure on US gas prices last week might reinforce bears' argument that recent 14-year highs are unsustainable. But push-me, pull-you volatility remains entrenched as bulls are equally adamant that Henry Hub prices of $9 per million Btu will be a summer staple.

The upstream Canadian gas sector is meanwhile regaining its footing as major price benchmarks lurch higher and Alberta storage makes unexpectedly strong gains. However, maintenance on Western Canada's main pipeline should continue to have a bearish impact for months to come.



The July Henry Hub futures contract that took over as prompt month on May 26 at $8.895/MMBtu plunged to $8.145/MMBtu two sessions later. While it rallied to an intraday high $9.057 two sessions after that, it ended the week in the $8.50s before starting this week with another rally into the $9.30s/MMBtu – marking the highest prompt month settlement in 14 years.

The volatility is closely tied to US storage, a bellwether for supply/demand fundamentals. The lead contract tumbled 6.2% on Jun. 2 after a slightly larger-than-expected build, illustrating the challenge facing bulls in sustaining high prices without strong support from summer weather.

Analysts at investment bank Barclays nonetheless believe bulls still have a solid case. They highlighted trends in a report last week that could push prices above $9/MMBtu, despite stock levels that "on the surface ... [do] not appear to warrant such high spot and prompt-month pricing." These include a slowdown in domestic supply growth due to investor demands for capital discipline, LNG export growth, higher piped gas exports to Mexico and "significantly reduced elasticity of demand from the power generation sector due to capacity reductions and tight coal markets." Barclays said debottlenecking has allowed LNG plant operators to boost effective capacity well above nameplate design.

Western Canadian prices have been depressed relative to prices south of the border, with extremely large discounts exacerbated by maintenance-related flow restrictions on the Nova Gas Transmission Ltd. (NGTL) system. "The Aeco cash discount to Henry Hub prices has widened to more than $3/MMBtu since the onset of pipeline flow restrictions in mid-May, while Aeco forward prices are seeing similar discounts for June through October contracts," RBN analyst Martin King says. "Forward discounts do not fall to below $2/MMBtu until March 2023." But such wide discounts are not sustainable and will narrow in the summer amid uncertainty over additional Canadian supply growth for the rest of the year and historically low gas storage in Western Canada.

There are signs the process may be under way. After the largest reduction in available capacity in the NGTL East Gate (EGate) region eased on May 29, Energy Intelligence data show that Aeco prices jumped $1.36 from $4.72/MMBtu on May 27 to $6.08/MMBtu on Jun. 2.

The major concern over increased summer maintenance has been on how restrictions on interruptible transport (IT) capacity could cut gas volumes available for the storage refill as firm capacity does not access storage. Surprisingly, NGTL has been limiting interruptible flows to just 7%-8% since May 20 with little impact on storage inflows.

"Despite the EGate IT flow restrictions, the amount of natural gas flowing into storage sites in Alberta has been increasing in recent days, topping more than 1 billion cubic feet per day since May 19, well above the five-year average injection rate," King said.

Alberta storage has grown a hefty 72 billion cubic feet since Apr. 15, to 309 Bcf, after inventories fell to record lows due to a cold late winter and early spring. But that still hasn't righted the ship. According to King, consistently strong injections will be needed over the rest of the injection season "if Alberta storage is to have a fighting chance of recovering from critically low levels to at least the bottom of the five-year storage range."

Tom Haywood, Houston

SPOT LNG

Spot Prices Fall as Market Awaits Chinese Demand Restart

Northeast Asian spot LNG prices fell $1 to $23.50 per million Btu, according to *World Gas Intelligence* assessments for deliveries four to eight weeks ahead. Spot LNG prices in Southwest Europe were assessed $2.80 lower at $19.80/MMBtu. The UK National Balancing Point day-ahead price was assessed $3.08 lower at $15.57/ MMBtu, while the July front-month ICE contract fell $2.11 to $18.88/MMBtu. Netbacks for Mideast sellers in Asia were about $3.65/ MMBtu higher than in Southwest Europe, while UK/Belgian netbacks were $8.03/ MMBtu lower than in Asia.

Asian spot prices slid lower on weaker European hub prices. However, buying interest is growing for third-quarter cargoes and early winter restocking, with traders keeping an eye on a restart of Chinese demand as the Covid-19 lockdown imposed on Shanghai since March was lifted last week. However, the restrictions are still extremely strict and buying could take months to return to pre-lockdown levels.

