LNG DAILY

Volume 18 / Issue 222 / November 11, 2021

JKM rises following higher trade

KEY DRIVERS / MARKET HIGHLIGHTS

- APAC physical MOC: Shell sells to Trafigura for Dec. 13-15 delivery
- APAC derivatives MOC: 100 lots of Jan JKM derivatives traded
- ADNOC's sell tender heard awarded at around 16% of Brent price
- Petronas' sell tender heard awarded around $26s/MMBtu
- Dragon, South Hook, Isle of Grain withdrawals continue
- Lack of liquidity amid high prices weighs on market

SHIPPING MARKET HIGHLIGHTS

- Day rates stay at $260,000/day in Pacific
- Arctic Voyager heard fixed by Britain's BP

NEWS HEADLINES

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SHIPPING RATES, NOV 11

		$/day		Ballast rate
Asia Pacific day rate	AARXT00	260,000	AAXTN00	100%
Atlantic day rate	AASYC00	195,000	AAXTM00	100%
TCR Australia-Japan	ATCRA00	260,000.00		
TCR USG-NWE	ATCRB00	195,000.00		
TCR USG-Japan	ATCRC00	195,000.00		

DAILY CUMULATIVE AVERAGES AND MONTHLY AVERAGES

Nov 11 ($/MMBtu)		Cumulative monthly average		Previous month average		
JKM	AAOVS00	31.651	Dec	AAOVS03	33.254	Nov
DES West India	AALIC00	29.504	Dec	AAWIC03	31.934	Nov
DES Mediterranean	AADCU00	27.420	Dec	AASWC03	29.207	Nov
DES Northwest Europe	AASDF00	27.470	Dec	AASDE03	29.202	Nov
FOB GCM Loading Month	LGCSM00	24.647	Dec	LGCSM31	27.329	Nov
JKM Yen	AAOVT00	3602.868	Dec	AAOVT03	3707.118	Nov
JKM Yuan	LJCWM00	202.636	Dec	LJCWM03	189.189	Nov

JKM™	AAOVQ00	29.265	+1.815 ▲
Cumulative monthly average (Dec)	AAOVS00	31.651	
Previous month average (Nov)	AAOVS03	33.254	
CNL WTW JKTC	ACNLF00	0.906	

PLATTS DAILY LNG MARKERS ($/MMBtu)

Nov 11			Change	
DES Japan/Korea Marker (JKM)				
JKM (Dec)	AAOVQ00	29.265	1.815	▲
H1 Dec	AAPSU00	28.884	1.934	▲
H2 Dec	AAPSV00	29.645	1.695	▲
H1 Jan	AAPSW00	30.145	1.395	▲
H2 Jan	AAPXA00	30.325	1.525	▲
JKM (Dec) Japanese Yen	AAOVR00	3338.698	233.828	▲
JKM (Dec) Chinese Yuan (CNY/mt)	LJCMS00	9761.458	633.520	▲
DES Japan/Korea (JKM) derivatives Singapore close*				
Balmo-ND	LJKMB00	29.388	6.141	▲
Dec	LJKMO00	31.425	0.915	▲
Jan	LJKMO01	29.540	1.340	▲
Feb	LJKMO02	28.600	1.000	▲
DES Japan/Korea (JKM) derivatives London close*				
Dec	JKLMO00	31.490	-0.015	▼
Jan	JKLMO01	30.700	1.505	▲
Feb	JKLMO02	29.450	0.964	▲
DES Mediterranean Marker (MED)				
MED (Dec)	AASXY00	25.377	1.077	▲
H1 Dec	AASXZ00	25.277	1.077	▲
H2 Dec	AASYA00	25.477	1.077	▲
H1 Jan	AASYB00	25.550	1.091	▲
DES Northwest Europe Marker (NWE)				
NWE (Dec)	AASXU00	25.377	1.077	▲
H1 Dec	AASXV00	25.277	1.077	▲
H2 Dec	AASXW00	25.477	1.077	▲
H1 Jan	AASXX00	25.600	1.091	▲
Middle East Marker (MEM)				
MEM (Dec)	LMEMA00	26.663	1.813	▲
H1 Dec	LMEMB00	26.450	1.925	▲
H2 Dec	LMEMC00	26.875	1.700	▲
H1 Jan	LMEMD00	27.295	1.395	▲
H2 Jan	LMEME00	27.475	1.525	▲
DES West India Marker (WIM)				
WIM (Dec)	AARXS00	26.663	1.813	▲
H2 Nov	LMEAA00	26.350	1.925	▲
H1 Dec	LMEAB00	26.450	1.925	▲
H2 Dec	LMEAC00	26.875	1.700	▲
H1 Jan	LMEAD00	27.295	1.395	▲
H2 Jan	LMEAE00	27.475	1.525	▲
DES West India Marker (WIM) derivatives Singapore close*				
Dec	AWIMB00	29.375	0.915	▲
Jan	AWIMM01	27.750	1.300	▲
Feb	AWIMM02	26.950	1.000	▲
FOB Gulf Coast Marker (GCM)				
GCM	LGCSM01	23.250	1.500	▲

*For full forward curve, see page 4

LNG NETBACK PRICES ($/MMBtu)

Nov 11			Change	
FOB Australia	AARXR00	26.900	1.770	▲
FOB Middle East	AARXQ00	25.850	1.800	▲
DES Brazil Netforward	LEBMH01	25.850	1.500	▲
FOB Singapore	AARXU00	27.425	1.875	▲
FOB Murmansk	AARXV00	24.417	1.067	▲

PLATTS LNG ASIA JKM RATIONALE & EXCLUSIONS

The Platts JKM for December was assessed at $29.265/MMBtu Nov. 11.
The first half of December was assessed at $28.884/MMBtu and H2 December at $29.645/MMBtu, with a narrower day-on-day intramonth contango structure of $0.761/ MMBtu.
The value for Dec 14 was assessed at $29.185/MMBtu on Trafigura's traded bid for a Dec. 13-15 DES JKTC cargo at the TTF January average plus $5.05/MMBtu.
The bid traded by Shell was normalized 13 cents lower on larger quantity, lower sulfur limit and the earlier nomination of an LNG vessel, equating to a fixed price of $29.185/MMBtu.
Uniper reported an offer for a Jan. 1-3 DES JKTC cargo at the JKM January average plus 15 cents/MMBtu, with a volume of 3.3-3.5 TBtu and total sulfur limit of 30 mg/Nm3. The offer was normalized 40 cents/MMBtu higher on a larger quantity range and higher sulfur limit, and equated to a fixed price of $30.09/MMBtu.
S&P Global Platts assessed January JKM derivatives at $29.54/MMBtu, higher than the last-traded bid at $29.53/MMBtu and lower than the last-traded offer at $29.60/MMBtu. Platts valued ICE TTF January at 4:30 pm Singapore time at $24.265/MMBtu, based on a $5.275/MMBtu differential between JKM January and TTF January.
This rationale applies to symbol(s) <AAOVQ00>
Exclusions: No data was excluded from the Nov. 11 assessment.

PLATTS LNG ASIA WIM RATIONALE & EXCLUSIONS

The S&P Global Platts WIM for December was assessed at $26.663/MMBtu Nov. 11. Platts assessed first-half and second-half December at $26.450/MMBtu and $26.875/MMBtu, respectively, with a narrower intramonth contango structure of 42.5 cents/MMBtu, compared with 45 cents/MMBtu Nov 10. Platts assessed the December JKM/WIM spread at $2.602/MMBtu Nov. 11. This rationale applies to symbol(s) <AARXS00>. Exclusions: None

PLATTS LNG US FOB GULF COAST DAILY RATIONALE & EXCLUSIONS

The FOB Gulf Coast Marker (GCM) was assessed at $23.25/MMBtu Nov. 11.
The assessment was for FOB USGC cargoes loading 30 to 60 days forward. The market was assessed based on upward price movements in the major destination markets by close, combined with sustained strength in shipping rates for deliveries through the Atlantic and Pacific that have been spurred in part by ongoing congestion at the Panama Canal.
This rationale applies to symbol(s) <LGCSM01>.
Exclusions: None.

PLATTS LNG EUROPEAN ASSESSMENT RATIONALE & EXCLUSIONS

The Northwest Europe Marker (NWE) for December was assessed at $25.377/MMBtu Nov. 11.
H1 NWE for December was assessed at $25.277/MMBtu.
H2 NWE for December was assessed at $25.477/MMBtu.
The NWE prices were assessed higher day on day, reflecting rising flat prices for December TTF. The TTF December contract rose from an intraday low of Eur 69.300/MWh to Eur 74.794/MWh at market close. NBP/TTF premiums rose by 14 cents/MMBtu day on day to 73 cents/MMBtu at 4:30 pm London time Nov 11. The UK continued to see storage withdrawals in Dragon, South Hook and Isle of Grain terminals. Additionally, zero inflows were made into UK gas or LNG storages Nov. 11, according to data from the National Grid. Russian gas flows remained strong through the Mallnow gas compressor. Market sources heard of a NWE bound cargo that was traded at a discount to TTF Nov. 11.
The Mediterranean Marker (MED) for December was assessed at $25.377/MMBtu.
H1 MED for December was assessed at $25.277/MMBtu.
H2 MED for December was assessed at $25.477/MMBtu.
The MED price was assessed higher day on day. MED prices were assessed flat to NWE, with comparable premiums into both UK and Spanish gas hubs. Spanish regasification volumes hit their highest level in 10 years, despite Spanish inventories looking strong compared with European averages.
The assessments were based on pricing information from market sources for cargoes delivering within the region for December delivery.
This rationale applies to symbol(s) <AASXU00, AASXY00>
Exclusions: None

MARKET COMMENTARIES

JKM rises following higher trade

Asian LNG prices rose on ongoing supply disruption concerns, higher trade and higher European gas prices Nov. 11.

The S&P Global Platts JKM for December was assessed at $29.265/MMBtu Nov. 11.

Platts assessed the first half of December at $28.884/MMBtu and the second half of December at $29.645/MMBtu, with a narrower intramonth contango of 76.1 cents/MMBtu Nov. 11, compared with a contango of $1/MMBtu Nov. 10.

During the Platts Market on Close assessment process, Shell sold to Trafigura a Dec. 13-15 DES JKTC cargo, with volume of 3.6 TBtu and total sulfur limit of 4.3 mg/Nm3, at the average of January TTF plus $5.05/MMBtu at 4:29:33 pm SGT.

BP reported a bid for a Dec. 12-16 DES JKTC cargo, with volume of 3.6 TBtu, at the average of January TTF plus $4.90/MMBtu.

On the sell side, Uniper offered a Jan. 1-3 cargo, with volume of 3.3-3.5 TBtu and total sulfur limit of 30 mg/Nm3, at the average of January JKM plus 15 cents/MMBtu.

In the derivatives MOC, PetroChina, Onyx, Vitol and Dare traded 100 lots of January JKM derivatives at $29.50-$29.60/MMBtu between 4:27:18 pm and 4:29:59 pm Singapore time.

Market participants pointed that ongoing supply disruptions in Malaysia and Indonesia have supported spot prices to hover around $30/MMBtu though most end-users continued to stay on the sidelines due to high prices.

"Almost the same in India, no change to LNG affordability. Alternative fuel prices may be increasing too but LNG is still far away," an Indian importer said.

"Supply disruption, like Bintulu, Tangguh, is the main price support now," a Chinese end-user said. However, a trader said, "Tangguh impact is not cargo drop, just a delay. Situation seemed to have recovered now."

Over in Japan, most western Japanese utilities have lowered electricity output. The day-ahead 24-hour spot electricity price was at Yen 18.88/kWh on Nov. 11, according to the Japan Electric Power Exchange.

According to data from Japan Electric Power Exchange, JERA plans to lower output from Joetsu gas-fired thermal power plant Unit 2-2 (total output capacity of 595 MW) by 302 MW from Nov. 18.

REPORTED ATLANTIC BIDS, OFFERS AND TRADES ($/MMBtu)

Date	Seller	Loading	Buyer	Basis	Loading window	Offer/Bid	Notes
Best bids/offers							
Nov 11							

REPORTED APAC BIDS, OFFERS AND TRADES ($/MMBtu)

Date	Buyer	Destination	Seller	Source	Basis	Delivery period	Bid/Offer	Notes
Best bids/offers								
Nov 11	BP	JKTC			DES	Dec 12-16	Jan TTF+4.9 bid	MOC
Nov 11		JKTC	Uniper		DES	Jan 1-3	Jan JKM+0.15 offer	MOC
Nov 11	Onyx		PetroChina			Jan JKM derivatives	29.60 traded offer	MOC, 25 lots
Nov 11	Onyx		Vitol			Jan JKM derivatives	29.50 traded bid	MOC, 25 lots
Nov 11	Dare		PetroChina			Jan JKM derivatives	29.60 traded offer	MOC, 25 lots
Nov 11	Onyx		PetroChina			Jan JKM derivatives	29.53 traded bid	MOC, 25 lots
Last 5 trades		**APAC**						
Nov 09	Trafigura	JKTC	Shell		DES	Dec 13-15	Jan TTF plus 5.05 traded bid	MOC
Nov 09	Trafigura	JKTC	Shell		DES	Jan 5-7	32.30	MOC
Oct 26	PTT	Thailand		Qatar	DES	Nov 27-29, Dec 3-5	low-33	Tender
Oct 26	Shell, Total		EGAS	Egypt	FOB	Nov 14-15, Nov 24-25	28.25, 28.70	Tender
Oct 22	Vitol	JKTC	PetroChina		DES	Dec 6-8	Dec TTF plus 3.05 traded offer	MOC

Kansai Electric plans to lower output from Himeji Daiichi Thermal Power Plant Unit 6 (total output capacity of 713 MW) by 221 MW from Nov. 13, according to JEPX data on Nov. 11.

The above lowering output was in addition to lower output from Kyushu Electric, Hokuriku Electric, and Shikoku Electric, which Platts reported on Nov. 10.

A Japanese end-user noted more interest among Japanese utilities to procure prompt cargo but other Japanese utilities with limited storage capacity faced difficulty making a decision to buy for December. They were likely to buy January cargo instead, in spite of the contango structure in the market.

Sources also noted waiting time of about 15-18 days for ships at the Panama Canal but the exact impact is still unclear. "If you do not have a slot booked, you will definitely travel by Suez/Cape," a Singapore-based source said.

On tenders, ADNOC's tender offering six cargoes loading April 7-13, May 15-21, June 12-18, July 20-26, Aug. 20-26, Sept. 17-23, 2022 was heard awarded at around 16% of Brent price. Further details could not be obtained at time of reporting.

Petronas' sell tender for Dec. 5-6 delivery cargo from PFLNG 2 was heard awarded to an Asian end-user at around $26s/MMBtu. However, details could not be verified at time of reporting. — *Regina Sher*

European LNG prices resume gains as UK registers zero inflows into gas storage

European LNG prices reversed course and advanced Nov. 11 after two days of declines as the UK saw zero inflows into gas storage and continued storage withdrawals, and as Spanish regasification registered its highest level in over 10 years amid strong gas-fired power generation demand.

