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Argus LNG Daily

Daily LNG prices, news and analysis

Issue 23-4 | Friday 6 January 2023

SUMMARY

Asia Pacific: Prices reverse losses

Prices for spot LNG deliveries to northeast Asia rose across the board for the first time in slightly over a week, tracking stronger European hub prices

Atlantic: Spot charter rates slip

Prompt spot charter rates fell on Friday as demand for carriers slipped further, with Atlantic rates widening their discounts to Pacific rates

Europe: Des prices fall

LNG delivered prices into southern Europe fell on Friday, tracking similar losses at the Dutch TTF gas hub

FSRU heads for Turkey

The 180,000m³ *Vasant* floating storage and regasification unit was heading to Turkey on Friday, where it is set to be installed at the planned import facility in the Gulf of Saros

S Korea approves Kori 3 nuclear reactor restart

South Korea's Nuclear Safety and Security Commission has approved the restart of the 950MW Kori 3 reactor after the unit went off line two weeks ago

Lubmin LNG terminal set to be commissioned

Germany's planned 3.5mn t/yr Deutsche Ostsee LNG terminal at Lubmin will be commissioned on 14 January, operator Deutsche Regas told *Argus* on Friday

Australia: Prices fall on LNG outage

Spot prices for month-ahead gas deliveries to Wallumbilla and Victoria edged lower as maintenance on a liquefaction train at a major LNG facility in Queensland allowed more gas to be released into the market

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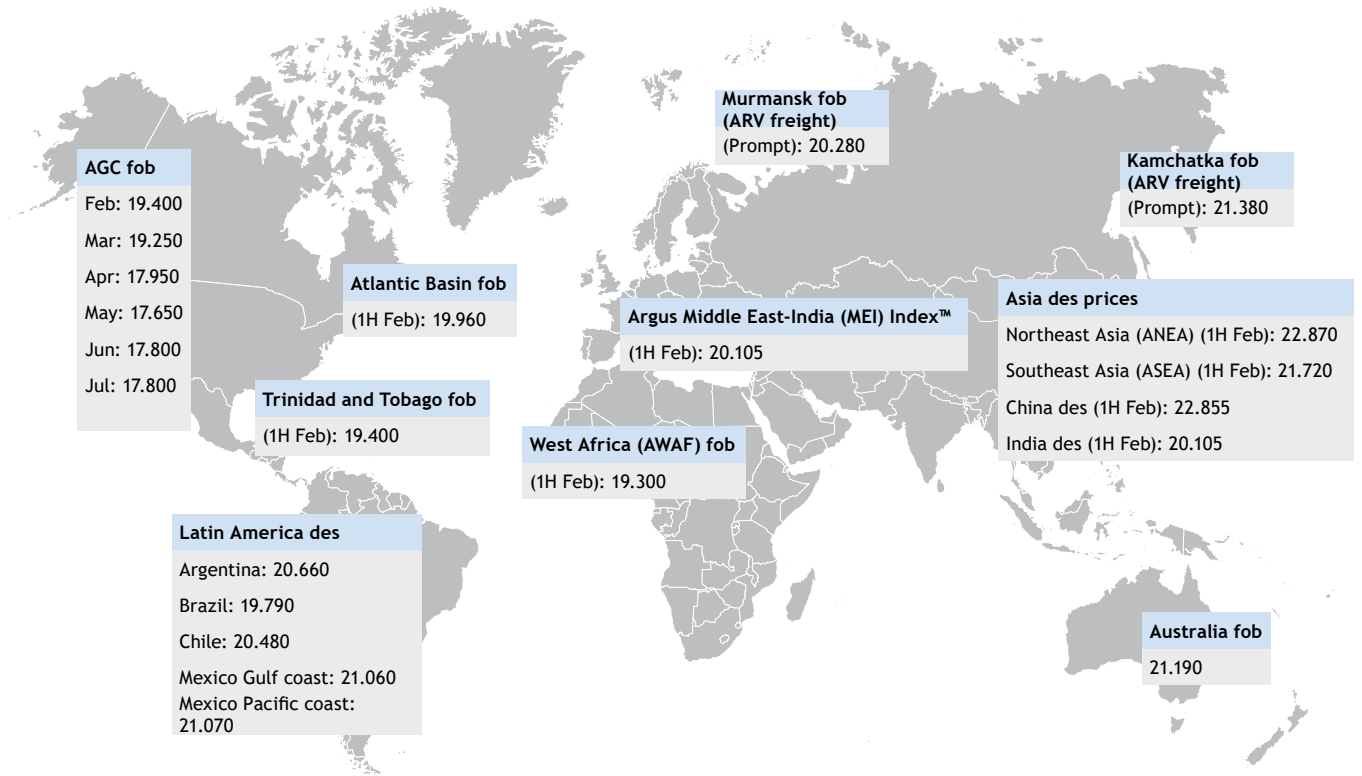
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FEATURED LNG PRICES