South Asian demand continues strong amid a prolonged coal shortage. The 173 power plants monitored by India's Central Electricity Authority had a coal stock of 24.08 million tons on Jun. 5, only about 36% of the required stock. A total of 78 power plants fueled by domestic coal and eight plants running on imported coal had less than a fourth of their prescribed fuel stock.

India's Gail is seeking a Jun. 15-22 cargo to Hazira after having bought a Jul. 22 cargo to Dahej at a price above $22/MMBtu.

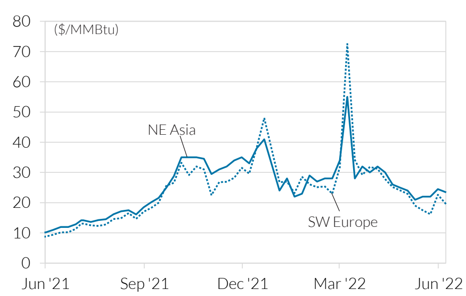
Bangladesh's RPGCL was heard having secured a Jun. 22-23 delivery cargo from Gunvor at $24-$25/MMBtu.

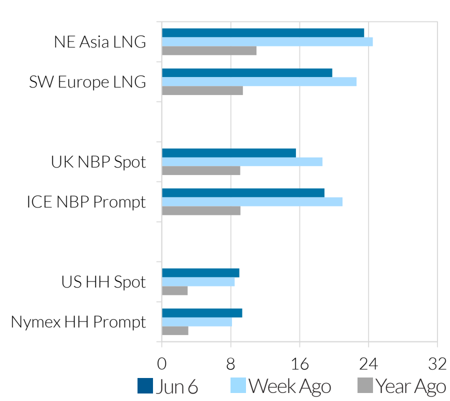
INDICATIVE NATURAL GAS PRICES

($/MMBtu)	Jun 6	Week Ago	Year Ago
NE Asia LNG	23.50	24.50	11.00
SW Europe LNG	19.80	22.60	9.40
UK NBP Spot	15.57	18.65	9.09
ICE NBP Prompt	18.88	20.99	9.14
US HH Spot	8.99	8.45	2.98
Nymex HH Prompt	9.32	8.15	3.07

Source: WGI assessments of spot prices for LNG in NE Asia and SW Europe and for day-ahead gas in the UK. NGW spot assessment for US. All prices are for Mon Jun 6. Note: Dates may vary due to public holidays and availability.

INDICATIVE LNG PRICES





Kogas is planning to buy 18 cargoes for the rest of the year, likely for delivery July till early next year.

India's GSPC is seeking an Oct. 1-15 cargo to Mundra after having secured a February 2023 cargo at $27.66/MMBtu as part of a four-cargo tender for the first half of November and December, and January and February 2023.

On the sell side, Malaysia's Petronas is understood to have sold a Jul. 5 cargo from Bintulu.

In Australia, Darwin LNG is offering a Jun. 30-Jul. 2 f.o.b. or a Jul. 6-14 d.e.s. cargo. Chevron is believed to be selling an Aug. 15-19 delivery cargo from Wheatstone after having sold an early August cargo. Kuwait's state-owned Kufpec issued a sell tender for a Jul. 19-24 f.o.b. cargo loading from Wheatstone. Exxon Mobil sold a second half of August delivery cargo from Gorgon.

Spot LNG prices in Southwest Europe followed the benchmark TTF hub price lower.

Turkey's Botas is seeking 39 cargoes via a buy tender, nine cargoes for delivery during each of the next three winters — that is, for 2023-25 — and four cargoes for each of the next three summers. Sources say the company is using the tender to test LNG price sentiment to compare it with piped gas.

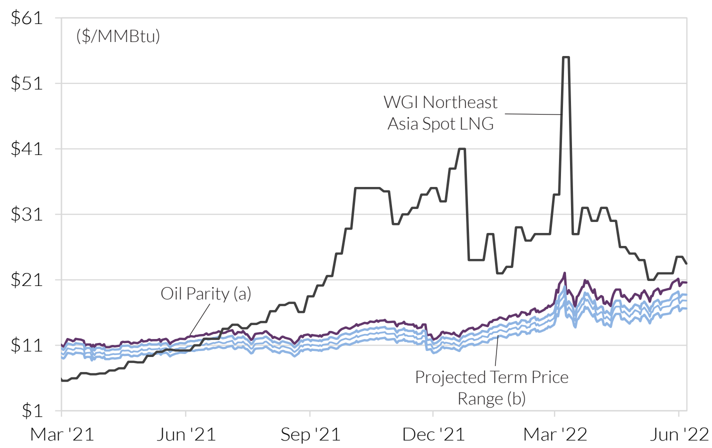
A third Yamal LNG cargo on the *Lena River* arrived in Italy on Jun. 5 after a ship-to-ship transfer with another Yamal vessel at Belgium's Zeebrugge terminal, data from analytics firm Kpler showed.