S&P Global Platts assessed DES Northwest Europe for December at $25.377/MMBtu, up $1.077/MMBtu from the previous day. The first half of December was assessed at $25.277/MMBtu and the second half was assessed at $25.477/MMBtu, maintaining the contango of 20 cents/MMBtu seen the previous three days.

Rising flat prices for Dutch TTF December contributed to the market dynamics. TTF December futures gained from an intraday low of Eur69.300/MWh to Eur74.794/MWh at market close. Platts assessed TTF December at $25.13/MMBtu on Nov. 11, up $1.042/MMBtu day over day.

The UK continued to see storage withdrawals in Dragon, South Hook and Isle of Grain terminals. Additionally, zero inflows were made into UK gas or LNG storages on Nov. 11, according to data from utility National Grid. Russian gas flows remained strong through the Mallnow gas compressor that serves Western Germany. LNG regas in Spain came in at 96 million cu m for the Nov. 10 gas day, the highest daily volume since Feb. 1, 2011, data from Platts Analytics showed.

Lack of liquidity amid high prices for cargoes delivered into the continent continued to impact the Eurogas market.

"The JKM-TTF spread has increased sharply again, so anyone who wasn't pointing their Atlantic cargo to Asia probably is now, but Panama Canal and tight shipping might restrict who can do it," a European-based trader said.

The LNG shipping market showed neither an uptrend nor a downturn for the third day in a row Nov. 11, with day rates remaining at $260,000/day for the Pacific basin and at $195,000/day in the Atlantic.

The Arctic Voyager, 140,000 cu m, was heard fixed by Britain's BP for an early December loading, ex US Gulf, at a rate of $200,000/day Time Charter Equivalent. Denmark's Celsius Shipping was reported to have ordered two X-DF class type LNG tankers with delivery in 2024. The Abalamabie, 170,000 cu m, was heard released from subs by Russia's Yamal LNG for January requirement.

On the other side of the Atlantic, the NYMEX Henry Hub prompt-month contract rebounded in Nov. 11 trading, climbing 12 cents from its prior-day settlement to trade at $5.00/MMBtu as of midday US local time. The recovery comes after four consecutive days of downward movement, in which the December contract slid more than 80 cents. — *Harry Weber, Zack Smith, Kelsey Hallahan*

ASIA/MIDDLE EAST ($/MMBtu), NOV 11*

DES Japan/Korea Marker (JKM)		
JKM (Dec)	AAOVQ00	29.265
JKM (H1 Dec)	AAPSU00	28.884
JKM (H2 Dec)	AAPSV00	29.645
JKM (H1 Jan)	AAPSW00	30.145
JKM (H2 Jan)	AAPXA00	30.325
Asian Dated Brent (16:30 Singapore)	ADBAA00	14.33
JKM vs Henry Hub futures	AAPRZ00	24.304
JKM vs NBP futures	AAPSA00	4.591
JKM vs TTF	LNTFJ00	4.135
JKM vs Asian Dated Brent (16:30 Singapore)	AAPSB00	14.937
JKM vs MED (16:30 London)	ALNGB00	3.888
JKM vs NWE (16:30 London)	ALNGA00	3.888

DES Japan/Korea (JKM) derivatives Singapore close		
Balmo-ND	LJKMB00	29.388
Dec	LJKMO00	31.425
Jan	LJKMO01	29.540
Feb	LJKMO02	28.600
Mar	LJKMO03	24.075
Q1 2022	LJKQR01	27.405
Q2 2022	LJKQR02	15.950
Summer 2022	LJKSN01	15.200
Winter 2022	LJKSN02	15.400
2022	LJKYR01	18.150
2023	LJKYR02	11.825
2024	LJKYR03	9.250

DES Japan/Korea (JKM) derivatives London close		
Dec	JKLMO00	31.490
Jan	JKLMO01	30.700
Feb	JKLMO02	29.450
Mar	JKLMO03	25.197
Q1 2022	JKLQR01	28.449
Q2 2022	JKLQR02	16.994
Summer 2022	JKLSN01	15.300
Winter 2022	JKLSN02	15.500
2022	JKLYR01	18.750
2023	JKLYR02	11.750
2024	JKLYR03	9.040

DES West India Marker (WIM)		
WIM (Dec)	AARXS00	26.663

DES West India Marker (WIM) derivatives Singapore close		
Dec	AWIMB00	29.375
Jan	AWIMM01	27.750
Feb	AWIMM02	26.950
Mar	AWIMM03	22.600
Q1 2022	AWIMQ01	25.767
Q2 2022	AWIMQ02	14.350
Summer 2022	AWISN01	13.625
Winter 2022	AWISN02	13.800
2022	AWIMY01	16.575
2023	AWIMY02	10.325
2024	AWIMY03	7.775

Carbon Neutral LNG		
CNL WTW JKTC Differential (ex-Australia)	ACNLF00	0.906
CNL WTT JKTC Differential (ex-Australia)	ACNLB00	0.200
CNL DES JKTC Differential (ex-Australia)	ACNLG00	0.193
CNL Combustion JKTC	ACNLJ00	0.706

FOB Middle East		
FOB Middle East	AARXQ00	25.850

FOB Australia (netback)		
JKM (Dec)	AAOVQ00	29.265
(-) Freight	AAUSA00	2.37
FOB Australia	AARXR00	26.90

Key gas price benchmarks			
Japan Customs Cleared LNG (Aug)	LAKPN00	10.15	Final
Japan Customs Cleared LNG (Sep)	LAKPM00	10.78	Estimated

Platts Dutch TTF		
Dec	GTFWM10	25.130
Jan	GTFWM20	25.197

Competing fuel prices			
Japan Customs Cleared crude oil (Aug) ($/b)	AAKOP00	73.78	Final
Japan Customs Cleared crude oil (Sep) ($/b)	AAKOM00	73.81	Estimated
HSFO 3.5% sulfur 180 CST FOB Singapore	LUAXZ00	11.41	
NEAT Coal Index	JKTCB00	6.078	
Minas crude oil	LCABO00	13.608	
Naphtha CFR Japan	LNPHJ00	16.643	

EUROPE ($/MMBtu), NOV 11

		$/MMBtu		Eur/MWh		Eur/MMBtu
DES Mediterranean Marker (MED)						
MED (Dec)	AASXY00	25.377	LNMTA00	75.480	LNMXA00	22.138
MED (H1 Dec)	AASXZ00	25.277				
MED (H2 Dec)	AASYA00	25.477				
MED (H1 Jan)	AASYB00	25.550				
Dated Brent (16:30 London)	ADBAB00	14.31				
MED vs Henry Hub futures	AASYF00	20.408				
MED vs TTF	LNTFS00	0.247				
MED vs NBP futures	AASYH00	-0.378				
MED vs Dated Brent (16:30 London)	AASYJ00	11.063				
MED vs NWE	ALNSA00	0.000				
MED vs JKM	AASYM00	-3.888				
DES Northwest Europe Marker (NWE)						
NWE (Dec)	AASXU00	25.377	LNNTA00	75.480	LNNXA00	22.138
NWE (H1 Dec)	AASXV00	25.277				
NWE (H2 Dec)	AASXW00	25.477				
NWE (H1 Jan)	AASXX00	25.600				
Dated Brent (16:30 London)	ADBAB00	14.31				
NWE vs Henry Hub futures	AASYE00	20.408				
NWE vs TTF	LNTFN00	0.247				
NWE vs NBP futures	AASYG00	-0.378				
NWE vs Dated Brent (16:30 London)	AASYI00	11.063				
NWE vs MED	AASYK00	0.000				
NWE vs JKM	AASYL00	-3.888				
NWE as a % of NBP	AASYD00	98.53				

Competing fuel prices		
Northwest Europe fuel oil	LAEGR00	12.84
CIF ARA 15-60 day thermal coal	CSAAB00	6.07

NORTH AMERICA ($/MMBtu), NOV 11

FOB Gulf Coast Marker (GCM)		
GCM	LGCSM01	23.250
Dated Brent (16:30 London)	ADBAB00	14.31
GCM vs JKM	LGMJM01	-6.015
GCM vs Henry Hub futures	LGMHM01	18.101
GCM vs TTF	LNTFG00	-1.880
GCM vs NWE	LGEUR00	-2.127
GCM vs MED	LGMET00	-2.127
GCM vs NBP futures	LGMNM01	-2.504
GCM vs Dated Brent (16:30 London)	LGMDB00	8.936
GCM vs USGC HSFO	LGMFO00	12.520

Competing fuel prices		
US Gulf Coast high sulfur fuel oil	LUAXJ00	10.74
New York Harbor 1%S fuel oil	LUAXD00	12.70

*Japan Customs Cleared value shows latest available CIF price published by the Ministry of Finance, converted to US dollars per MMBtu. All other values reflect Platts most recent one-month forward assessments for each product in each region, converted to US dollars per MMBtu. JKM Marker, SWE LNG and NWE LNG average the assessments of the two half-months comprising the first full month of forward delivery. Asian LNG assessments assessed at Singapore market close 0830 GMT, European LNG assessment assessed at London market close 1630 UK time. NYMEX Henry Hub futures and ICE NBP futures values taken at Singapore market close and London market close. ICE NBP futures converted from Pence/Therm to $/MMBtu. Asian Dated Brent crude oil assessed at Asian market close 0830 GMT and converted from $/barrel to $/MMBtu. Detailed assessment methodology is found on www.platts.com.

RECENT TENDERS AND STRIPS

Tender/ strip November 11	Issuer/location	Tender type	(Loading) or delivery period	Slots/ cargoes	Opening	Closing date	Validity	Notes	Results
Tender	Petronas - PFLNG Dua	Sell	05-Dec-21 - 06-Dec-21	1 DES		10-Nov-21			
Tender	Kansai Electric - Japan	Buy	05-Jan-22 - 10-Jan-22	1 DES or FOB	10-Nov-21	10-Nov-21	10-Nov-21	Closed on 6:30 PM Japan standard time, 1-hour validity until 7:30 PM JST	
Tender	Angola LNG - Angola LNG	Sell	16-Nov-21 - 15-Dec-21	1 DES		10-Nov-21		furthest delivery to Arun	
Tender	Sonatrach - Algeria	Sell	(01-Nov-21 - 15-Nov-21)	3 FOB					
Tender	APLNG - Australia Pacific LNG	Sell	(28-Dec-21 - 28-Dec-21)	1 DES or FOB	08-Nov-21				
Tender	Adnoc - ADNOC Das Island	Sell	(07-Apr-22 - 23-Sep-22)	6 FOB		09-Nov-21		loading dates: April 7-13, May 15-21, June 12-18, July 20-26, Aug 20-26, Sep 17-23 Brent-linked basis	
Tender	BOTAS - Turkey	Buy	01-Dec-21 - 28-Feb-22	9 DES		04-Nov-21		9 cargo tender, closing Nov.4	
Tender	EGAT - Map Ta Phut	Buy	10-Dec-21 - 18-Dec-21	1 DES		03-Nov-21		One cargo buy tender for Dec. 10-12 or Dec. 16-18 delivery	
Tender	Pakistan LNG - Port Qasim	Buy	19-Nov-21 - 27-Nov-21	2 DES	02-Nov-21	05-Nov-21	05-Nov-21	Two cargo buy tender for Nov. 19-20 and Nov. 26-27 delivery. Closes on Nov. 5, 1200 hours PST. Validity until 2300 hours PST.	
Tender	Oman LNG - Oman LNG	Sell	(01-Dec-21 - 03-Dec-21)	1 DES or FOB		21-Oct-21		Closing 1pm Oman time	heard awarded to Gunvor around $30/MMBtu FOB
Tender	Ichthys LNG - Ichthys LNG	Sell	(13-Nov-21 - 17-Nov-21)	1 DES or FOB	25-Oct-21	27-Oct-21	27-Oct-21	FOB or DES cargo, 13-17 November loading. The tender closes on Oct. 27, noon Tokyo time. Validity until 7 PM Tokyo time (7 hour validity).	heard awarded at approximately $31/MMBtu FOB
Tender	Darwin LNG - Darwin	Sell	(01-Dec-21 - 03-Dec-21)	1 DES or FOB		28-Oct-21		Dec 1-3 load or Dec 14-17 DES JKTC	heard awarded at approximately $31/MMBtu FOB
Tender	Petronet - Dahej	Buy	16-Nov-21 - 30-Nov-21	1 DES	21-Oct-21	27-Oct-21	28-Oct-21	Seller to nominate delivery window for H2 Nov, fixed price only, DES Dahej or Kochi, 3.2 Tbtu	heard not awarded
Tender	Egas - Egypt	Sell	(13-Nov-21 - 25-Nov-21)	2 DES or FOB		26-Oct-21	26-Oct-21		Heard awarded approximately $28s/MMBtu
Tender	PTT - Map Ta Phut	Buy	27-Nov-21 - 05-Dec-21	2 DES	25-Oct-21	26-Oct-21	26-Oct-21	Seeking two cargoes for Nov. 27-29 delivery and Dec. 3-5 delivery. Closes on 4 PM Thailand time on Oct. 26, and has a 3 hour validity until 7 PM Thailand time.	Heard awarded around $33-$34/MMBtu
Tender	IEASA - Escobar	Buy	19-Nov-21 - 19-Dec-21			26-Oct-21		Two cargo buy tender for Nov. 19 & Dec. 19 delivery	
Tender	Novatek - Yamal	Sell	05-Dec-21 - 31-Mar-22	3 DES		21-Oct-21		Dec. 5-23, Jan. 3-21, and March 25-31 delivery	Heard partially awarded
Tender	Sakhalin Energy - Sakhalin	Sell	(01-Dec-21 - 01-Dec-21)	1 DES or FOB		21-Oct-21	22-Oct-21		heard awarded at approximately $34/MMBtu
Tender	Angola LNG - Angola LNG	Sell	05-Nov-21 - 19-Nov-21	1 DES		25-Oct-21	26-Oct-21	Furthest to India, onboard Seri Balqis	
Tender	BOTAS - Turkey	Buy	01-Nov-21 - 31-Mar-22	19 DES		18-Oct-21		DW: Nov.1-7, Nov.8-14, Nov.15-21, Nov.22-28, Nov.29-Dec.5, Dec.6-12, Dec.13-19, Dec.20-26, Dec.27-Jan.2, Jan.3-9, Jan.10-16, Jan.17-23, Jan.24-30, Jan.31-Feb.6, Feb.7-13, Feb.14-20, Feb.21-27, Feb.28-Mar.6, Mar.7-13	Heard partially awarded at TTF+$0.40/MMBtu to +$0.70/MMBtu

NEWS

Belarus' Lukashenko hints at Russian gas transit block amid EU standoff

- Minsk pledges to retaliate against EU over border crisis
- Flows via Belarus average 76 million cu m/d so far in 2021
- Only small risk of flows being disrupted: Platts Analytics

The president of Belarus, Alexander Lukashenko, hinted Nov. 11 that Minsk could consider blocking the transit of Russian gas to Europe in retaliation for potential EU measures against the country over the current EU border migrant crisis.