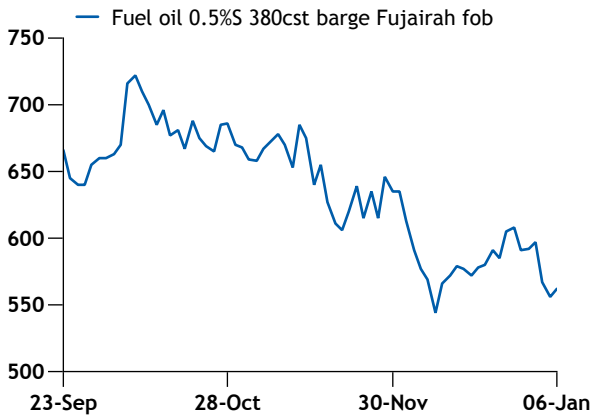
Global Front-Month and Index Prices				
Delivery Point	Midpoint	Change	Trend	Month Index
Argus Gulf Coast fob	19.400	-0.350	▼	19.063
Trinidad & Tobago fob	18.825	-0.350	▼	23.006
Argus West Africa fob	18.925	-0.275	▼	22.685
Mexico des (Pacific) (prompt)	21.070	+0.250	▲	na
Mexico des (Gulf) (prompt)	21.060	-0.290	▼	na
Brazil des (prompt)	19.790	-0.620	▼	na
Argentina des (prompt)	20.660	-0.710	▼	na
Chile des (prompt)	20.480	-0.740	▼	na
Murmansk fob (prompt) (ARV freight)	20.280	-0.260	▼	na
NW Europe fob (reload)	20.975	-0.325	▼	26.569
NW Europe des	20.750	-0.350	▼	24.862
Iberia fob (reload)	19.600	-0.500	▼	24.677
Iberia des	20.250	-0.350	▼	24.338
Italy des	20.750	-0.350	▼	24.862
Greece des	20.850	-0.350	▼	24.877
Turkey des	20.850	-0.350	▼	24.877
Middle east fob (Asia-Pacific bound) (prompt)	20.710	+0.790	▲	na
Middle East fob (Europe bound) (prompt)	19.130	-0.110	▼	na
Middle east des	20.005	-0.555	▼	21.557
India des	20.005	-0.555	▼	21.575
ASEA des	21.665	+0.680	▲	25.688
ANEA des	22.778	+0.958	▲	27.563
China des	22.730	+0.930	▲	27.620
Kamchatka fob (prompt) (ARV freight)	21.380	+0.740	▲	na
Australia fob (prompt)	21.190	+0.740	▲	na

Argus prompt LNG freight day rates				\$/day
	Price	±		Month index
Steam turbine - west of Suez	70,000	-8,000		77,250
Steam turbine - east of Suez	73,000	-8,000		79,000
TFDE - west of Suez	110,000	-30,000		134,500
TFDE - east of Suez	117,000	-27,000		137,250
Two-stroke - west of Suez	145,000	-35,000		173,750
Two-stroke - east of Suez	155,000	-30,000		177,875

Argus Round Voyage Rates				\$/day
	Price	+/-		Month index
ARV1: Australia-Northeast Asia	127,000	-37,500		155,125
ARV2: USGC-Northwest Europe	120,000	-40,500		152,375
ARV3: USGC-Northeast Asia	125,000	-42,000		160,625



Middle East bunker fuel - Fujairah

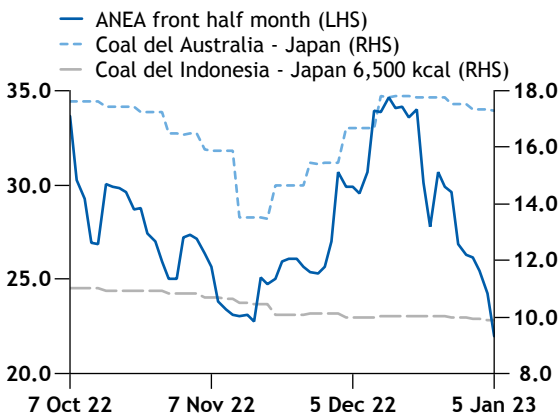


\$/t

Japan oil-linked des LNG (5 Jan 2023)		\$/mn Btu
Contract	Price	±
Feb	14.90	nc
Mar	14.17	nc
Apr	13.42	+0.02
May	12.78	+0.03
Jun	12.51	+0.06
Jul	12.16	+0.07
2Q23	12.91	+0.04
3Q23	11.95	+0.10
4Q23	11.75	+0.11
1Q24	11.63	+0.10
2024	11.44	+0.08
2025	11.01	+0.04

Japan: Coal vs LNG

\$/mn Btu



Japan-oil linked		\$/mn Btu
Mar		14.17

Benchmark price snapshot		\$/mn Btu
Market	Delivery	Price
NBP	Feb	20.416
Zeebrugge	Feb	20.522
Peg Nord	Feb	19.789
PSV	Feb	20.876
PVB	Feb	19.789
TTF	Feb	21.410
Nymex Henry Hub (5 Jan)	Feb	3.720
Argus JCC Index (Fixed) (\$/bl)	Oct	106.0289
Argus JCC Index (Preliminary) (\$/bl)	Nov	100.3833

MARKET COMMENTARY

Asia-Pacific LNG: Prices reverse losses

Prices for spot LNG deliveries to northeast Asia rose across the board for the first time in slightly over a week, tracking stronger European gas hub prices.