Marc Roussot, Singapore, Daniel Stemler, Madrid

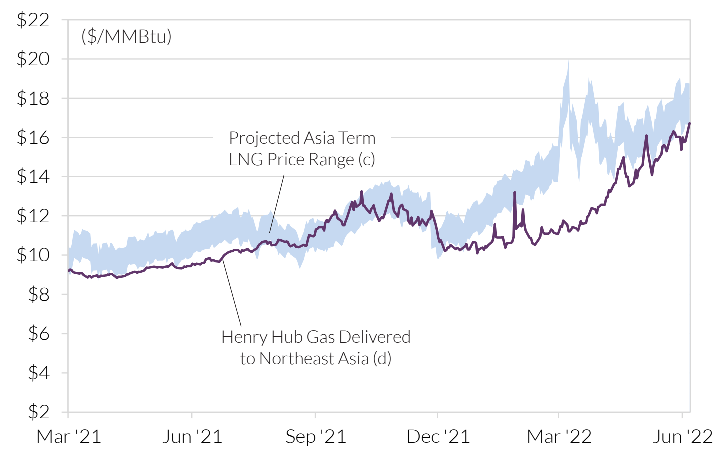
WORLD GAS INTELLIGENCE LNG ANALYTICS

The following graphs provide weekly comparative insights into key LNG market relationships over the previous 12 months, with particular emphasis on the price of competing supplies in Asia and key inter-market price spreads.

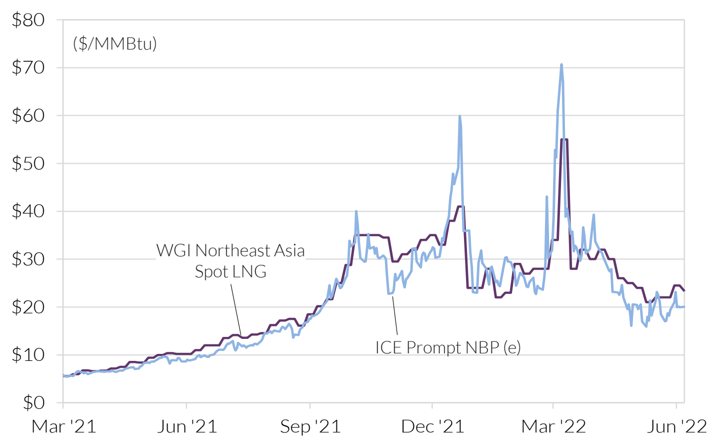
NORTHEAST ASIA SPOT LNG VERSUS ASIA TERM LNG