Lukashenko, speaking at a meeting of Belarus' council of ministers, said Minsk was ready to take "retaliatory" measures against the EU amid reports of sanctions being tightened and the closure of the border between Belarus and Poland.

"We provide heat to Europe, and they are threatening us with the border closure. What if we block natural gas transit?" Lukashenko was quoted as saying by the state Belta news agency.

"If [Europe] imposes additional sanctions that are indigestible and unacceptable for us, we will hit back," he said.

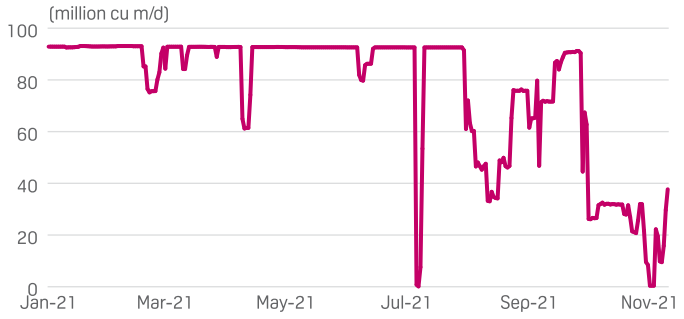
The EU is preparing new measures against Belarus amid accusations that Minsk is shuttling thousands of migrants to the Polish border in an attempt to hit back at the EU for previously imposed sanctions.

European Council President Charles Michel said Nov. 10 that the "hybrid" attacks by Belarus against the EU must stop.

Belarus transits Russian gas via the Yamal-Europe pipeline into Poland and on to Germany, and is a key route for Russian deliveries to Europe.

Flows into Poland from Belarus have averaged 76 million cu m/d so far in 2021, according to data from S&P Global Platts Analytics, though deliveries began to be curtailed in August and have remained volatile ever since, with supplies being cut to zero at times in October.

RUSSIAN GAS FLOWS VIA BELARUS INTO POLAND VOLATILE SINCE AUGUST



Source: S&P Global Platts Analytics

The veiled threat from Lukashenko comes as European gas prices remain at sustained highs, due in part to lower-than-expected imports from Russia and low storage stocks.

According to Platts price assessments, the TTF day-ahead contract hit an all-time high on Oct. 5 of Eur116.10/MWh and has remained volatile through the remainder of October and into November.

SOUTH AMERICA ($/MMBtu), NOV 11

DES Brazil Netforward		
DES Brazil (Dec)	LEBMH01	25.850
DES Brazil vs NWE Fuel Oil Derivative	LAARM01	13.010
DES Brazil vs DES MED LNG	LASWM01	0.473
DES Brazil vs Dated Brent	LADBM01	11.536
DES Brazil vs Henry Hub (16:30 London)	LAHHM01	20.881
DES Brazil vs JKM (16:30 London)	LAJKM01	-3.415
DES Brazil vs NBP (16:30 London)	LABPM01	0.096

NORTH AMERICAN FEEDGAS ($/MMBtu), NOV 10

Daily average US LNG feedgas cost	ALNFG00	4.456
30-day moving average US LNG feedgas cost	ALNUS00	5.304
Daily average USGC LNG feedgas cost	ALNFH00	4.498
30-day moving average USGC LNG feedgas cost	ALNUG00	5.339

Export facility		Estimated feedgas cost
Sabine Pass	ALNFA00	4.506
Corpus Christi	ALNFB00	4.468
Cove Point	ALNFC00	4.102
Cameron	ALNFD00	4.614
Freeport	ALNFE00	4.413
Elba Island	ALNFF00	4.630

Facility feedgas costs represent a calculation derived from S&P Global Platts' North American gas spot price indices at the hub(s) from which feedgas would be procured most economically for the export facility. The average summary costs are an average of the relevant export facilities' feedgas costs weighted by Platts Analytics' daily estimated volume delivered to each facility.

US CARGO CANCELLATIONS, NOV 11

Dec-21	0
Nov-21	0
Oct-21	0
Sep-21	0
Aug-21	0
Jul-21	0
Jun-21	0
May-21	0
Apr-21	0
Mar-21	0
Feb-21	5
Jan-21	2

The figures are collected from market sources.

NATURAL GAS FUTURES ($/MMBtu), NOV 11

NYMEX HH Singapore close	(Dec)	AAPSD00	4.961
NYMEX HH Singapore close	(Jan)	AAPSE00	5.061
ICE NBP Singapore close	(Dec)	AAPSF00	24.673
ICE NBP Singapore close	(Jan)	AAPSG00	25.014
NYMEX HH London close	(Dec 21)	AASYN00	4.969
NYMEX HH London close	(Jan 22)	AASYO00	5.067
ICE NBP London close	(Dec 21)	AASYR00	25.754
ICE NBP London close	(Jan 22)	AASYS00	26.276
NYMEX HH US close	(Dec 21)	NMNG001	5.149
NYMEX HH US close	(Jan 22)	NMNG002	5.245

MARINE FUEL LNG BUNKER, NOV 11

	$/MMBtu		$/mt (Oil)		$/mt (LNG)	
Singapore	LNBSG00	28.765	LNBSM00	1111.566	LNBSF00	1495.780
	Eur/MWh		**$/mt (Oil)**		**$/mt (LNG)**	
Rotterdam	LNBRT00	73.800	LNBRM00	957.807	LNBRF00	1290.224

MMBtu to $/mt (oil) factor: 38.643; MWh to $/mt (oil) factor: 11.322; MMBtu to $/mt (LNG) factor: 52.000.

Platts assessed the TTF day-ahead price on Nov. 10 at Eur70.30/MWh, up 415% from a year ago.

Ukraine diversion

S&P Global Platts Analytics analyst Ornela Figurinaite said Nov. 11 that although the Yamal-Europe pipeline has historically been a key Russian gas transit route to Europe, Gazprom has been less reliant on it in recent months.

"If Belarus were to block gas flows westwards, Gazprom could substitute some of these flows using Ukrainian route," Figurinaite said.

However, with only around 15 million cu m/d of firm capacity available from Russia to Ukraine, Gazprom would have to book interruptible capacity, which it has been reluctant to do so far, she said.

"In summary, we see only a small risk of Yamal gas flows stopping, but given the limited spare firm capacity through Ukraine, further escalation of rhetoric will drive significant European gas volatility," she said.

It is also unclear whether Lukashenko would actually be able to follow through on the threat to cut off European gas transit.

The gas transmission system in Belarus is owned and operated by Gazprom Transgaz Belarus, a 100% subsidiary of Russia's state-controlled Gazprom.

This implies that Lukashenko would need approval from Gazprom — and by extension the Russian government — to force the system to shut down.

Formerly known as Beltransgaz, the Belarus state previously held 50% of the company, but Gazprom bought the stake in 2011, bringing its ownership to 100%.

It changed the name Beltransgaz to Gazprom Transgaz Belarus in 2013. — *Stuart Elliott*

PLATTS WIM RLNG DAILY PRICES, NOV 11

		$/MMBtu	Rupee/MMBtu
Ex-Terminal			
Dahej	RLEDA00	28.36	RLEIA002114.40
Hazira	RLEDB00	28.52	RLEIB002126.14
Dabhol	RLEDC00	28.44	RLEIC002120.66
Mundra	RLEDE00	28.48	RLEEI002123.39
Kochi	RLEDD00	28.98	RLEDI002160.57
Average	RLEDF00	28.56	RLEIF002129.03
Location			
Ahmedabad	RLDDJ00	28.86	RLDIJ002151.53
Morbi	RLDDK00	28.98	RLDIK002160.52
Panvel	RLDDL00	29.12	RLDIL002170.77
Dabhol	RLDDC00	29.12	RLDIC002170.77
Vijaipur	RLDDM00	29.04	RLDIM002165.23
Kota	RLDDN00	29.04	RLDIN002165.23
Chhainsa	RLDDO00	29.10	RLDIO002170.00
Jagdishpur	RLDDP00	29.10	RLDIP002170.00
New Delhi	RLDDQ00	29.10	RLDIQ002170.00
Koottanad	RLDDR00	29.62	RLDIR002208.48
Kakinada	RLDDS00	29.72	RLDIS002215.91
Average	RLDDT00	29.16	RLDIT002174.40

Prices are net-forward calculations derived from the Platts WIM and exclude VAT and CST sales taxes. Delivered prices represent the cost of delivery from the nearest connected LNG terminal via pipeline.

Spanish LNG regas nudges three figures as gas-for-power demand hits 2-year high

- **LNG regas at 96 million cu m for Nov. 10 gas day**
- **Gas-for-power demand up on weak hydro, nuclear refueling**
- **Spanish PVB day-ahead price assessed Eur2.65/MWh up on TTF**

LNG regasification in Spain came in at its highest level in over 10 years during the Nov. 10 gas day on the back of strong gas-for-power demand in the country, at a time when Algerian pipeline imports have dropped, an analysis by S&P Global Platts showed.

(continued on page 9)

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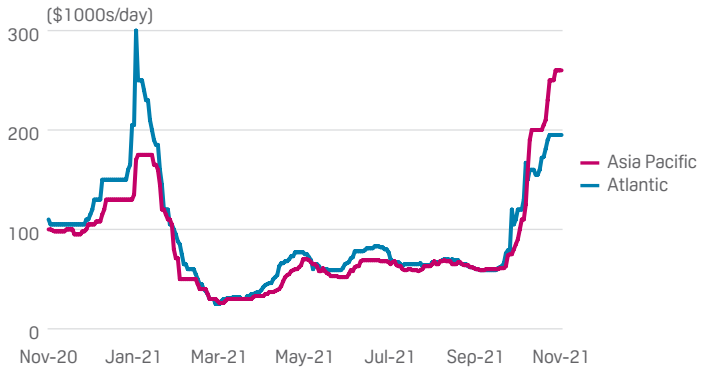
SHIPPING PRICES

SHIPPING RATES, NOV 11

		$/day
Asia Pacific day rate	AARXT00	260,000
Atlantic day rate	AASYC00	195,000
TCR Australia-Japan	ATCRA00	260,000.00
TCR USG-NWE	ATCRB00	195,000.00
TCR USG-Japan	ATCRC00	195,000.00
		$/MMBtu
PLF1 Middle East-Japan/Korea	AAUUA00	3.77
PLF2 Middle East-NWE	AAUTE00	4.07
PLF3 Trinidad-NWE	AAUUC00	1.86

SHIPPING RATES



Source: S&P Global Platts

SHIPPING CALCULATOR, NOV 11

	Australia-Japan/Korea	Middle East-India
Ship size (mt)	72980.77	72980.77
Trip length (days)	9	3
Carrier day rate ($/day)	260000	260000
Day rate cost ($/MMBtu)	1.50	0.63
Boil-off cost	0.59	0.19
Supplementary boil-off cost ($/MMBtu)	0.19	0.06
Cost of voyage* ($/MMBtu)	2.37	0.93

*Includes port cost.

FREIGHT ROUTE COSTS, NOV 11 ($/MMBtu)

Asian discharge ports

		Japan/Korea		South China/Taiwan		West India
Middle East	AAUUA00	3.77	AAUSH00	3.29	AAUSP00	0.93
Australia (Dampier)	AAUSA00	2.37	AAUSI00	1.91	AAUSQ00	2.28
Australia (Gladstone)	ACABA00	2.38	ACABB00	2.62	ACABC00	3.67
Bontang	AOJKA00	1.65	AOCTA00	1.19	AOWIA00	2.25
Bintulu	ABJKA00	1.68	ABCTA00	0.99	ABWIA00	2.05
Singapore	ASJKA00	1.87	ASCTA00	1.19	ASWIA00	1.57
Tangguh	ATJKA00	1.63	ATCTA00	1.40	ATWIA00	2.69
Trinidad via Suez	AAUSB00	7.26	AAUSJ00	6.81	AAUSR00	4.65
Trinidad via Panama	AAUXB00	5.03	AAUZB00	6.12		
Trinidad*	AAUZC00	5.03	AAUZD00	6.12		
Nigeria	AAUSC00	5.71	AAUSK00	5.06	AAUSS00	3.65
Algeria	AAUSD00	5.30	AAUSL00	4.88	AAUST00	2.90
Belgium	AAUSE00	6.16	AAUSM00	5.51	AAUSU00	3.47
Peru	AAUSF00	5.27	AAUSN00	6.03	AAUSV00	6.56
Russia	AAUSG00	0.96	AAUSO00	1.41	AAUSW00	3.62
Spain	ACAAA00	5.54	ACAAB00	4.90	ACAAC00	3.11
Norway	ACAAH00	7.07	ACAAI00	6.18	ACAAJ00	4.29
USGC*	LAUVA00	5.28	LAUVB00	6.37	LAUVC00	5.10
USGC via Panama	LAUVI00	5.28	LAUVL00	6.37		
USGC via Suez	LAUVJ00	7.98	LAUVM00	7.07	LAUVO00	5.10
USGC via Cape	LAUVK00	8.20	LAUVN00	7.51	LAUVP00	6.33

EMEA discharge ports

		South West Europe		North West Europe		Kuwait/UAE
Middle East	AAUSX00	3.42	AAUTE00	4.07	LMEMM00	0.51
Australia (Dampier)	AAUSY00	5.30	AAUTF00	5.99	LMEMN00	2.75
Australia (Gladstone)	ACABD00	6.76	ACABE00	7.48	ACABI00	4.15
Trinidad	AAUSZ00	1.89	AAUUC00	1.86	LMEMP00	4.26
Nigeria	AAUTA00	2.12	AAUTG00	2.27	LMEMQ00	3.90
Algeria	AAUTB00	0.47	AAUTH00	0.97	LMEMR00	2.53
Belgium	AAUTC00	0.81			LMEMS00	3.29
Peru	AAUTD00	5.54	AAUTI00	5.75	LMEMT00	7.08
Russia	AAUUB00	6.71	AAUTJ00	7.18	LMEMU00	5.06
Spain			ACAAD00	0.81	LMEMV00	2.74
Norway	ACAAK00	1.37	ACAAL00	0.80	LMEMW00	3.90
Murmansk			AARXW00	0.96		
USGC*	LAUVD00	2.48	LAUVE00	2.45	LMEMX00	4.91
USGC via Suez					LMEMY00	4.91
USGC via Cape					LMEMZ00	6.13

Americas discharge ports

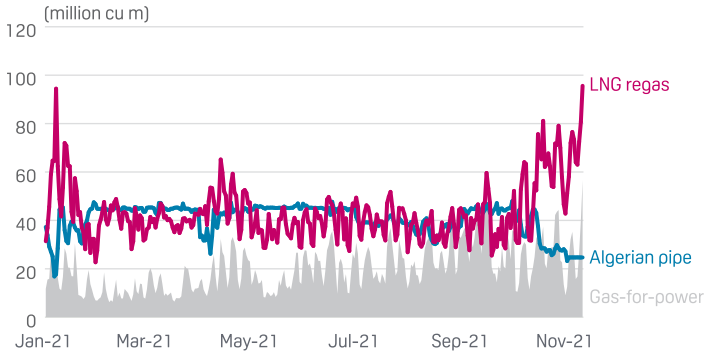
		US Atlantic Coast		Argentina		Brazil
Middle East	AAUTK00	4.60	AAUTS00	4.97	ACAAP00	5.73
Australia (Dampier)	AAUTL00	5.77	AAUTT00	4.99	ACAAQ00	5.99
Australia (Gladstone)	ACABF00	5.59	ACABH00	4.29	ACABG00	5.28
Trinidad	AAUTM00	0.96	AAUTU00	2.19	ACAAR00	1.49
Nigeria	AAUTN00	2.34	AAUTV00	2.42	ACAAS00	2.09
Algeria	AAUTO00	1.55	AAUTW00	2.79	ACAAT00	2.45
Belgium	AAUTP00	1.40	AAUTX00	3.16	ACAAU00	2.82
Peru	AAUTQ00	4.77	AAUTY00	2.23	ACAAV00	3.40
Russia	AAUTR00	7.21	AAUTZ00	6.40	ACAAW00	8.98
Spain	ACAAE00	1.29	ACAAF00	2.81	ACAAG00	2.28
Norway	ACAAM00	1.56	ACAAN00	3.76	ACAAO00	3.61
USGC*			LAUVG00	3.37	LAUVH00	2.64

*Most economic.