The ANEA price – the Argus assessment for spot LNG delivered to northeast Asia – was at \$22.87/mn Btu and \$22.685/mn Btu for first- and second-half February, respectively, up by \$0.91-1.005/mn Btu from the previous day. The first-half March price was assessed at \$22.45/mn Btu, up by \$1.06/mn Btu, while the second-half March price moved higher by about \$1.115/mn Btu to settle at \$22.285/mn Btu.

Prices across the board ticked higher as buying indications rose by a larger margin compared to selling indications. Buying indications rose by \$1.45-1.66/mn Btu across the board, compared to selling indications which only rose by 37-57¢/mn Btu. The bid-offer spread across February-March narrowed to \$2.915/mn Btu on 6 January from \$4/mn Btu on 5 January, suggesting potential growing interest to procure spot cargoes as prices continue to lose strength.

The February Dutch TTF contract closed at \$21.73/mn Btu on 5 January, \$1.70/mn Btu lower than its close on 4 January.

The contract opened lower at \$21.233/mn Btu at 15:00 Singapore time (07:00 GMT) on 6 January, but eventually trended higher to settle at \$23.026/mn Btu at 17:06 Singapore time.

The backwardation between February-March was at 35¢/mn Btu on 6 January, narrowing from 50¢/mn Btu on 5 January. This was mostly because of the possibility of March demand outpacing February demand as consumers consider restocking with March deliveries, market participants said. But they added that it may be still too early to conclude if March demand will be stronger as most utilities are still holding on to higher-than-average inventories this far into the winter.

Demand for prompt deliveries is mostly muted among most northeast Asian buyers, save for some interest from trading firms and portfolio majors.

At least one private-sector South Korean firm may be in the market enquiring for a February or March delivery, market participants said. But their demand is likely not firm and may be price-dependent, they added.

Chinese utilities are mainly focused on fine-tuning their strategies for 2023 pipeline gas receipts, because of limited urgency to procure spot LNG with the upcoming lunar new year celebrations at the end of this month.

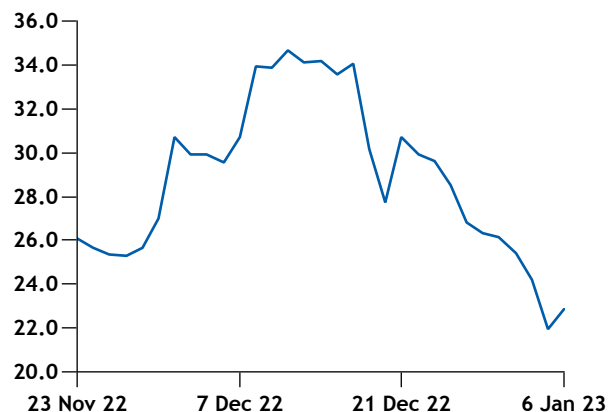
Buyers from South Asia have continued to rely on cheaper alternatives such as domestic gas or regasified LNG (RLNG).

Indian state-controlled importer Petronet LNG closed

Argus Asia-Pacific des spot LNG					\$/mn Btu
	Delivery	Bid	Offer	Midpoint	±
Northeast Asia (ANEA™)	1H Feb	21.41	24.33	22.870	+0.910
	2H Feb	21.23	24.14	22.685	+1.005
	1H Mar	20.99	23.91	22.450	+1.060
	2H Mar	20.83	23.74	22.285	+1.115
China	1H Feb	21.48	24.23	22.855	+0.920
	2H Feb	21.23	23.98	22.605	+0.940
	1H Mar	21.03	23.78	22.405	+1.020
	2H Mar	20.85	23.60	22.225	+1.070
India	1H Feb	18.73	21.48	20.105	-0.605
	2H Feb	18.53	21.28	19.905	-0.505
	1H Mar	18.18	20.93	19.555	-0.535
	2H Mar	18.05	20.80	19.425	-0.425

ANEA forward curve		\$/mn Btu
Contract	Price	±
Feb	22.778	+0.958
Mar	22.368	+1.088
Apr	22.200	-0.425
May	22.250	-0.538
Jun	22.450	-0.588
Jul	22.650	-0.625
Aug	22.850	-0.750
2Q23	22.300	-0.517
3Q23	22.950	-0.725
4Q23	24.625	-0.663
1Q24	23.275	-0.488