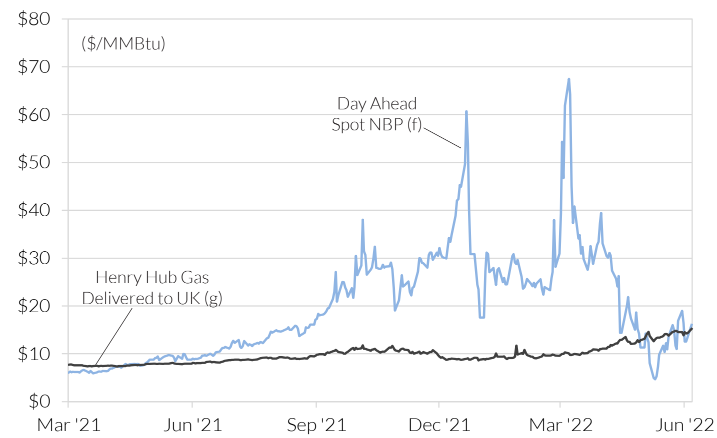
HENRY HUB NE ASIA VERSUS ASIA TERM LNG



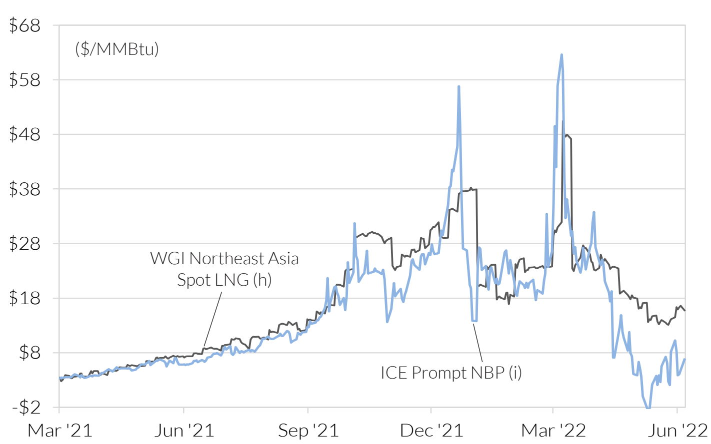
NBP VERSUS NORTHEAST ASIA SPOT LNG



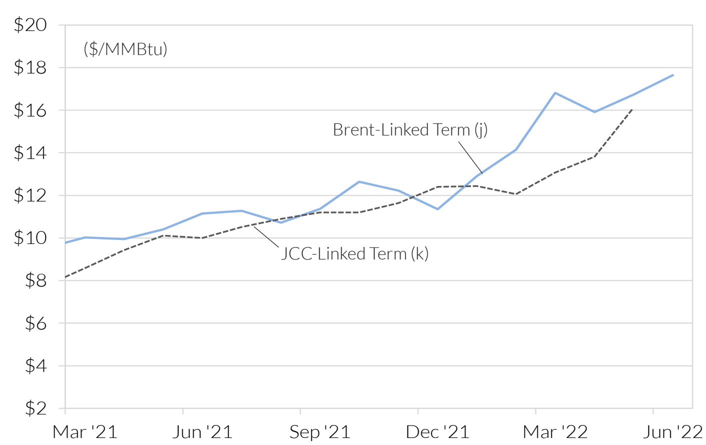
HENRY HUB GAS DELIVERED TO UK VERSUS NBP



REGIONAL PRICE DIFFERENTIALS TO NYMEX HENRY HUB PROMPT



TERM JCC VERSUS TERM BRENT



(a) Oil parity - 17.24% of Brent-Linked Asian Term. (b) Estimated low, middle, and high cases for contract terms: 13.5% of Brent+$0.50, 14.5% of Brent+$0.50, and 14.85% of Brent+$1.00, respectively. (c) Brent-Linked Asian Term LNG, high and low cases. (d) Per Cheniere formula: 115% Henry Hub plus $3.50 for liquefaction and $2.50 for shipping. (e) ICE prompt NBP converted from pence/therm to US$/MMBtu. (f) Thomson Reuters Day Ahead NBP converted from pence/therm to US$/MMBtu. (g) Per Cheniere formula: 115% of Henry Hub plus $3.50 for liquefaction and $1.00 for shipping (h) Northeast Asia Spot vs Nymex Henry Hub Prompt. (i) Day Ahead UK NBP vs Nymex Henry Hub Prompt. (j) Term prices based on current month average against mid-case formula for delivery 3 months later; (k) JCC is Monthly Japan Crude Cocktail Price reported by Japan's Ministry of Finance.