All values calculated based on prevailing spot market values during the day for LNG, bunker fuel and ship chartering. No route cost is calculated for Zeebrugge to NW Europe, or Spain to SW Europe. Other routes appear blank on days when a public holiday in one or another location means underlying values are not published. Detailed assessment methodology, including assumed route times and underlying values, is found on www.platts.com.

LNG regas in Spain came in at 96 million cu m for the Nov. 10 gas day, the highest daily volume since Feb. 1, 2011, data from S&P Global Platts Analytics showed.

SPANISH LNG REGAS UP ON ALGERIAN LOSS

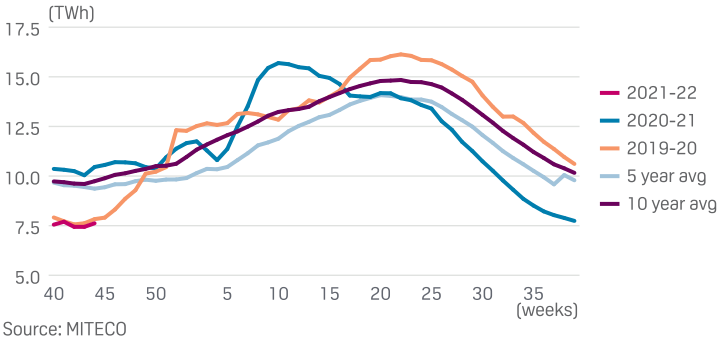


Source: S&P Global Platts Analytics

LNG regas for the first 10 gas days of November stood at an average of 71 million cu m/d compared with 56 million cu m/d seen in October, and 45 million cu m/d recorded in November 2020, the data showed.

The increase has come on the back of firm gas-for-power demand in the country, which stood at 56 million cu m for the Nov. 10 gas day, the highest since August 2019. Spanish power generation so far in November has seen an uptick in gas-fired generation as hydro stocks remain well below norms, pushing hydro output down almost 60% on the year, REE data up to Nov. 10 showed.

SPANISH HYDRO STOCKS



Source: MITECO

The thermal gap in Spain has also been widened by lower nuclear output. Nuclear output is set to fall to 5 GW for Nov. 12, with the refueling of the 1.1 GW Cofrentes reactor until Dec. 18.

Nuclear output is already down 2% on the year, following the refueling of 1 GW Asco 1 which began Oct. 16 which is scheduled to return Nov. 21 — the same day as 1 GW Almaraz 1 goes for refueling till Dec. 29.

"November so far is set to have mild temperatures so I don't know if we will get more demand in December but with less nuclear plus the cold, and specially spot LNG prices in Asia, I don't know what could be the first [bullish driver]," a Spanish power trader said.

Moreover, data from Enagas showed that gas-for-power demand was expected to increase further for the Nov. 11 gas day, nominated at 676 GWh (64 million cu m), which, if realized, would be the highest daily volume since at least 2010, at a time when Algerian pipeline gas flows into the country are down due to the GME pipeline contract expiry at the end of October.

The Spanish PVB day-ahead contract rose by Eur1.95/MWh on a daily basis on Nov. 10 to close at Eur72.95/MWh (182.717 pence/therm, $24.645/MMBtu), a premium of Eur2.65/MWh, or 89 cents/MMBtu, compared with the TTF equivalent, Platts price data showed. For December, the differential between PVB and TTF stood at 50.7 cents/MMBtu.

With the potential that Spanish natural gas prices could find support heading into winter amid the GME pipeline situation, that would provide additional incentive for spot LNG deliveries.

Platts Analytics sees an added degree of risk premium to the PVB hub, as Spain received the second-most US LNG cargoes in October. The shifting trade flows have come as LNG prices in Europe and Asia remain high and congestion at the Panama Canal continues.

Looking forward on the LNG front, the impact on Spanish fundamentals from the GME dispute is expected to be muted, according to Platts Analytics, given the spare liquefaction capacity held by Algeria, and the abundant regasification capacity in Spain.

Stronger LNG deliveries also would help ensure demand is satisfied and contractual commitments are met. — *Gary Hornby, Mario Perez, Harry Weber*

India to renegotiate LNG term contract with Qatar for higher volume

- **India looks for more than 7.5 million mt supplies**
- **Deal price could be 10.2% slope of Brent price**
- **Negotiation to take shape after spot stabilizes**

Indian's No.1 LNG importer state-run Petronet will negotiate with Qatar for a higher volume at a reasonable price for its next term deal after the expiry of the existing contract in 2023, company officials said Nov. 11.

Petronet is keeping a close watch on the current volatile price scenario in the global market, with prevailing prices in spot markets are unsustainable in the long run.

"We will definitely pitch for a better price slope with a higher volume in the next long-term deal with Qatar," said a company official.

The existing long-term deal for 7.5 million mt/year LNG supply with RasGas will expire at the end of 2023.

Petronet also has a term deal for supply of 1.44 million mt/year LNG with Exxon's Gorgon project in Australia.

The issue of extending the term deal could take cues from recent deals by Qatar with countries like China, Bangladesh and Pakistan where gas prices have been linked to around a 10.2% slope of the Brent price on a delivered ex-ship basis, company officials said.

Currently, Petronet sources LNG from Qatar at a 12.67% slope of the three-month average of Brent price.

They said there would be intense negotiation involving several rounds with Qatar ahead of the expiry of the existing long-term contract.

Nothing concrete has taken shape on this front so far as there is ample time to negotiate before the extension of the existing deal, they added.

Petronet prefers a price range of $9-$10/MMBtu for any term deal, said A.K. Singh, CEO and managing director.

"It's not the right time to start negotiation with Qatar for any term deal as LNG prices in the spot are extremely volatile and very high," said an oil ministry official.

He said the process of negotiation would start after the first quarter of the next year once the winter season is over so that spot prices stabilize.

"We will bargain for a lower slope for the next long-term deal as some of our neighboring countries have done in the recent past," the official said.

India, Asia's third-largest economy, aims to raise the share of the gas mix in the overall energy basket to 15% by 2030 from the current level of 6.2%. — *Ratnajyoti Dutta*

Upstream project delays hurt Malaysia's Bintulu LNG exports

- **New developments too slow to offset declines in mature fields**
- **Pegaga, Kasawari delays cap Bintulu LNG export growth**
- **High CO2 content, CCS costs may cause further output delays**

Malaysian national oil company Petronas' attempts to bolster LNG exports at its nine-train Bintulu LNG complex in Sarawak have been hampered by delays in bringing new gas fields into production, sustained outage at a key gas pipeline and legacy reserves depleting rapidly.

These issues have prevented Malaysia, the world's fifth largest LNG producer in 2020, from maximizing LNG exports despite expanding production capacity, even as upstream developments in Southeast Asia risk further delays due to the need for additional investments in carbon capture.

Petronas has been forced to exercise downward quantity tolerances in LNG contracts with North Asian offtakers in recent months and many of the affected cargoes were scheduled for delivery during this winter, forcing customers to look for alternatives amid record high spot LNG prices.

The flagship Bintulu LNG was expanded to almost 30 million mt/year capacity in recent years, but it has been operating under 80% of its designed capacity for most of 2021, and at around 85% since 2019, due to insufficient gas supply, according to S&P Global Platts Analytics.

Malaysia's overall gas production stagnated at 72-76 Bcm/year since 2010, after rising nearly 6% per year the decade before, according to upstream consultancy, Rystad Energy. It estimated that Malaysian gas production will remain largely flat through 2028 and decline to around 65 Bcm by 2030, and keep falling to 39 Bcm by 2040 as new developments will not be able to offset declines at existing fields.

Sarawak state, where Bintulu is located, accounts for more than half of the country's gas production and reserves. Rystad Energy projected Sarawak's offshore fields will produce 39.75 Bcm of gas for the whole of 2021, falling short of some 42 Bcm required to lift Bintulu LNG's capacity utilization to over 95%.

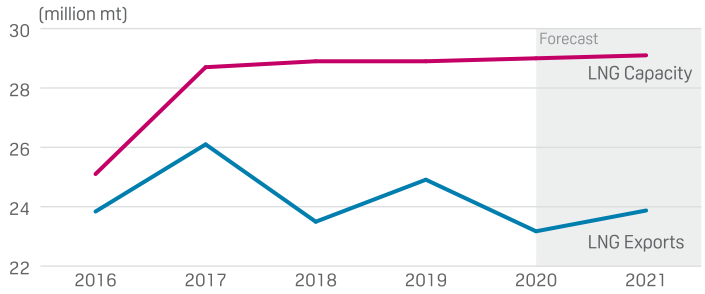
Petronas has sought to stem production declines by fast-tracking new projects, including fields operated with Vietnam and Thailand under the Malaysia-Vietnam Commercial Arrangement Area (CAA) since 2003, and the Malaysia-Thailand Joint Development Area (MTJDA) since 2005.

Some of these included production from Sabah state in the northeast, at fields operated along with Thailand's exploration company PTTEP. The feedgas was meant to be transported through the Sabah–Sarawak Gas Pipeline or SSGP to Bintulu LNG.

However, SSGP — designed to transport a sizeable 750 million cu ft/d of feedgas — has been out of operation, factoring in damages from at least three reported gas leaks, two leading to explosions since it first began operation in 2014.

Petronas has attempted to ramp up enhanced oil and gas recovery projects to boost output at existing fields, which may yield cost and time savings, but upstream analysts suggested that developments of large but mostly sour discoveries still hold the key to maintaining feedgas supplies to Bintulu LNG.

MALAYSIA'S LNG EXPORTS HAVE NOT RISEN IN LINE WITH CAPACITY GROWTH



Source: S&P Global Platts Analytics

New projects in limbo

Petronas is relying on commercializing a laundry list of new gas discoveries around Sarawak to boost LNG exports — mainly Pegaga, Kasawari, Jerun and Lang Lebah, all in offshore waters, over the next three to five years.

The Pegaga gas project in Block SK320 was expected to start production and feed Bintulu LNG's Tiga plant from the last quarter of 2021, but has been delayed due to the discovery of mercury contaminants, according to notifications received by offtakers who said the field's output could be delayed as far out as the end of 2022.

Out of Bintulu LNG's liquefaction nine trains spread across three plants MLNG Satu, Dua and Tiga, only one is built to handle sour gas with contaminants, and the setting up of new mercury removal units to draw gas from a field offshore would mean additional cost and delays.

Petronas has not commented on delays at Pegaga and Pegaga project operator, Mubadala Petroleum has said the project is progressing as planned. On Mubadala's website, however, Pegaga's production start-up has been revised to the first quarter of 2022, six months behind the third quarter of 2021 previously guided in a 2018 press release.

Rystad Energy estimated that adding the mercury removal unit will drive up costs by $20 million-$25 million. While mercury is one of three contaminants complicating the extraction of sizeable, undeveloped gas resources off Malaysia, Rystad Energy estimated around 40% of resources due to be sanctioned for developments off Malaysia by 2025 also hold excessive carbon dioxide and sulfur.

This is problematic because Malaysia has prioritized the development of sweet gas discoveries to supply Bintulu LNG in the past five years, and costly plant upgrades will be needed to handle sulfur.

Another major field designed to feed Bintulu is the giant Kasawari discovery in Block SK316 that holds up to 35% CO2, which is significantly higher than average and could push up development costs as Petronas aims to introduce Kasawari CCS by 2025.

The success at piloting the Kasawari CCS holds the key to the development of another multi-Tcf discovery, Lang Lebah, in the neighbouring PTTEP-operated Block SK410B, and other sour gas fields in Malaysia. Rystad warned that any delays can bring forward a decline in Sarawak as well as Malaysia's overall gas production by about five years to 2022-2023.

Kasawari and Lang Lebah can potentially pump up to 900 mmcf/d and 1,000 mmcf/d of gas, respectively, nearly doubling the designed 550 mmcf/d and 600 mmcf/d capacities for Pegaga and the combined development of NC3 and NC8 in Block SK 316, according to data released by project operators and their contracted oilfield services providers.

Petronas didn't respond to enquiries about production declines and the impact of upstream issues on LNG output. — *Hwee Hwee Tan*

China's Zhejiang Energy to invest in Yangshan LNG terminal expansion project

China's Zhejiang Energy Provincial Group has signed an agreement with Shenergy Group and CNOOC Gas & Power Group to invest in the expansion of the 6 million mt/year Yangshan LNG terminal in Shanghai, the provincial government-owned company said on its official WeChat platform Nov. 10.

The investment underscores growing participation of local governments in LNG terminal projects in China, which used to be dominated by the national oil and gas companies, as the country boosts the role of natural gas in its energy mix.

The Yangshan LNG terminal is operated by Shanghai LNG, a joint venture between local government-owned Shenergy Group and state-owned CNOOC, which hold 55% and 45% stakes in the company, respectively.

The terminal's expansion will be conducted by a new joint venture, Shenergy Yangshan LNG, in which Shenergy will have the controlling stake. The ceremony for the launch of the new joint venture was held in Shanghai on Nov. 8, Zhejiang Energy said.