Northeast Asia (Anea) LNG first-half month \$/mn Btu



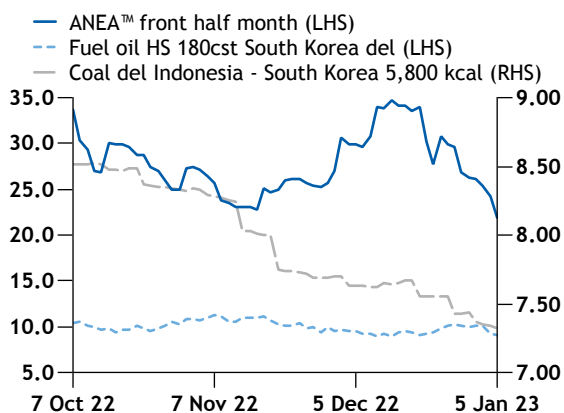
its tender on 4 January, seeking a [5-25 February delivery to the 17.5mn t/yr Dahej](#) import terminal. The cargo was likely awarded to Total at \$21.50/mn Btu, market participants said. But this price is likely too expensive for most other Indian buyers, market participants said, adding that the transaction is likely not representative of the market. Most buyers in India are still priced out at current price levels with significantly lower domestic gas prices, they added.

Argus-assessed prices for deliveries to India and the Middle East were at \$20.105/mn Btu and \$19.905/mn Btu on 6 January for first and second-half February deliveries, down by 50-61¢/mn Btu from a day earlier.

ASIA-PACIFIC COMPETING FUELS

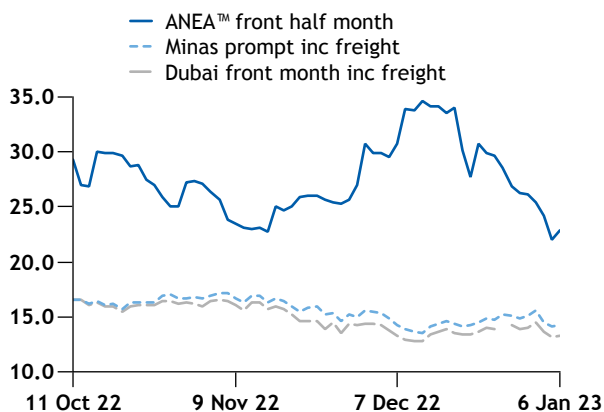
South Korea: Fuel oil, coal vs LNG

\$/mn Btu



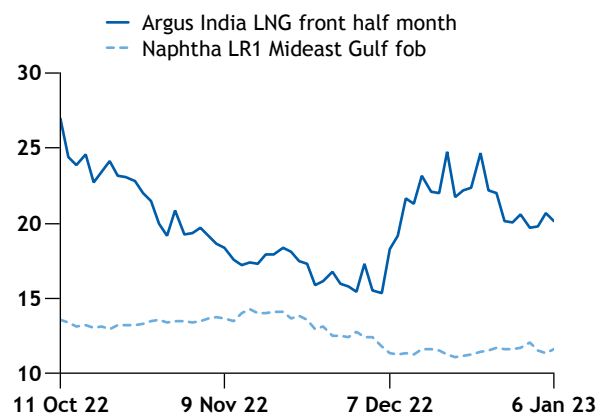
Japan: Crude vs LNG

\$/mn Btu



India: Naphtha vs LNG

\$/mn Btu



LNG vs conventional marine fuel	\$/mn Btu
weekly avg., week ending 6 Jan	
LNG des southeast Asia (ASEA) half-month net calorific value-adjusted	24.783
Singapore 0.5%S fuel oil delivered	14.955
Singapore 0.1%S MGO delivered	21.048
Singapore 3.5%S fuel oil delivered	9.950

OTHER ASIA-PACIFIC PRICES

Argus Middle East des spot LNG				\$/mn Btu
Delivery	Bid	Offer	Midpoint	±
1H Feb	18.73	21.48	20.105	-0.605
2H Feb	18.53	21.28	19.905	-0.505
1H Mar	18.18	20.93	19.555	-0.535
2H Mar	18.05	20.80	19.425	-0.425

Argus Middle East-India (MEI) Index				\$/mn Btu
Delivery	Bid	Offer	Mid	±
1H Feb	18.73	21.48	20.105	-0.605
2H Feb	18.53	21.28	19.905	-0.505
1H Mar	18.18	20.93	19.555	-0.535
2H Mar	18.05	20.80	19.425	-0.425

Key netforwards and netbacks				\$/mn Btu
	Delivery	Price	±	
Southeast Asia (ASEA)	1H Feb	21.720	+0.640	
	2H Feb	21.610	+0.720	
	1H Mar	21.430	+0.780	
	2H Mar	21.240	+0.840	
Middle East fob (Asia-Pacific bound)	Prompt	20.710	+0.790	
Middle East fob (Europe-bound)	Prompt	19.130	-0.110	
Kamchatka fob (ARV freight)	Prompt	21.380	+0.740	
Australia Gladstone fob	Prompt	21.590	+1.060	
(Unit: A\$/GJ)	Prompt	30.370	+1.860	
Australia Gladstone oil indexed fob	Prompt	15.120	+0.170	
(Unit A\$/GJ)	Prompt	21.270	+0.510	
Australia fob	Prompt	21.190	+0.740	