WORLD GAS INTELLIGENCE LNG ANALYTICS

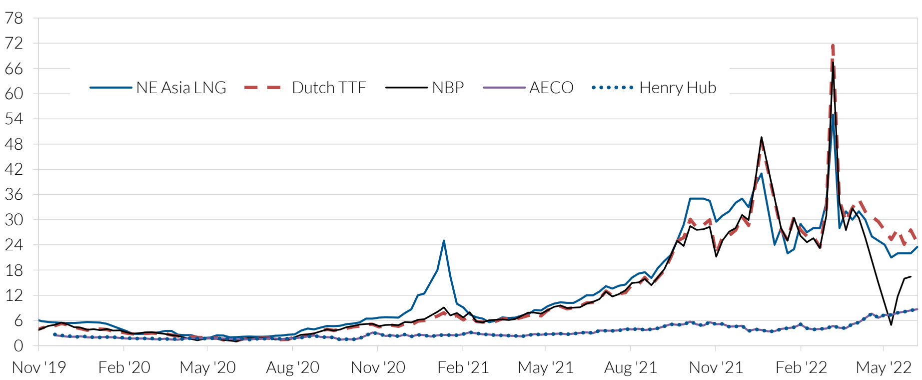
GLOBAL GAS MARKETS: KEY SPOT PRICES

	Latest Change	Current Jun 6	Last Week May 30	2 Wks Ago May 23	3 wks Ago May 16	Month Ago May 9	2 Mths Ago Apr 11	3 Mths Ago Mar 14
Spot LNG ($/MMbtu)								
Northeast Asia LNG	-1.00	23.50	24.50	22.00	22.00	21.00	30.00	28.00
Southwest Europe LNG	-2.80	19.80	22.60	16.20	17.50	19.00	27.85	34.20
Europe ($/MMBtu)								
NBP (UK)	-2.94	16.04	18.98	15.99	11.70	4.93	25.67	34.06
Zeebrugge (Belgium)	-2.15	23.68	25.83	24.29	23.65	19.61	30.55	35.10
Dutch TTF	-2.99	24.58	27.57	24.15	27.80	25.26	31.97	34.74
German THE	-3.26	24.11	27.37	24.48	28.29	27.23	32.15	34.58
Europe (local)								
NBP (pence/therm)	-22.00	128.00	150.00	127.00	95.00	40.00	197.00	262.00
Zeebrugge (pence/therm)	-16.00	189.00	205.00	193.00	192.00	160.05	234.50	270.00
Dutch TTF (euro/MWh)	-8.95	79.25	88.20	77.90	91.90	82.50	101.30	109.50
German THE (euro/MWh)	-9.81	77.75	87.56	78.95	93.50	88.95	101.85	109.00
US ($/MMBtu)								
Henry Hub (Louisiana)	0.53	8.99	8.45	8.12	7.96	7.98	6.35	4.57
Transco Z6 - NY	-7.79	0.00	7.79	7.27	7.77	6.94	0.00	4.02
Chicago City Gate	0.59	8.68	8.09	8.09	7.83	7.31	6.58	4.27
SoCal City Gate (California)	0.63	9.68	9.05	8.67	7.95	7.56	6.81	4.42
Columbia Appalachian Pool	0.40	8.04	7.64	7.63	7.52	6.87	5.90	3.93
Kern River / Opal (Rockies)	0.38	8.40	8.03	7.98	7.73	7.17	6.35	4.08
Canada ($/MMBtu)								
AECO (Alberta)	0.77	6.35	5.57	4.88	5.98	5.68	5.31	3.53
Dawn (Ontario)	0.56	8.68	8.12	8.02	7.85	7.35	6.34	4.48
Emerson (Manitoba)	0.37	7.84	7.46	7.60	6.98	6.58	6.07	4.21
Futures (prompt close)								
Nymex Henry Hub ($/MMBtu)	1.18	9.32	8.15	8.74	7.96	7.03	6.64	4.66
ICE NBP (pence/therm)	-15.24	150.67	165.91	135.03	172.26	128.71	213.01	270.92

Sources: Energy Intelligence, Reuters, Exchanges

NATURAL GAS SPOT PRICES IN KEY GLOBAL MARKETS

($/MMBtu)



GAS, POWER PRICES & SPARK SPREADS FOR GENERATORS AT MAJOR HUBS

Europe				US			
Gas Price ($/MMBtu)	Jun 6	Week Ago	Last Year	**Gas Price** ($/MMBtu)	Jun 6	Week Ago	Last Year
NBP(UK)	15.57	18.65	9.09	Transco Z6 NNY	7.67	7.91	2.45
Zeebrugge	23.73	24.06	9.32	Houston SC	8.17	8.15	2.89
Dutch TTF	24.87	27.83	9.51	Socal Border (Calif.)	8.51	8.39	3.11
German THE	24.79	27.62	--	Stanfield (Wash.)	7.87	8.07	2.71
Power Price ($/MWh)				**Power Price** ($/MWh)			
UK Power Grid	197.28	217.91	99.16	PJM West	86.57	118.67	26.20
Tennet T	196.55	223.59	93.71	Ercot	89.49	154.81	32.40
Powernext	201.59	227.40	92.83	Palo Verde	61.29	74.17	38.00
Amprion	197.06	226.46	93.73	Mid-Columbia	50.00	64.50	43.20
Spark Spreads ($/MWh)				**Spark Spreads** ($/MWh)			
NBP/UK Power Grid	+88.31	+87.35	+35.50	TZ6 NNY/PJM W	+32.90	+63.27	+9.03
Zee/TenneT	+30.46	+55.20	+28.46	Houston SC/Ercot	+32.32	+97.79	+12.15
Zee/Powernext	+35.50	+59.00	+27.58	Socal/Palo Verde	+1.70	+15.43	+16.21
Dutch TTF / TenneT	+22.46	+28.79	+27.14	Stanfield/Mid-Col.	-5.09	+8.02	+24.26
German THE/Amprion	+23.52	+33.09	--				