The expansion project comprises construction of one dock capable of berthing 150,000 dwt LNG carriers, 10 LNG tanks each with a storage capacity of 200,000 cu m or above, a natural gas pipeline with a length of 67 km connecting the new terminal with Yangshan LNG terminal and the Fengxin pipeline gas transmission station, the statement said.

Once the expansion is completed, the new LNG terminal and Yangshan LNG terminal will jointly ensure the supply, peak shaving and emergency reserves of natural gas in Shanghai city, according to the report.

Yangshan LNG terminal currently has a dock capable of berthing 80,000-270,000 cu m LNG carriers, three LNG tanks with a storage capacity of 160,000 cu m each, and two LNG tanks with a storage capacity of 200,000 cu m each.

Zhejiang Energy has signed agreements with Russia's Novatek and Glencore for supply of up to 1 million mt/year of LNG for 15 years from the Arctic LNG 2 project.

Zhejiang Energy supplied over 10.5 Bcm of natural gas in 2020, which accounted for 75% of the province's total consumption, according to its official website. Its pipeline natural gas transportation volume exceeded 13 Bcm as of Nov. 10, up nearly 55% year on year.

The company is also a partner in LNG projects at Wenzhou and Liuheng, both of which are industrial cities in Zhejiang. In March, Zhejiang Energy signed a memorandum of understanding on strategic cooperation with Italy's Eni, which includes a potential long-term LNG supply agreement. — *Staff*

Cyprus flags delay to startup of floating LNG import terminal

- **FSRU now expected to begin operations in mid-2023**
- **Cyprus eyes gas imports for power generation**
- **New offshore drilling expected to resume before year-end**

A planned floating LNG import terminal at Vassiliko in Cyprus is expected to begin operations only in mid-2023, the chairman of the Cyprus Natural Gas Public Company (Defa), Symeon Kassianides, said Nov. 10, marking a delay from the previously targeted startup date of the end of 2022.

Kassianides was speaking at an energy conference held in Nicosia, the first such international gathering in Cyprus since social-distancing restrictions were imposed during the COVID-19 pandemic.

Defa in 2019 awarded a Eur289 million ($331 million) contract to a consortium led by China Petroleum Pipeline Engineering for the FSRU and a groundbreaking ceremony for the terminal was held in July 2020.

According to sources familiar with the project, construction of the jetty for the FSRU has yet to begin, while the FSRU itself, the ETYFA Poseidon, is currently in the Shanghai shipyard undergoing conversion.

The project has received financial backing from EU institutions, including Eur101 million from the EU's Connecting Europe Facility, loans from the European Investment Bank and European Bank of Reconstruction and Development, and an investment from the Electricity Authority of Cyprus (EAC).

LNG will enable Cyprus to end its reliance on oil imports to fuel its main power generation plant at Vassilikos.

Gas is to be supplied to the EAC, which had planned six gas-fired generation units. The availability of gas on the island is also seen as giving rise to independent power producers.

Upstream work

The plans for LNG imports come despite Cyprus having made a number of significant gas discoveries of its own.

It is already home to as much as 550 Bcm of gas following the

Aphrodite, Calypso and Glaucus discoveries, though none has yet been developed.

The pandemic led to delays in new wells being drilled, while exploration activity by Turkey's state-owned TPAO in areas claimed by Cyprus as part of its Exclusive Economic Zone also complicated the picture.

Nonetheless, Cyprus is seemingly ready to get its exploration program back in gear, with strong international attendance this week at the Nicosia conference.

Cypriot energy minister Natasa Pilides told delegates on Nov. 10 that "a new round of exploration activity" would begin in Block 10 by ExxonMobil and its partner Qatar Energy "by the end of this year."

ExxonMobil announced the Glaucus discovery in February 2019 with an estimated reserve of 5-8 Tcf.

The company had planned the appraisal well for early 2020, but the pandemic put paid to that plan as well as that of a partnership of France's TotalEnergies and Italy's Eni to resume drilling in Block 6 to follow up the 6 Tcf Calypso discovery.

Pilides did not elaborate on any other drilling plans in Cyprus and did not comment on the development of Aphrodite, which was discovered in December 2011 by US-based Noble Energy, now owned by Chevron.

ExxonMobil's appraisal well at Glaucus could prove significant if the well confirms the size of the reserve or indicates a larger reservoir.

And if all goes well, it could encourage the Total/Eni partnership, which controls seven blocks in the Cypriot EEZ, to proceed with its drilling program in Block 6. — *Gary Lakes in Nicosia*

Croatia LNG receives first ever cargo from Egypt, 16th in total

- **Terminal began operations in January this year**
- **50% of cargoes sourced to date from US terminals**
- **Egyptian LNG exports rebound so far in Q4**

The 2.6 Bcm/year capacity floating LNG import terminal in Croatia received its first ever cargo from Egypt on Nov. 10, its 16th imported cargo in total since it began operations at the start of this year.

Egypt is favorably located for LNG exports to the Mediterranean, with a journey time to Croatia of just three days. The Cool Explorer left Shell's LNG export facility at Idku on Nov. 7, according to cFlow, S&P Global Platts trade-flow analytics software.

The operator of the facility, LNG Croatia, confirmed the arrival of the Cool Explorer in a statement, saying the unloading of the cargo would continue until Nov. 12.

According to Platts Analytics data, eight of the cargoes sent to the Croatian terminal — or 50% of the total — came from the US.

Two each were supplied from Nigeria and Qatar, with reloads from both the Zeebrugge facility in Belgium and the Dunkirk terminal in France. One cargo was delivered from Trinidad, with the 16th from Egypt.

Total volume from the cargoes to date is the equivalent of around 1.4 Bcm of gas, according to the data.

Europe has struggled to secure LNG cargoes this year as Asian LNG prices retain a premium over European gas prices, drawing LNG to the higher-value Asian markets.

The Platts benchmark JKM spot Asian LNG price has surged in recent months, and was assessed Oct. 6 at a record high of $56.33/MMBtu. Prices have remained volatile through October and into November, with the JKM assessed at $27.45/MMBtu on Nov. 10.

Egyptian exports

Meanwhile, Egyptian LNG deliveries have picked up so far in the fourth quarter after a drop in exports during the summer due to strong weather-related domestic gas demand on higher power consumption for air conditioning.

Egypt is relatively exposed to spot LNG prices, so the fall in exports meant LNG producers were unable to enjoy the full benefit of the higher spot prices.

CROATIA'S LNG IMPORTS SINCE TERMINAL STARTUP IN JANUARY 2021

2021	Source
Jan	US (Cove Point)
Mar	Nigeria, US (Freeport)
Apr	US (Freeport), Belgium (re-export)
May	US (Freeport)
Jun	US (Cameron), US (Sabine Pass)
Jul	Nigeria, Qatar
Aug	US (Corpus Christi), Qatar
Sep	US (Sabine Pass)
Oct	Trinidad, France (re-export)
Nov	Egypt (Idku)

Source: S&P Global Platts

According to data from S&P Global Platts Analytics, Egypt exported only 15 LNG cargoes from its two plants in Q3 compared with 30 cargoes in Q1 and 22 cargoes in Q2.

However, deliveries picked up again in Q4, with eight cargoes already having reached their destination markets, and several others now on the water.

Exports are being made from both the 7.2 million mt/year Shell-operated Idku plant and the 5 million mt/year Eni-operated Damietta facility.

Damietta resumed operations in February — after changes in the ownership structure — having been closed for more than eight years after feedgas for the facility was diverted for use in the domestic Egyptian market in 2012 in the wake of the Arab Spring. — *Stuart Elliott*

Winter fuel oil demand high from Japan's power utilities, says ENEOS president

- **Prioritizing fuel oil supply to utilities with existing relationship**
- **Idemitsu sees winter fuel oil supply requests from utilities double**
- **ENEOS' April-Sep fuel oil sales for power rises 15% year on year**

Japan's largest refiner ENEOS is receiving a high number of inquiries from power utilities for the supply of fuel oil for winter, company president Katsuyuki Ota said Nov. 11, amid concerns that the country's refiners may not be able to meet all requests for oil supply from local power utilities for the coming winter.

"We are receiving a considerable volume of inquiries from power utilities for winter," Ota told a press conference, which he attributed to high LNG prices.

"We are considering prioritizing supply to power utilities which we have maintained a relationship with, although our relationships with power utilities have weakened on the back of reduced oil demand as a power generation fuel," he said. "The inquiries are great," Ota added.

The ENEOS president's comments come after the President and CEO of Idemitsu Kosan, Shunichi Kito, said Nov. 9 that Japan's second-largest refiner has already received winter fuel oil supply requests from a couple of power utilities at double the peak volumes seen last winter, when the country's power supply was stretched to critical levels during extreme cold spells.

"Amid power shortage concerns this winter, power utilities are considering early procurements," Kito told a press conference. "We have also received supply [requests] from a couple of power utilities at roughly double the level of last January-February, which we are considering fulfilling firmly."

Petroleum Association of Japan President Tsutomu Sugimori said Oct. 27 that Japanese refiners were unsure whether they would be able to meet all the requests they were receiving for oil supply from local power utilities this winter. Sugimori is also chairman of ENEOS Holdings.

Last winter

Last January, Japanese refiners boosted fuel oil supplies to power generators following an emergency request from the Federation of Electric Power Companies of Japan.

Japan experienced a power supply shortage last winter as demand surged during extreme cold spells in January, with local power utilities forced to restrict gas-fired power generation due to low LNG stocks.

That was exacerbated by glitches at coal-fired power plants, low hydropower generation due to droughts, fluctuations in solar power output due to weather conditions, reduced oil-fired power generation capacity, and low nuclear power output.

"At the beginning of this year, when power [supply] tightened extremely, a very challenging moment arrived all of a sudden," Kito said, adding that there had been logistical challenges for refiners to ship fuel oil cargoes to power utilities due to a lack of coastal vessels.

"Following such events, power utilities are preparing early in this fiscal year, and we are also securing vessels as part of early preparations to avoid great confusion and maintain stable supply," Kito said. "However, we cannot predict the degree of power [supply] tightness. We believe we need to carefully respond to the situations."

According to the Ministry of Economy, Trade and Industry data, total fuel oil sales to the domestic market rose 43% on the year to 179,585 b/d in January. There was also a shipment of 751,109 barrels of crude oil for power generation, nearly double the 429,323 barrels in December 2020 and after no crude shipments for power generation in January 2020.

In February, fuel oil sales fell 20.2% month on month and 4.3% year on year to 143,370 b/d as oil demand for power declined with the replenishment of LNG stocks by mid February, according to METI data. Crude shipments for power burn slid to 112,613 barrels in February.

Over April-September in fiscal year 2021-22 (April-March), ENEOS sold a total of 470,000 kilolters or 2.96 million barrels of fuel oil for power generation, up 15% from a year ago, the company said in its results released Nov. 11. — *Takeo Kumagai*

Market observers cast doubt on Mexico's natural gas export hub ambitions

- **Salina Cruz project called into question**
- **Gas imports from US reach all-time high**
- **Manzanillo could be turned into export terminal**

Mexico could become a natural gas export hub to serve the growing Asian market given its proximity with abundant gas from the US. However, some market observers doubt the current projects envisioned by the Mexican government are the most appropriate to achieve this goal.

"Mexico and Texas could be the answer to Asia's energy needs, if they planned a better broader marketing effort together," said Texas Railroad Commissioner Jim Wright during a US-Mexico natural gas forum Nov 10.

Asia will continue to grow in the coming decades, and Mexico and Texas are well positioned to take advantage of that growth, he said.

Developing Asian countries like China and India will be the largest importers of natural gas by 2050, he said. Other countries in the region like Japan and Korea already account for 50% of the US LNG exports, he said.

The Panama Canal currently presents severe challenges in terms of capacity which limit the ability for firm and reliable delivery to Asia, but Mexico could solve that, Wright said.

"It makes sense for Mexico to make those infrastructure investments concurrently with the investments for exploration and extraction and reap the benefits as a hub for markets in Asia along with Texas as its reliable partner," he said.

Mexico's state utility CFE recently announced plans to build an LNG export terminal in the port of Salina Cruz, in the state of Oaxaca. The government wants to complete the project by 2024.

However, other panelists during the forum were skeptical about CFE's plans.

"It's nonsense," said Eduardo Prud´homme a partner at Mexico-based consultancy Gadex. "They want to invite someone to find a contract in Asia, build a pipeline, build a port, install equipment for a floating facility, but they want to be the owners."

Furthermore, there is no gas in the area, unless CFE finds a way to transport from the marine pipeline, Prud´homme added. TC Energy's 2.6 Bcf/d marine pipeline brings gas from Texas to the city of Tuxpan, in the state of Veracruz, hundreds of miles away.

Mexico has imported 6.1 Bcf/d from the US on average during 2021, but imports reached an all-time high of roughly 6.8 Bcf/d in June, data from S&P Global Platts Analytics shows. Total demand was 8.8 Bcf/d in August, the data shows. Pemex production was 2.3 Bcf/d in August, but most of it was reused for crude production.

Before thinking about liquifying and selling imported gas, the government should focus on covering the needs within the country first, said Carlos Arriola, CEO of natural gas transportation company IGASAMEX, during the forum.

"The south needs gas, and we have never been so close to solving the crisis of natural gas in the Yucatan peninsula," Arriola said, adding that if the government really wanted to export gas it would be wiser to use the LNG import terminal in Manzanillo. LNG import flows into

Manzanillo have been replaced by gas piped through the Fermaca system from Waha.

"Manzanillo is already there, and it's easier to turn it into an export facility than developing one from scratch," he said.

Rosanety Barrios, an independent analyst and head of the natural gas sector under Mexico's prior administration, agreed and said the reason why CFE wants to export the gas is because it does not want to make spare pipeline capacity available to the market, and encourage competition in power generation.

Barrios said the government should be concerned with recovering Mexico's natural gas production, which then could allow exports.

Prud´homme said private LNG export terminal projects, like the one from Mexico Pacific Limited in the state of Sonora, are better options to serve the Asian market, as they could use the spare pipeline capacity owned by CFE in that area. — *Sheky Espejo*

Reliance's exit from US shale signals intent to focus at home in India

- **US shale has not been attractive in generating returns: Platts Analytics**
- **Reliance has its hands full with new energy initiatives at home**
- **Stepping up efforts to become net-zero emissions company by 2035**

The move by Reliance Industries to divest all its US shale assets and exit the sector signals its intention to ensure the company maintains its sharp focus on India's domestic market, where its energy portfolio is being diversified beyond its core refining business.

Analysts said Reliance will reap two gains from the decision — it will clearly signal to the market that it is accelerating efforts toward reducing its carbon footprint, and will make its intentions clear on focusing at home in India, where per capita energy consumption is about one-third the global average and is set to grow exponentially.