China carbon emission allowance (CEA) price				
6 Jan 23	CNY/t	±	USD/t	±
CEA Closing Price	56.00	+1.00	8.79	+0.16
Open Trade Volumes, t	1,000	-3,291		

Data source: Shanghai Environment and Energy Exchange

AUSTRALIAN GAS PRICES

Argus Wallumbilla Index (AWX) - Friday 6 Jan 2023					
Delivery	Units	Bid	Offer	Midpoint	±
Feb	A\$/GJ	13.33	18.33	15.833	na
Feb	\$/mn Btu	9.48	13.03	11.255	na

Argus Victoria Index (AVX) - Friday 6 Jan 2023					
Delivery	Units	Bid	Offer	Midpoint	±
Feb	A\$/GJ	11.33	16.33	13.833	na
Feb	\$/mn Btu	8.06	11.61	9.833	na

The AWX and AVX indexes, the first month-ahead indexes for Australia's east coast Wallumbilla and Victorian natural gas markets, are assessed each Friday and reproduced through the week. The date shown is the date of the assessment. The indexes will also appear in the east coast Australian gas markets page each Friday.

MARKET COMMENTARY

Atlantic: Spot charter rates slip

Prompt spot charter rates fell on Friday as demand for carriers slipped further, with Atlantic rates widening their discounts to Pacific rates.

The ARV2 round voyage prompt spot charter rate for US-northwest Europe by tri-fuel diesel-electric carriers fell to \$120,000/d from \$160,500/d at the previous close, having started the week at \$168,500/d. And the corresponding intra-basin ARV1 rate for Australia-northeast Asia slipped to \$127,000/d having held \$164,500/d throughout the week.

Thin activity in the LNG freight market, reduced congestion in Europe and slower loadings at the 10mn t/yr Calca-sieu Pass export terminal, has weighed on prompt charter demand in the opening week of 2023, pushing some firms to offer spare carrier for subletting, market participants noted.

And the delayed restart of Texas' 15mn t/yr Freeport LNG export terminal has also freed up vessels, though four empty carriers remained offshore the terminal on Friday evening – the 174,000m³ *Elisa Larus*, same-sized *Prism Courage*, *Prism Diversity* and *Grace Freesia*. The 174,000 *Prism Agility* sailed away from the facility late on Friday afternoon having held offshore this week.

The terminal had been slated to restart operations at the end of December after a fire in June but announced on 23 December that it did not expect to be able to restart until the second half of January.

Lower freight rates may make deliveries to northeast Asian markets more attractive for sellers of Atlantic cargoes, trimming the premium that Asian prices would likely have to hold over European des prices to incentivise sellers to switch flows to northeast Asia.

The northwest Europe delivered price for the first half of February on Friday closed \$1.94/mn Btu below the northeast Asian delivered price for the second half of February that was assessed earlier in the day, after European des prices retreated from Thursday's rebound. The differential would be sufficient to cover additional freight rates of \$1.48/mn Btu for US cargoes to transit the shorter route to Asia via the Panama canal, likely offering an incentive for cargoes to be shipped out of the Atlantic to Asia. The additional spot shipping costs have fallen sharply in recent months after they peaked as high as \$7.97/mn Btu on 20-24 October.

In contrast to the mild weather forecasts for most of Europe over the coming month, cold weather is expected in Japan as well as in much of China over the coming weeks. Overnight lows in Tokyo are forecast to average 1.1°C below seasonal norms on 6-31 January and to fall further below the 10-year average at the start of February. And a cold spell is forecast in Beijing and Guangzhou in southern China from mid-January to mid-February.

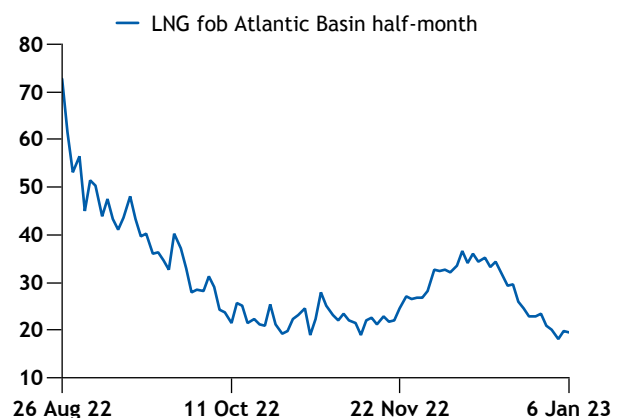
Argus Gulf Coast (AGC) fob LNG		\$/mn Btu
	Price	±
Jan	19.150	-0.500
Feb	19.400	-0.350
Mar	19.250	-0.260
Apr	17.950	-0.110
May	17.650	-0.050
Jun	17.800	-0.010
Jul	17.800	+0.020