US prices are the weighted average of assessments by *Natural Gas Week* for five trading days, spanning May 30-Jun 6. European gas prices are WGI assessments on Jun 7 for day-ahead delivery Jun 8. European power prices are from exchanges on Jun 6 for day-ahead power Jun 7.Gas quotes on top, power below. Heat efficiency of 7,000, or 48%, is used to calculate spark spreads, i.e. 7 MMBtu of gas generates 1 MWh of electricity. Note: Dates may vary due to public holidays and availability.

SPOT LNG EXPORTER NETBACKS AT KEY MARKETS

($/MBTU)	Jun 6	Week Ago	Two Weeks Ago	Year Ago
NE Asia				
Algeria	22.61	20.43	19.86	8.44
Australia	23.94	21.72	21.01	9.45
Indonesia	24.10	21.88	21.14	9.57
Malaysia	24.04	21.82	21.09	9.51
Nigeria	22.58	20.40	19.85	8.44
Norway	19.24	17.15	17.01	5.94
Peru	21.54	19.39	18.98	7.68
Qatar	23.46	21.26	20.60	9.10
Russia	24.38	22.14	21.38	9.77
Trinidad	21.86	19.70	19.22	7.89
US Gulf	21.03	18.88	18.52	7.25
India				
Algeria	21.91	19.70	19.01	7.50
Australia	22.34	20.12	19.41	7.85
Indonesia	22.32	20.10	19.39	7.83
Malaysia	22.33	20.11	19.39	7.83
Nigeria	21.58	19.38	18.76	7.28
Norway	21.42	19.22	18.60	7.14
Peru	21.09	18.90	18.35	6.93
Qatar	22.70	20.47	19.71	8.11
Russia	22.01	19.80	19.13	7.61
Trinidad	21.27	19.07	18.47	7.03
US Gulf	21.00	18.82	18.25	6.84
SW Europe				
Algeria	21.94	17.51	20.06	8.07
Australia	20.41	16.04	18.73	6.92
Indonesia	20.42	16.06	18.75	6.93
Malaysia	20.48	16.11	18.79	6.95
Nigeria	21.43	17.03	19.63	7.69
Norway	21.24	16.85	19.48	7.57
Peru	19.95	15.60	18.35	6.56
Qatar	20.98	16.59	19.23	7.34
Russia	20.05	15.70	18.43	6.65
Trinidad	21.49	17.09	19.69	7.75
US Gulf	20.54	16.18	18.88	7.05
UK				
Algeria	11.81	16.08	12.83	8.12
Australia	10.34	14.58	11.53	6.93
Indonesia	10.35	14.60	11.55	6.95
Malaysia	10.40	14.64	11.58	6.97
Nigeria	11.38	15.64	12.45	7.77
Norway	11.66	15.93	12.70	8.01
Peru	9.98	14.22	11.23	6.63
Qatar	10.89	15.15	12.01	7.38
Russia	10.00	14.24	11.25	6.67
Trinidad	11.47	15.73	12.54	7.86
US Gulf	10.65	14.90	11.83	7.21
Zeebrugge				
Algeria	14.79	24.29	24.84	8.03
Australia	13.30	22.71	23.42	6.85
Indonesia	13.32	22.73	23.44	6.86
Malaysia	13.36	22.78	23.48	6.89
Nigeria	14.33	23.80	24.40	7.67
Norway	14.65	24.14	24.71	7.93
Peru	12.93	22.33	23.09	6.55
Qatar	13.86	23.31	23.95	7.29
Russia	12.95	22.35	23.10	6.58
Trinidad	14.45	23.92	24.52	7.77
US Gulf	13.61	23.03	23.73	7.12
US East Coast				
Algeria	6.30	6.68	6.86	1.84
Nigeria	6.01	6.39	6.60	1.61
Norway	5.87	6.25	6.49	1.51
Peru	5.59	5.98	6.23	1.26
Qatar	5.37	5.76	6.04	1.10
Trinidad	6.49	6.87	7.02	2.00

Click here for WGI LNG Netback methodology.