"The decision by Reliance to sell US shale assets, which are not necessarily the most attractive in terms of generating cash returns, makes sense and also highlights the company's intention to focus on the domestic market, where it has made a series of new investments in the clean energy space," said Kang Wu, head of Asia analytics and global demand at S&P Global Platts.

RELIANCE PLAYS A KEY ROLE IN INDIA'S REFINING LANDSCAPE

Source: S&P Global Platts Analytics, Reliance presentation

"Keeping a close focus on its core refining business, while pushing new energy initiatives, will keep its hands full," he added.

Reliance operates the world's biggest refinery complex at Jamnagar in the western Indian state of Gujarat with a combined capacity of 1.2 million b/d.

Reliance in a recent statement said its wholly owned subsidiary Reliance Eagleford Upstream Holding, LP has signed an agreement with Ensign Operating III, LLC to divest its interest in upstream assets in the Eagle Ford shale play of Texas.

With this transaction, Reliance has divested all its shale gas assets and exited the shale gas business in North America, the company said in the statement, but did not disclose financial details of the deal.

"Reliance is entering into the clean energy business in a big way, so consolidation and exiting from such carbon-intensive businesses will improve its ESG rating and help in raising more finance at reasonable rates," said Vibhuti Garg, lead India energy economist at the Institute for Energy Economics and Financial Analysis.

Reliance has sold its last remaining shale assets in the Eagle Ford shale basin after having divested its entire stake in the Marcellus shale blocks earlier. The company retains sizable assets in the offshore KG basin in India and two coal bed methane blocks in eastern India.

"Reliance has had a mixed bag of results with its North American shale assets. It now seems determined to focus on low carbon and green energy, including hydrogen," said Rajat Kapoor, managing director for oil and gas at AWR Lloyd.

Domestic market lucrative

Reliance, led by billionaire Mukesh Ambani, set up Reliance Exploration and Production in 2007, mainly to acquire overseas assets. The company went on to acquire conventional oil and gas assets in Peru, Yemen, Oman, Kurdistan, Colombia, Australia, Myanmar and Timor-Leste, but has exited from quite a number of them in recent years.

Some analysts saw Reliance's exit from the Eagle Ford and Marcellus shale plays as a strategic shift in the right direction, although the company will keep its focus on gas-based upstream investments in the domestic market.

With gas accounting for less than 7% of India's energy consumption basket compared with the world average of above 20%, Reliance and BP have pledged to jointly invest up to $6 billion to develop already-discovered deepwater gas fields off the east coast of India.

In April, Reliance and BP announced the start of production from the Satellite Cluster gas field in block KG-D6 off India's east coast. The two companies have been developing three deepwater gas projects in block KG-D6: R Cluster, Satellite Cluster and MJ field.

Sashi Mukundan, president of BP India, recently said that the BP-Reliance venture would roughly reach its production target of 30 million cu m/d of gas by the end of 2023.

In addition, Reliance has launched an ambitious plan to expand presence in India's retail energy sector — both fossil fuels and clean energy — through its partnership with BP.

The moves are in line with BP's global strategic shift to become an integrated energy company, and is part of a plan by Reliance to invest $10 billion in the next three years in clean energy initiatives.

"Reliance has indicated that it aims to be a net-zero carbon emissions company by 2035. Hence, if one connects these dots, then it is clear that the company is focusing more on new age businesses," said Sumit Pokharna, vice president at Kotak Securities.

Reliance, which was ranked 55 in the Forbes Global 2000 rankings for 2021, has snapped up multiple partnerships in the clean energy space, such as in solar and electric mobility, but the company is expected to maintain its razor-sharp focus on its core refining business despite embracing energy transition goals, analysts said. — *Sambit Mohanty*

Ukrainian gas output hits 15-month high in October as prices rise

- **Gas production up 0.5% last month to 1.7 Bcm**
- **Highest production rate since July 2020**
- **State-owned UGV 'stabilizes' output decline**

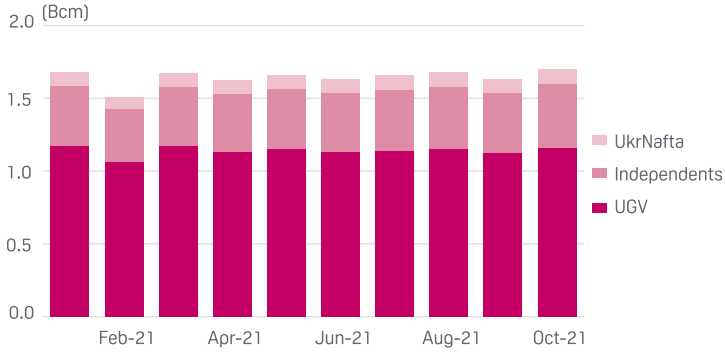
Ukraine's gas output reached a 15-month high of 1.7 Bcm in October as state-owned UkrGasVydobuvannya (UGV) stabilized its production and European gas prices hit record highs.

In its monthly market report published late Nov. 10, the Association of Gas Producers of Ukraine (AGPU) said total Ukrainian gas output last month was 0.5% higher year on year and 4.3% higher compared with September.

Ukraine's gas production has stagnated in recent years, falling by 2% last year to 20.2 Bcm, and output had fallen year on year in every month in 2021 until September.

Ukraine — which is Europe's fourth-largest gas producer behind higher-profile countries Norway, the UK, and the Netherlands — produced 16.4 Bcm in the first 10 months of the year.

UKRAINE'S GAS PRODUCTION REBOUNDS IN OCTOBER



Source: AGPU

UGV — the upstream unit of state-owned Naftogaz Ukrayiny — produces the bulk of Ukraine's gas, but its output has been stagnating in recent years.

However, AGPU said Nov. 10 the company had worked to stem falling output. "Starting in July, the company has stabilized the decline," it said.

UGV's production last month totaled 1.16 Bcm, which while down from 1.18 Bcm in October 2020, was still its highest output since January this year and up from 1.12 Bcm in September.

Production from state-controlled UkrNafta also reversed a recent downtrend by rising to 0.1 Bcm last month, while independent producers' output increased by 5% on the year to 0.44 Bcm.

"The share of state-owned enterprises in the total amount of gas production in September was 74% versus 26% for independent producers," AGPU said.

The higher production in Ukraine came as European gas prices hit record highs in October.

According to S&P Global Platts price assessments, the TTF day-ahead contract hit an all-time high on Oct. 5 of Eur116.10/MWh and has remained volatile through the remainder of October and into November.

Platts assessed the TTF day-ahead price on Nov. 10 at Eur70.30/MWh, up 415% from a year ago.

New PSAs

Ukraine has vast untapped potential in its onshore blocks — both for conventional and unconventional resources — as well as in the Black Sea.

In 2019, it opened up vast swathes of acreage for gas exploration under a new transparent bidding process in an attempt to entice international companies into exploring in the country.

On Nov. 8, a Czech/Slovak joint venture signed two production sharing agreements for the Grunivska and Okhtyrka blocks in eastern Ukraine, as Kyiv looks to raise domestic gas production.

EP Ukraine — a joint venture between Czech EPH and Slovakia's Nafta — won the tender for the blocks in April last year, with the PSAs finally signed on Nov. 8.

It follows the signing of seven PSAs at the end of 2020 with UGV for four blocks (Buzivska, Balakliyska, Berestyanska and Ivanivska), and local players for three others: DTEK Oil & Gas (Zinkivska), Geo Alliance (Sofiyivska), and Zakhidnadraservis (Uhnivksa). — *Stuart Elliott*

COP26: US-China agree to work on methane reductions in joint declaration

- **China to release methane action plan before COP27**
- **Other focus areas include fossil fuel, waste, agriculture**
- **Countries optimistic about outcome of COP26**

US and China plan to cooperate on reducing methane emissions and China said it would launch a methane action plan before COP27, as part of the US-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s, released late Nov. 10 at the 26th United Nations Climate Change Conference or COP26.

The joint statement came as a surprise given tense relations between Beijing and Washington in recent years due to the trade war and growing rhetoric over other geopolitical flashpoints in Asia.

The statement also comes after a global methane pledge by more than 100 countries at COP26 aimed at reducing global methane emissions by at least 30% from 2020 levels by 2030. The 100 countries represent 70% of the global economy but China was not one of the signatories.

In the US-China joint declaration however, China committed to recognizing the significant impact of methane emissions on global warming and agreed to consider more actions to control and reduce methane emissions in the 2020s "as a matter of necessity."

China intends to develop a national action plan on methane targeting methane emissions before the next UN climate change conference, COP27, the country said in the declaration. A national action plan is one of the policy tools used by the central government.

The US launched its Methane Emissions Reduction Action Plan Nov. 2.

US and China also plan to convene a meeting in the first half of 2022 to discuss methane measurement and mitigation strategies, the declaration said, adding that the fossil fuel, waste and agriculture sectors are expected to be the key focus areas.

Natural gas dilemma

However, natural gas occupies a crucial role in China's energy transition, with the country's carbon neutrality action plan encouraging the development of natural gas — along with other new energy resources — and its use for peak shaving, or meeting surges in peak demand periods.

It also encourages the use of LNG as an alternative to oil in transportation, especially ships and heavy freight vehicles, and the use of natural gas in building material and petrochemical sectors to reduce coal consumption.

It could become challenging for China to balance the development of its natural gas sector and avoid power shortages and blackouts, while controlling methane emissions at the same time.

The US-China declaration also outlined collaboration in areas like green technologies and green design, the formulation of regulatory frameworks and environmental standards, energy green design, decarbonization and the electrification of end-use sectors, renewables, and technologies like carbon capture.

A section on CO2 emissions reduction outlined the integration of low-cost, intermittent renewable energy sources, power transmission across broad geographies, integrated clean power solutions, and electricity waste reduction.

The joint statement was optimistic about the outcome of COP26, which it said should be "ambitious, balanced, and inclusive" even as China emphasized "common but differentiated responsibilities" and "different national circumstances." It said the goal to mobilize $100 billion/year to support developing countries shall be achieved "as soon as possible." — *Ivy Yin*

Platts LNG Bunker Weekly Commentary

Asia Pacific

- The Singapore LNG bunker fuel price was assessed 70.2 cents/MMBtu higher week on week at $26.95/MMBtu on Nov. 10 for the December delivery month, with a 50-cent/MMBtu discount to JKM. JKM for January delivery was assessed at $27.45/MMBtu on Nov. 10, on stronger interest from Asian importers in the Asia-Pacific region following supply uncertainties stemming from Malaysia.
- China's Guangdong province plans to begin construction of six LNG bunkering stations for inland river waterways before the end of 2021, and complete construction of another eight LNG bunkering stations for the main navigation channels on arterial waterways, including two coastal stations, by 2022, the Guangdong Development and Reform Commission said Nov. 9. The purpose of the plan is to accelerate setting up of LNG bunkering stations, ensure LNG bunker supply, promote clean energy in inland waterways and help meet the country's carbon peak and carbon neutrality targets, according to GDRC. Guangdong introduced subsidies worth Yuan 550 million ($86 million) for shipowners to convert existing vessels or vessels under construction that are registered in the province to LNG from July 1, 2021, to Dec. 31, 2022, according to a notice by Guangdong Transportation Department on Oct. 11. Guangdong signed an initial agreement with CSSC and state-owned oil and gas major CNOOC on May 29, 2020, under which it plans to complete the conversion of 1,500 vessels to LNG power and the construction of 19 LNG bunkering stations, which is expected to create LNG bunker demand of 400,000 mt/year as well as reduce oil product demand by 390,000 mt/year, according to CNOOC. With the launch of more LNG-power vessels, Guangdong's demand for LNG is expected to grow. Guangdong's natural gas consumption was estimated at nearly 29 Bcm in 2020, making it the second-largest natural gas consuming province after Jiangsu.

Atlantic

- The Rotterdam LNG bunker fuel price was assessed at Eur70.300/MWh on Nov. 10, creating a Eur1.575/MWh discount to Eur71.875/MWh for delivered cargoes into Northwest Europe. S&P Global Platts assessed the LNG price at $24.300/MMBtu for cargoes delivered into Northwest Europe on Nov. 10. LNG prices have been falling on the back of weaker prices in downstream Eurogas markets. Warmer weather across Europe and higher Russian gas flows via Mallnow have depressed prices.
- High LNG prices continue to incentivize dual-powered vessel owners to switch fuels. Platts assessed the Northwest Europe LSFO price at $515.750/mt on Nov. 10. This was a $401.726/mt discount to the LNG bunker oil-equivalent price, assessed at $917.476/mt on Nov. 10.
- Fincantieri Bay Shipbuilding announced the construction of a new 5,500 cu m LNG bunkering barge in a company statement on Nov. 3. The vessel will provide LNG bunkering services to container ships, ferries, bulk carriers, and tankers.

The first ship-to-ship bunkering operation took place in Estonia. The shuttle ferry, Megastar, received LNG bunkers from Elenger's new bunkering vessel, according to a company statement on Nov. 5. The bunker vessel, named Optimus, arrived in the Gulf of Finland in early November. Optimus can provide LNG bunkering services at a rate of 1,000 cu m per hour and the bunkering operation takes on average 6 hours to complete. LNG bunkers can reduce sulfur emissions by up to 95% and can help reduce greenhouse gas emissions in Emission Controlled Areas (ECA), such as the Baltic and North seas. — *Zack Smith*

HYDROGEN

COP26: Hydrogen economy needs boosting with demand incentives - Air Products

- **World's largest hydrogen producer eyes expansion**
- **Unlocking demand from industrial sectors key**
- **GOs can enable global trade: Platts Analytics**

Air Products, the world's largest producer of conventional hydrogen, called on policy makers at the UN Climate Change Conference to focus on boosting low-carbon hydrogen demand in CO2-intensive industries, saying the supply side of the market could be easily scaled up.

Air Products CEO and Chairman Seifi Ghasemi said the company was developing both "blue" low-carbon and renewable "green" hydrogen production alongside its conventional hydrogen production business.

It is making major investments in blue hydrogen, produced from fossil fuels in combination with carbon capture and storage, in Canada and the US, along with its large-scale green hydrogen plant at Neom in Saudi Arabia, produced by electrolysis of water powered by renewables.

"We can build more plants," Ghasemi said at the UN COP26 summit in Glasgow, Scotland, and governments should focus on incentivizing demand in sectors which are hard to decarbonize with electrification.

Sectors with the best potential for new hydrogen demand include the cement, steel and chemicals industries, he noted. A global carbon tax could help underpin such demand, Ghasemi said.

Air Products' President in Europe and Africa, Ivo Bols, said blue hydrogen would be needed to build scale in the market for the low-carbon gas to meet mid-century decarbonization goals.

Speaking at the COP26 Hydrogen Transition Summit, Bols said the main assets for blue hydrogen were already in place, and that CO2 emissions was necessary in the short term before green hydrogen production could come on stream at scale.

Air Products is however exploring global locations with high wind and solar potential to develop renewable hydrogen production.

Regulatory certainty

Bols said governments should provide regulatory certainty to help develop the market.