Argus Atlantic Basin fob spot LNG		\$/mn Btu			
	Loading	Bid	Offer	Midpoint	±
Murmansk fob (ARV freight)	prompt			20.280	-0.260
Iberian peninsula reload	1H Feb	19.20	20.00	19.600	-0.500
	2H Feb	19.20	20.00	19.600	-0.500
	1H Mar	19.75	20.55	20.150	-0.100
Northwest European reload	1H Feb	20.30	21.65	20.975	-0.325
	2H Feb	20.30	21.65	20.975	-0.325
	1H Mar	20.65	22.05	21.350	-0.200
West Africa (AWAF™)	2H Jan	18.30	20.30	19.300	-0.350
	1H Feb	18.30	20.30	19.300	-0.350
	2H Feb	17.55	19.55	18.550	-0.200
Trinidad and Tobago	1H Mar	17.55	19.55	18.550	-0.200
	2H Jan	18.15	20.15	19.150	-0.500
	1H Feb	18.40	20.40	19.400	-0.350
	2H Feb	17.25	19.25	18.250	-0.350
	1H Mar	18.25	20.25	19.250	-0.250

Argus Atlantic Basin fob spot LNG index		\$/mn Btu			
	Loading	Bid	Offer	Midpoint	±
Atlantic Basin	1H Feb	19.27	20.65	19.960	-0.390
	2H Feb	19.02	20.40	19.710	-0.340
	1H Mar	19.32	20.72	20.020	-0.160

Atlantic Basin fob

\$/mn Btu



Click [here](#) to download “LNG open bids, offers and recent deals” and [here](#) to download “LNG global shipping highlights”.

US GULF COAST INDICATIVE FOB PRICE

Indicative USGC fob LNG (5 Jan 2023)		\$/mn Btu
Contract	Price	±
Feb	7.27	-0.52
Mar	6.93	-0.41
Apr	6.85	-0.37
2Q23	6.95	-0.35
3Q23	7.23	-0.31
4Q23	7.72	-0.29
1Q24	8.15	-0.25
Summer 2023	7.09	-0.33
Winter 23-24	7.94	-0.26
Summer 2024	7.15	-0.22
Winter 24-25	8.07	-0.21
2024	7.56	-0.23
2025	7.80	-0.15
2026	7.94	-0.13

The US Gulf Coast indicative fob price is a derived price series based on the price of Henry Hub gas futures. A subset of these prices is published in the print edition of Argus LNG Daily. The full series is available electronically.

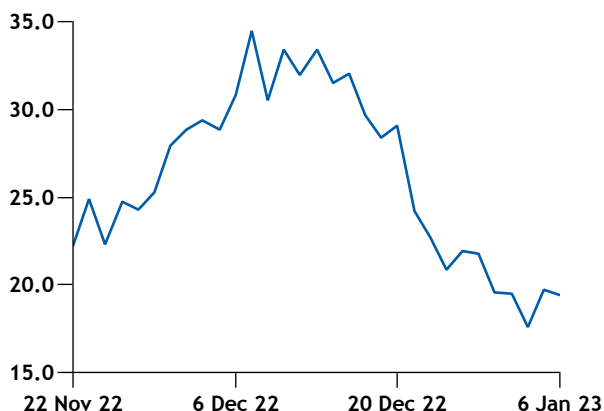
Argus LNG Daily also includes assessments of US Gulf Coast fob LNG prices (see page 1).

For more information, please see the Argus LNG Daily methodology:

<http://www.argusmedia.com/methodology-and-reference/>

USGC fob LNG Curve

\$/mn Btu



OTHER ATLANTIC PRICES

NBP - AGC fob LNG Spread		\$/mn Btu
Feb 23		1.02
Mar 23		1.34
Apr 23		3.52
May 23		4.33
Jun 23		4.17
Jul 23		4.03

LNG US Boston Harbor delivered ARV		\$/mn Btu	±
prompt		19.927	-0.463

West Africa (AWAF) LNG fob

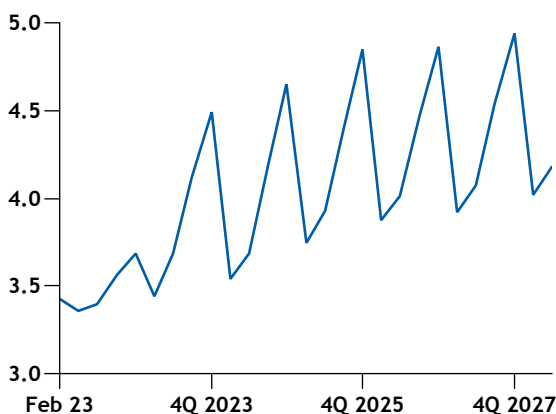
\$/mn Btu



Argus Latin America des spot LNG			\$/mn Btu
	Delivery	Price	±
Argentina	Prompt	20.660	-0.710
Brazil	Prompt	19.790	-0.620
Chile	Prompt	20.480	-0.740
Mexico Gulf coast	Prompt	21.060	-0.290
Mexico Pacific coast	Prompt	21.070	+0.250

US Nymex gas

\$/mn Btu



Argus Brazil des

\$/mn Btu



MARKET COMMENTARY

Europe: Des prices fall

LNG delivered prices into southern Europe fell on Friday, tracking similar losses at the Dutch TTF gas hub.

The Turkish LNG des price for the first half of February fell to \$20.85/mn Btu on Friday from \$21.20/mn Btu at the previous close, while des prices in Greece similarly fell but both east Mediterranean markets maintained a slight premium to northwest Europe.

Turkish and Greek des prices rose to a premium against northwest Europe this week as very high utilisation rates at most northwest European import terminals reduced the scope for firms to find space for cargoes in the region, weighing on bids from des buyers, market participants said. In contrast, Turkey's four facilities and Greece's single Revithoussa import terminal have seen comparably less utilisation.

Some results from a Botas tender for a January-early February delivery cargo also emerged in recent days, with the Turkish firm heard to have awarded the cargo at a premium against the TTF, market participants said.

Turkey may be poised to commission a fifth import facility this month, with the 180,000m³ *Vasant* floating storage and regasification unit (FSRU) sailing towards Turkey on Friday for arrival on 23 January, vessel tracking data show. The *Vasant* is set to be installed at the planned Saros import terminal, which is slated to be commissioned this month, according to comments made by the Turkish energy minister in December. The facility will be able to send up to 20mn m³/d to the Turkish grid once operational, lifting the country's total LNG sendout capacity to 153mn m³/d.

It could also be possible for LNG supplies imported via Turkish terminals, and primarily Saros, to be shipped onwards to Bulgaria, following the [agreement reached between Bulgaria's Bulgargaz and Botas this week](#). The transit deal will allow Bulgargaz access to the Turkish LNG terminals and its transmission system and to transfer up to 1.5bn m³/yr to Bulgaria. Bulgaria will [be able to unload 6-7 LNG cargoes at Turkish terminals](#) this year, and 14 in the following years, the Turkish energy minister said. That said, it was unclear whether the agreement had been approved by the Turkish parliament.

Elsewhere in Europe, LNG import capacity in Germany is set to step higher this month with the planned 3.5mn t/yr Deutsche Ostsee LNG terminal at Lubmin to be commissioned on 14 January, operator Deutsche Regas told *Argus*. This is a slight delay from its original targeted start-up in December, while details on the terminal's ramp-up once commissioned were unclear. The Deutsche Ostsee import facility could be Germany's second import terminal, following the commissioning of the 5.8mn t/yr Wilhelmshaven terminal on 21 December.

UK GAS AND EUROPEAN LNG PRICES

Argus European des spot LNG					\$/mn Btu
	Delivery	Bid	Offer	Midpoint	±
NW Europe	1H Feb	19.75	21.75	20.750	-0.350
	2H Feb	19.75	21.75	20.750	-0.350
	1H Mar	19.00	21.00	20.000	-0.200
	2H Mar	19.00	21.00	20.000	-0.200
Iberian peninsula	1H Feb	18.75	21.75	20.250	-0.350
	2H Feb	18.75	21.75	20.250	-0.350
	1H Mar	18.00	21.00	19.500	-0.200
	2H Mar	18.00	21.00	19.500	-0.200
Italy	1H Feb	19.75	21.75	20.750	-0.350
	2H Feb	19.75	21.75	20.750	-0.350
	1H Mar	19.00	21.00	20.000	-0.200
	2H Mar	19.00	21.00	20.000	-0.200
Greece	1H Feb	19.85	21.85	20.850	-0.350
	2H Feb	19.85	21.85	20.850	-0.350
	1H Mar	19.20	21.20	20.200	-0.200
	2H Mar	19.20	21.20	20.200	-0.200
Turkey	1H Feb	19.85	21.85	20.850	-0.350
	2H Feb	19.85	21.85	20.850	-0.350
	1H Mar	19.20	21.20	20.200	-0.200
	2H Mar	19.20	21.20	20.200	-0.200

Northwest Europe des forward curve				\$/mn Btu
Contract	Price	±	diff. vs TTF	±
Feb	20.750	-0.350	-0.660	-0.030
Mar	20.000	-0.200	-1.843	+0.010
Apr	18.650	-0.050	-3.605	+0.039
May	18.350	+0.050	-4.153	+0.042
Jun	18.500	nc	-4.264	-0.021
Jul	18.550	+0.050	-4.362	+0.013
2Q23	18.500	nc	-4.007	+0.020