"There will always be business risk, there are uncertainties," he said. But ensuring a solid market framework would help the industry grow, he added.

In a panel discussion at the event, David Caine, a partner at offshore wind-to-hydrogen developer ERM Dolphyn, said public-private partnerships could help to support projects in the early, unstable phases of growth.

He noted that consensus was growing around the long-term role hydrogen could play in the decarbonization of the economy, but more measures were needed in the short term to build towards the 2050 vision.

Emmanouil Kakaras, executive vice president at Mitsubishi Heavy Industry for its NEXT Energy Business, said scale in the market would first come from blue hydrogen, with early demand gains to be made in replacing existing hydrogen production by adding CCS, while energy storage needs would then help build further volumes.

These two areas would be the "game changers" in promoting the massive deployment of hydrogen, Kakaras said.

Beyond hydrogen colors

Head of Future Energy Scenarios at S&P Global Platts Analytics Roman Kramarchuk said moving away from colors of hydrogen production would be a more effective way of developing an international hydrogen market.

"From a COP perspective, it's not that we want hydrogen; it's that we want decarbonization," Kramarchuk said at the summit.

"The reality is that hydrogen is expensive," he said. "We're looking at hydrogen as a next-generation fuel because it is a decarbonization fuel."

For this reason, hydrogen should be deployed in areas where it has the greatest decarbonization potential, such as in steel production, he added.

The most cost-effective and climate-friendly routes for hydrogen production would depend on the natural resources of potential locations, Kramarchuk said.

The carbon intensity of each production pathway could be separately assessed and accounted for with instruments such as guarantees of origin traded in secondary environmental markets, he added.

That way, two large, liquid global markets could emerge — one for hydrogen and another for GOs — rather than a multitude of fragmented markets based on locally-mandated production pathways.

German utility Uniper's COO and Chief Sustainability Officer David Bryson said GOs and verification would be critical to enable the international hydrogen trade that Europe will rely on to meet its decarbonization ambitions, and hoped COP26 would produce some clarity in this area.

Kramarchuk noted low-cost production centers such as Australia could become global exporters of hydrogen.

S&P Global Platts assessed the cost of producing renewable hydrogen via alkaline electrolysis in Europe at Eur9.88/kg ($11.33/kg) Nov. 10 (Netherlands, including capex), compared with just $2.31/kg in Western Australia.

Platts Analytics Hydrogen Production Asset Database has tracked a 20-fold increase in renewable and low-carbon hydrogen project announcements globally in the last 18 months, with announced projects amounting to over 20 million mt/year of capacity, approaching a third of the current global hydrogen market. — *James Burgess*

COP26: Hydrogen to meet 15% of Scottish energy needs by 2030

- **Builds on 2020 hydrogen policy statement**
- **GBP100 million fund to boost low-carbon hydrogen**
- **Scotland targets 5 GW of capacity by 2030**

Scotland has launched a GBP100 million ($134 million) fund to implement its 5-GW 2030 hydrogen policy, which it said was equivalent to 15% of the country's energy needs.

The fund is designed to support renewable hydrogen projects in line with Scotland's policy of reaching 5 GW of installed renewable and

low-carbon hydrogen by 2030, with 25 GW by 2045.

"It is our ambition for Scotland to become a leading hydrogen nation," Scottish Cabinet Secretary for Net Zero, Energy and Transport Michael Matheson said at the UN Climate Change Conference in Glasgow Nov. 11.

The financing includes GBP10 million of innovation funding to improve cost competitiveness and accelerate hydrogen demand, Matheson said.

The action plan seeks to address barriers to the uptake of hydrogen, such as high productions costs.

It envisages the growth of a hydrogen economy around regional hubs, and plans to support the development of the whole supply chain.

Scotland also sees the potential to become a significant exporter of hydrogen.

Scottish Enterprise on Nov. 10 launched the Scot2Ger project to explore exports to Germany, led by industry and supported by the public sector.

"The project aims to identify future opportunities to unlock massive green hydrogen demand in Germany," Scottish Enterprise said in a statement.

Scot2Ger is led by ScottishPower, Wood, KPMG Germany and DS Consulting, supported by the Scottish government. The partners aim to develop a renewable hydrogen production facility in Scotland to be operational in 2024.

ScottishPower will assess the renewable power and hydrogen production potential in Scotland, with Wood responsible for engineering and distribution, while DS Consulting and KPMG Germany will identify potential demand in Germany, as well as examining infrastructure and regulatory requirements.

Matheson said the Scottish government aims to install 11 GW of offshore wind capacity by 2030, which could help power renewable hydrogen, alongside developing blue hydrogen produced from the country's natural gas supply in conjunction with carbon capture and storage technology.

He said Scotland could produce and export the lowest-cost hydrogen in Europe at a large industrial scale.

He also said GBP15 million of funding had been dedicated to helping establish an Aberdeen hydrogen hub. This would help Aberdeen city council to move forward with investment plans for the production and use of renewable hydrogen across the region.

Calculated production costs for blue hydrogen are currently well below those for green hydrogen, but the gap is expected to narrow significantly by 2030.

S&P Global Platts assessed the cost of producing hydrogen via alkaline electrolysis in the UK (including capex) at GBP10.60/kg ($14.19/kg) Nov. 10. Blue hydrogen production by autothermal reforming was under half the price, at GBP4.10/kg (including capex, CCS and carbon). — *James Burgess*

GES to buy Gunvor Rotterdam site for low-carbon fuel terminal

- **Storage for hydrogen, ammonia, biofuels**
- **GES eyes hydrogen imports with new jetty**

Global Energy Storage plans to convert an oil terminal at the Port of Rotterdam in the Netherlands into a low-carbon fuels facility, the company said in a statement Nov. 11.

GES is buying part of the Stargate Terminal from Gunvor to develop a terminal for hydrogen, ammonia, biofuels and gas, it said.

The company plans to develop a new jetty as it eyes hydrogen imports to the port.

"Our vision is to take an existing oil terminal and develop it into a state-of-the-art low-carbon products terminal," GES CEO Peter Vucins said. "This development is the first stage of our plans for an international network of infrastructure, serving the energy transition needs of our customers."

The terminal has deepwater access, with the potential to develop brownfield and greenfield sites.

GES plans to develop storage for biofuels, and other renewable fuels and gas, as well as infrastructure for hydrogen and derivatives such as ammonia. It is also looking at gas to chemicals production infrastructure, it said.

"This project aims to become one of the largest low-carbon developments at a world-class industrial hub, with the potential to significantly reduce the carbon footprint of future business in the Port of Rotterdam," Vucins added.

S&P Global Platts assessed conventional ammonia cargo prices, CFR Rotterdam, at $845/mt Nov. 10. Prices in exporting regions such as the Middle East were assessed at $710/mt FOB.

GES launched in May, with a focus on energy transition fuels and related services in global strategic hubs. The deal with Gunvor has been formally approved by the port authority, GES said.

Gunvor will remain a long-term partner with GES in Rotterdam, it said.

"This deal is in line with Gunvor's strategy to support the advancement of energy transition initiatives at our key asset locations," global head of portfolio at Gunvor Group Shahb Richyal said in the statement. — *James Burgess*

SUBSCRIBER NOTES

Platts proposes new daily carbon neutral hydrogen assessments

S&P Global Platts is proposing to launch its first suite of carbon-neutral hydrogen assessments, effective Dec. 9, 2021.

Building on its industry-leading price valuations for hydrogen, Platts would launch new carbon-neutral hydrogen price assessments that incorporate the cost of carbon capture, renewable energy certificates and where appropriate the cost of offsetting carbon emissions generated during production.

Carbon offset costs would be accounted for using Platts CNC nature-based carbon credits, as measured in $/mtCO2e in certain markets. Platts would complement these backstop calculated prices with available source data including bids, offers and reported trades as these become available. Other factors that will be considered include market information on power-purchase agreements and hydrogen offtake agreements. In the absence of spot market activity, Platts would consider carbon neutral hydrogen production costs as a baseline against which market prices would be assessed.

Platts would start publishing daily assessments in six locations, which have the

potential to become hydrogen hubs as global markets emerge: California and US Gulf Coast in the Americas, the Netherlands and Saudi Arabia in Europe and the Middle East, and Japan and Australia in Asia-Pacific.
Assessments would be measured in $/kg, $/MMBtu, Eur/kg, Eur/MMBtu, Yen/kg, Yen/MMBtu, A$/kg, A$/MMBtu.
The prices would be published on Platts Dimensions Pro and under the Market Data Category: HY.
The following symbols would be created:
-Australia Carbon Neutral Hydrogen A$/kg
-Australia Carbon Neutral Hydrogen A$/kg MAvg
-Australia Carbon Neutral Hydrogen A$/MMBtu
-Australia Carbon Neutral Hydrogen A$/kg MAvg
-Australia Carbon Neutral Hydrogen $/kg
-Australia Carbon Neutral Hydrogen $/kg MAvg
-Australia Carbon Neutral Hydrogen $/MMBtu
-Australia Carbon Neutral Hydrogen $/MMBtu MAvg
-California Carbon Neutral Hydrogen $/kg
-California Carbon Neutral Hydrogen $/kg MAvg
-California Carbon Neutral Hydrogen $/MMBtu
-California Carbon Neutral Hydrogen $/MMBtu MAvg
-Far East Asia Carbon Neutral Hydrogen Yen/kg
-Far East Asia Carbon Neutral Hydrogen Yen/kg MAvg
-Far East Asia Carbon Neutral Hydrogen Yen/MMBtu
-Far East Asia Carbon Neutral Hydrogen Yen/MMBtu MAvg
-Far East Asia Carbon Neutral Hydrogen $/kg
-Far East Asia Carbon Neutral Hydrogen $/kg MAvg
-Far East Asia Carbon Neutral Hydrogen $/MMBtu
-Far East Asia Carbon Neutral Hydrogen $/MMBtu MAvg
-Middle East Carbon Neutral Hydrogen $/kg
-Middle East Carbon Neutral Hydrogen $/kg MAvg
-Middle East Carbon Neutral Hydrogen $/MMBtu
-Middle East Carbon Neutral Hydrogen $/MMBtu MAvg
-NW Europe Carbon Neutral Hydrogen Eur/kg
-NW Europe Carbon Neutral Hydrogen Eur/kg MAvg
-NW Europe Carbon Neutral Hydrogen Eur/MMBtu
-NW Europe Carbon Neutral Hydrogen Eur/MMBtu MAvg
-NW Europe Carbon Neutral Hydrogen $/kg
-NW Europe Carbon Neutral Hydrogen $/kg MAvg
-NW Europe Carbon Neutral Hydrogen $/MMBtu
-NW Europe Carbon Neutral Hydrogen $/MMBtu MAvg
-USGC Carbon Neutral Hydrogen $/kg
-USGC Carbon Neutral Hydrogen $/kg MAvg
-USGC Carbon Neutral Hydrogen $/MMBtu
-USGC Carbon Neutral Hydrogen $/MMBtu MAvg
Please send all questions and comments to hydrogenassessments@spglobal.com and pricegroup@spglobal.com by Nov. 11, 2021. For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts proposes to change timing and increment guidelines for Asia LNG MOC

S&P Global Platts is proposing to change the timing and increment guidelines for its Asia LNG Market on Close assessment process.
Platts proposes to allow a maximum price move of 5 cents/MMBtu per 60 seconds for bids and offers submitted through the eWindow communication tool and through a Platts editor for the Asia LNG physical MOC process, and a maximum price move of 5 cents/MMBtu per 30 seconds for bids and offers submitted through the eWindow communication tool and 5 cents/MMBtu per 60 seconds for bids and offers through the Platts editor for the Asia LNG derivatives MOC process from Jan. 17, 2022.
Platts is also proposing to change the final state for the Asia LNG physical MOC process to 16:29:00 Singapore time for eWindow or manual MOC environment, and Asia LNG derivatives to 16:29:30 Singapore time for eWindow MOC environment and 16.29.00 Singapore time for manual MOC environment.
Time allowed for participants to repeat a bid or offer for Asia LNG physical will remain unchanged from the current guideline of maximum 60 seconds following a trade, while the maximum time allowed for participants to repeat a bid or offer for Asia LNG derivatives following a trade will be shortened to 30 seconds, from 60 seconds currently.
An extension of the MOC process will be triggered by a rebid or re-offer following a trade between 16:29:00 and 16:30:00 Singapore time for Asia LNG physical, and between 16:29:30 and 16:30:00 Singapore time for Asia LNG derivatives.
The extension period will last for one minute until 16:31:00 Singapore time for both Asia LNG physical and derivatives in order to adequately test that bid or offer.
The proposed changes will apply to bids and offers submitted by market participants for the Platts JKM, WIM and MEM assessments directly through the Platts Editorial Window, or eWindow, communication tool and through a Platts editor who would then publish bids and offers using the software.
Under Platts existing timing and increment guidelines, bids and offers for Asia LNG physical submitted directly through the eWindow tool and through a Platts editor can improve by up to 5 cents/MMBtu per 120 seconds, with final state at 16:28:00 Singapore time.
Bids and offers for Asia LNG derivatives submitted directly through the eWindow communication tool can improve by a maximum of 5 cents/MMBtu every 60 seconds, and by a maximum of 5 cents/MMBtu every two minutes in the manual MOC process, with final state at 16:29:00 Singapore time.
The increments have been amended to a maximum of 10 cents/MMBtu every 30 seconds for Asia LNG derivatives since Oct. 12, and to a maximum of 5 cents/MMBtu every 60 seconds for Asia LNG physical since Oct. 8 until further notice, to reflect the current volatility in the market due to European gas market price movements (https://www.spglobal.com/platts/en/our-methodology/subscriber-notes/101221-platts-asia-lng-derivatives-market-on-close-incrementability-changes).
Platts has established clearly defined timing guidelines and standards of incrementability that apply when publishing bids and offers in the MOC process, in order to ensure an orderly and transparent price assessment process.
Guidelines for the publication of bids and offers in the MOC process are available in the Platts LNG Timing and Increment Guide, available here: https://www.spglobal.com/platts/en/our-methodology/methodology-specifications/lng/lng-timing-and-increment-guidelines.
Please send all comments, feedback and questions to LNGeditorialteam@spglobal.com and pricegroup@spglobal.com by Dec. 1.
For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.
Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts launches Atlantic LNG physical eWindow

S&P Global Platts has launched the Platts Editorial Window, or eWindow, communication tool for its Atlantic LNG physical Market on Close (MOC) assessment process for its DES Northwest Europe (NWE), DES Mediterranean (MED) and FOB Gulf Coast Marker (GCM) price assessments on Sept. 24, 2021.
Participants in the Platts MOC process are now able to submit bids, offers and expressions of interest to trade for publication directly through the eWindow communication tool or through an editor, who would then publish the information using the software.
The instruments that are launched for the Platts Atlantic LNG are from the third to the fifth half-month forward (H+3 to H+5) in dollars per MMBtu for the DES NWE and DES MED assessments, and 30-60 days forward for FOB GCM.
Market participants can state their specific bid or offer delivery windows — for example, 3-day or 5-day delivery or loading windows — within these instruments.
The instruments will allow for a variety of different delivery or loading locations to be used in bids and offers, such as: DES UK, DES Spain, etc.
For delivery locations that are not listed individually, market participants can select "DES in TQC" and input the details directly the DES basis of the bid or offer in the Terms, Quality & Comments (TQC) box.
The instruments will allow for a volume range to be expressed for bids and offers, up to 0.3 TBtu.

If the bid or offer is in a volume range, then the instrument called Platts Atlantic LNG (Qty Range) would be selected. The instruments will also allow for a variety of pricing basis.
Market participants can also input directly other terms related to their bids or offers in the TQC box.
The eWindow instruments will generate a different format for headlines of bids, offers and trades published on Platts LNG Alert and via other Platts services. For example, a headline that currently appears as:
Atlantic LNG MOC: COMPANY Offers Oct TTF ICE Front Month Average +0.15 $/MMBTU DES Pricing 24-30 September. 2 Day Delivery Window: 11-12 October. Base Discharge Port: Buyer to advise during CN process. No later than 20 days prior to the 2 Day Arrival Period, Buyer can nominate substitute Discharge Port in Mugardos, Rotterdam, Dragon, Isle of Grain, South Hook, Montoir, Dunkirk, Zeebrugge, Bilbao, Huelva, Barcelona, Sagunto, FOS. GHV: 1000 to 1120 Btu/SCF. Contract Quantity 3.65 Tbtu +/-5%. Base ship: will be nominated upon completion of deal. No later than 15 days prior to the 1 Day Arrival Period, Seller may nominate an Alternate LNG Ship subject to SSCS and terminal acceptance. Base Load Port: Freeport. Seller's option to nominate an Alternative Load Port no later than 15 days prior to the 2 day Arrival Period. Laytime 36 hours., will be published as:
Platts Atlantic LNG DES NWE+MED H3-H5, COMPANY offers Oct11-Oct12 100% TTF Full Month Oct $0.15 for 3.65 Pricing 24-30 September. Base Discharge Port: buyer to provide at trade confirmation. No later than 20 days prior to the 2 Day Arrival Period, Buyer can nominate substitute Discharge Port in Mugardos, Rotterdam, Dragon, Isle of Grain, South Hook, Montoir, Dunkirk, Zeebrugge, Bilbao, Huelva, Barcelona, Sagunto, FOS. GHV: 1000 to 1120 Btu/SCF. Base ship: will be nominated upon completion of deal. No later than 15 days prior to the 1 Day Arrival Period, Seller may nominate an Alternate LNG Ship subject to SSCS and terminal acceptance. Base Load Port: Freeport. Seller's option to nominate an Alternative Load Port no later than 15 days prior to the 2 day Arrival Period. Laytime 36 hours.
TIMING: All bids and offers will still have to be submitted by 16.00.00.000 London time. Following any trade, market participants will have 60 seconds to rebid or re-offer. No price changes are allowed from 16:28:00:000 to the close of the MOC process at 16.30.00.999. A rebid or re-offer, following a trade, in last 120 seconds prior to the close of the MOC will trigger a 120-second extension from 16.30.01.000 to 16.32.00.999, in order to adequately test that rebid or re-offer.
INCREMENTABILITY: Bids and offers can be improved by a maximum of $0.05/MMBtu and a minimum of $0.01/MMBtu every 120 seconds. As per Platts editorial guidelines, buyers or sellers can withdraw bids/offers at any time when communicating through eWindow, provided no prior interest to transact has been expressed by any potential counterparty. All bids and offers are firm from the moment they are submitted into eWindow to the moment they are traded, the MOC process closes or the bid/offer is withdrawn from the system by the trader or a Platts editor. Market participants can still send bids and offers directly to an LNG editor for publication via eWindow. In markets where Platts eWindow is in operation, the eWindow clock will be used to determine the correct sequence of events when a bid or offer is amended, withdrawn, or traded by an interested counterparty. Bids or offers submitted by phone, or any other medium, such as instant messaging software, shall be measured at the time the bid, offer or trade indication is actually transmitted through the eWindow system via the editor.
Guidelines for the publication of bids and offers in the MOC process are published in the LNG Timing and Increment Guidelines available here: https://www.spglobal.com/platts/en/our-methodology/methodology-specifications/lng/lng-timing-and-increment-guidelines.
Full information relevant to these assessments can be found in the Global LNG specifications guide available here: https://www.spglobal.com/platts/en/our-methodology/methodology-specifications/lng/liquefied-natural-gas-lng-assessments-and-netbacks-methodology.
Platts expects credit relationships that prevail inside its assessment environment to fully reflect relationships in the markets as a whole. eWindow provides direct entry and management of credit filters which should mirror those normally applied in the marketplaces.
Where Platts editors publish bids and offers on behalf of a company that submits data to an editor, counterparty credit settings are set to "open" for regular participants in the assessment process unless companies have notified Platts in advance of any restrictions.
If a counterparty submitting information through an editor has not already notified Platts of any counterparty credit restrictions, they should notify Platts at least one hour prior to the start of the MOC process if any counterparty credit filters need to be modified.
Please send all feedback, comments and questions to lngeditorialteam@spglobal.com and pricegroup@spglobal.com.
For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.
Platts will consider all comments received and will make comments not marked as confidential available upon request.

Vercer Capital Markets Trading Limited changes entity name to Dare Global Limited

Vercer Capital Markets Trading Limited has advised Platts that it would like to change its participating entity name in the Platts Market on Close assessment processes for:
Americas Fuel Oil - Paper
Asia Naphtha-Paper
Asia Mogas-Paper
Asia Jet Fuel-Paper
Asia Gasoil-Paper
Asia Fuel Oil-Paper
Asia APAC LNG - Paper
EMEA Naphtha-Paper
EMEA Mogas-Paper
EMEA Jet Fuel-Paper
EMEA Gasoil/Diesel- Paper
EMEA Fuel Oil - Paper
EMEA Crude BFOE CFDs- Paper
This follows the Vercer Capital Markets Trading Limited name change to Dare Global Limited.
Platts has reviewed Dare Global Limited and will consider information from Dare Global Limited in the Americas, Asia and EMEA assessment processes for the abovementioned markets, subject at all times to adherence with Platts editorial standards.
Platts will publish all relevant information from Dare Global Limited accordingly.
Platts welcomes all relevant feedback regarding MOC participation. Platts considers bids, offers and transactions by all credible and creditworthy parties in its assessment processes. For comments and feedback, please contact:
Platts editors at oilgroup@spglobal.com and PriceGroup@spglobal.com.

HYDROGEN & CARBON

NORTH AMERICA HYDROGEN ASSESSMENTS, NOVEMBER 10*

	Excluding Capex		Including Capex	
Production Pathway	**$/kg**	**Change**	**$/kg**	**Change**
Alberta (C$/kg)				
SMR w/o CCS	0.7046	-0.1010	1.4264	-0.1008
Alkaline Electrolysis	3.5316	-1.4284	4.7235	-1.4281
PEM Electrolysis	4.0795	-1.6501	6.2151	-1.6495
Appalachia				
SMR w/o CCS	0.5930	-0.0583	1.1883	-0.0584
Alkaline Electrolysis	3.1861	+0.2914	4.0655	+0.2914
PEM Electrolysis	3.6804	+0.3365	5.2560	+0.3366
Gulf Coast				
SMR w/o CCS	0.6935	-0.0630	1.1975	-0.0631
Alkaline Electrolysis	1.9683	-0.2457	2.8007	-0.2457
PEM Electrolysis	2.2737	-0.2839	3.7651	-0.2838
Midcontinent				
SMR w/o CCS	0.6518	-0.0374	1.1830	-0.0374
Alkaline Electrolysis	1.1999	-1.4361	2.0537	-1.4362
PEM Electrolysis	1.3860	-1.6590	2.9158	-1.6591
Northeast				
SMR w/o CCS	0.6372	-0.0638	1.2719	-0.0638
Alkaline Electrolysis	2.6093	-0.2098	3.5139	-0.2098
PEM Electrolysis	3.0141	-0.2424	4.6349	-0.2423
Northern California				
SMR w/o CCS	0.9323	-0.0330	1.6626	-0.0330
Alkaline Electrolysis	3.0294	-0.1337	4.0156	-0.1337
PEM Electrolysis	3.4994	-0.1544	5.2665	-0.1544
Northwest				
SMR w/o CCS	0.7414	-0.0431	1.3240	-0.0431
Alkaline Electrolysis	2.2965	-0.3368	3.1926	-0.3368
PEM Electrolysis	2.6528	-0.3890	4.2584	-0.3890
Rockies				
SMR w/o CCS	0.7191	-0.0213	1.2772	-0.0213
Alkaline Electrolysis	2.6037	-0.4212	3.4703	-0.4212
PEM Electrolysis	3.0077	-0.4865	4.5603	-0.4866
Southeast				
SMR w/o CCS	0.7195	-0.0750	1.2391	-0.0750
Alkaline Electrolysis	2.4071	-0.0159	3.2617	-0.0159
PEM Electrolysis	2.7805	-0.0184	4.3118	-0.0184
Southern California				
SMR w/o CCS	0.8676	-0.1904	1.5684	-0.1904
Alkaline Electrolysis	3.1909	+0.0345	4.1568	+0.0345
PEM Electrolysis	3.6860	+0.0399	5.4166	+0.0399
Upper Midwest				
SMR w/o CCS	0.7015	-0.0316	1.2700	-0.0316
Alkaline Electrolysis	3.0639	-0.1459	3.9702	-0.1460
PEM Electrolysis	3.5392	-0.1686	5.1632	-0.1686

*Assessed previous day

JAPAN HYDROGEN ASSESSMENTS, NOVEMBER 11

	Excluding Capex		Including Capex	
Production Pathway	**Yen/kg**	**Change**	**Yen/kg**	**Change**
SMR w/o CCS	522.6848	+34.6078	608.9412	+35.3451
Alkaline Electrolysis	893.9740	-42.7818	1036.4179	-41.5644
PEM Electrolysis	1032.6889	-49.4203	1287.9061	-47.2392

ASSESSMENT RATIONALE

The S&P Global Platts hydrogen prices are daily valuations that incorporate the cost of variable natural gas, electricity, and carbon inputs, where applicable. A second set of valuations include fixed assumptions for capital and operating expenses. The Platts hydrogen prices are not based on observed or reported market transactions. Details on the Platts hydrogen methodology can be found at: https://www.spglobal.com/platts/en/our-methodology/methodology-specifications/energy-transition/hydrogen-methodology.

VOLUNTARY CARBON CREDITS, NOVEMBER 11

	$/mtCO2e	Change	Eur/mtCO2e	Change
Platts CEC	8.400	+0.050	7.324	+0.094

Note: The Platts CEC assessment reflects the value of CORSIA-eligible credits in the voluntary carbon market, and is not a component of Platts hydrogen assessments.

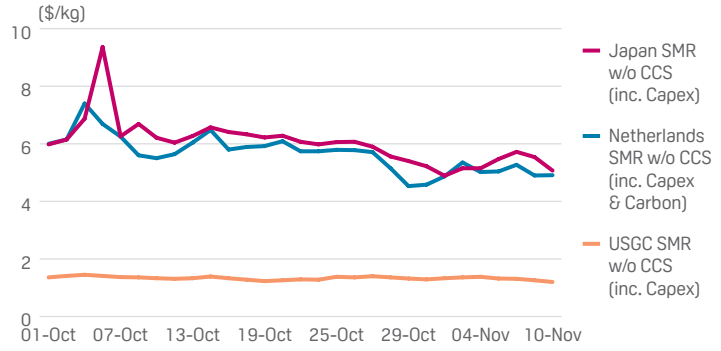
UK HYDROGEN ASSESSMENTS, NOVEMBER 11

Production Pathway	GBP/kg	Change	GBP/KWh	Change
ATR w CCS	3.9728	+0.1947	0.1192	+0.0058
ATR w CCS (inc. Capex & Carbon)	4.2919	+0.1946	0.1288	+0.0059
Alkaline Electrolysis	10.3397	+0.3581	0.3102	+0.0107
Alkaline Electrolysis (inc. Capex)	10.9618	+0.3630	0.3289	+0.0109
PEM Electrolysis	11.9415	+0.4138	0.3583	+0.0124
PEM Electrolysis (inc. Capex)	13.0560	+0.4224	0.3917	+0.0127

NETHERLANDS HYDROGEN ASSESSMENTS, NOVEMBER 11

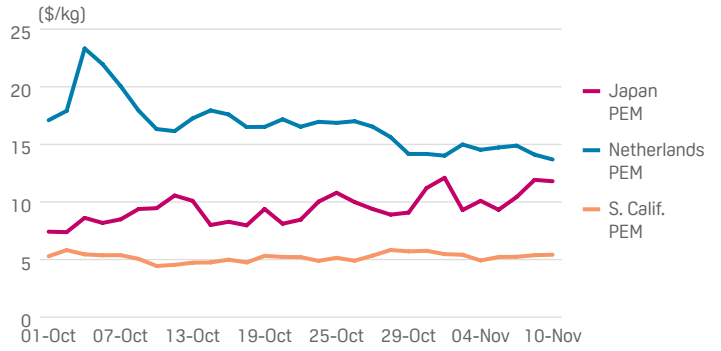
Production Pathway	Eur/kg	Change	Eur/KWh	Change
SMR w/o CCS	3.4180	+0.1563	0.1026	+0.0047
SMR w/o CCS (inc. Capex)	3.8577	+0.1587	0.1157	+0.0047
SMR w/o CCS (inc. Carbon)	3.9851	+0.1620	0.1196	+0.0049
SMR w/o CCS (inc. Capex & Carbon)	4.4248	+0.1644	0.1328	+0.0050
SMR w CCS	4.2659	+0.1856	0.1280	+0.0056
SMR w CCS (inc. Capex)	4.9779	+0.1895	0.1494	+0.0057
SMR w CCS (inc. Carbon)	4.3226	+0.1861	0.1297	+0.0056
SMR w CCS (inc. Capex & Carbon)	5.0346	+0.1901	0.1511	+0.0058
Alkaline Electrolysis	9.4114	+0.2493	0.2824	+0.0075
Alkaline Electrolysis (inc. Capex)	10.1375	+0.2532	0.3042	+0.0076
PEM Electrolysis	10.8689	+0.2879	0.3261	+0.0086
PEM Electrolysis (inc. Capex)	12.1700	+0.2952	0.3651	+0.0088

SMR w/o CCS COST COMPARISONS



Source: S&P Global Platts

PEM ELECTROLYSIS COST COMPARISONS



Source: S&P Global Platts