Argus NW Europe LNG des

\$/mn Btu



LNG SPREADS AND OIL-LINKED SNAPSHOT

European hubs to LNG price spreads										\$/mn Btu	
	Northeast Asia		China		India		Middle East		Middle East-India (MEI)		
	1H Feb	Feb avg	1H Feb	Feb avg	1H Feb	Feb avg	1H Feb	Feb avg	1H Feb	Feb avg	
NBP	2.45	2.36	2.44	2.31	-0.31	-0.41	-0.31	-0.41	-0.31	-0.41	
TTF	1.46	1.37	1.45	1.32	-1.31	-1.41	-1.31	-1.41	-1.31	-1.41	

Snapshot of oil-linked LNG prices (5 Jan 2023)						\$/mn Btu
Mar	10pc	11pc	12pc	13pc	14pc	
601	9.32	10.25	11.18	12.11	13.04	
301	8.85	9.74	10.62	11.51	12.39	
311	9.17	10.08	11.00	11.92	12.83	
101	8.11	8.92	9.73	10.54	11.36	

Contracts defined as: Oil-linked LNG on six-month crude average (601) contract; Oil-linked LNG three-month crude average (301) contract; Oil-linked LNG three-month crude average plus one month lag (311) contract; Oil-linked LNG one-month crude average (101) contract. For more oil-linked LNG forward curve prices, please see the appendix at the back of the LNG Daily report.

SMALL-SCALE LNG

Small-scale LNG assessments (5 Jan 2023)				
	€/MWh	+/- 29 Dec	\$/t MGOe	+/- 29 Dec
Northwest Europe free on truck front month	74.350	na	928	na
Southwest France free on truck front month	70.950	na	885	na
Northwest Europe LNG bunker delivered on board	78.700	-12.500	982	-169

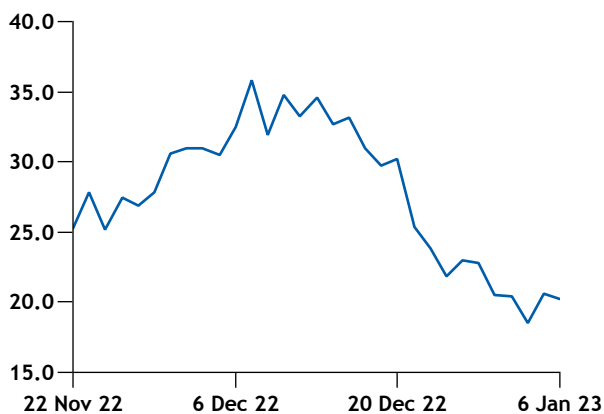
Competing fuels snapshot (5 Jan 2023)				
Gas	€/MWh	+/- 29 Dec	\$/t MGOe	+/- 29 Dec
TTF	70.300	na	877	na
Zeebrugge	67.089	na	837	na

Oil products	€/MWh	+/- 29 Dec	\$/t	+/- 29 Dec
Gasoil bunker Rotterdam prompt	66.579	-3.708	831	-56
Gasoil diesel 10ppm German NWE barge prompt	69.284	-3.975	864	-60
Fuel oil bunker 380cst Rotterdam prompt	29.512	-1.749	365	-26

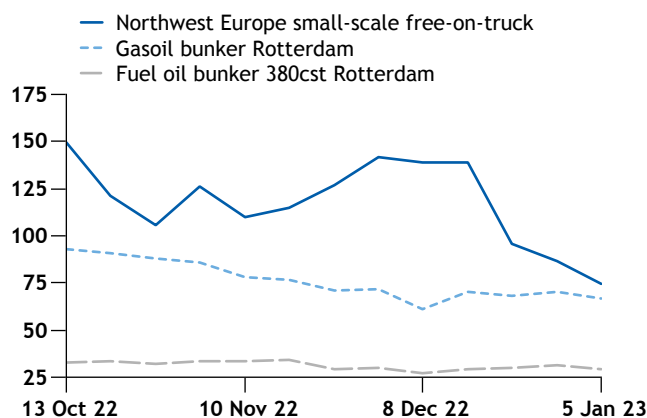
NBP					\$/mn Btu
Delivery	Bid	Offer	Midpoint	±	
Feb	20.30	20.53	20.416	-0.453	
Mar	20.50	20.68	20.593	-0.291	
Apr	21.41	21.52	21.466	-0.264	
May	21.79	22.18	21.982	-0.081	
Jun	21.79	22.14	21.965	-0.138	
Jul	21.58	22.08	21.826	-0.171	
2Q23	21.78	21.83	21.805	-0.161	
3Q23	22.02	22.08	22.053	-0.188	
4Q23	24.19	24.40	24.295	+0.205	
1Q24	25.11	25.32	25.214	-0.042	
2024	21.76	23.16	22.464	+0.060	
2025	17.28	19.46	18.371	-0.304	

Spain Tanque Virtual de Balance (TVB) LNG hub (6 Jan)			
	€/MWh	Change	
Mibgas TVB intraday	na	na	
Mibgas TVB day-ahead	na	na	
	MWh	Change	
Mibgas TVB volume intraday	0	nc	
Mibgas TVB volume day-ahead	0	-1,072	

Argus Iberian peninsula des \$/mn Btu



Small Scale LNG vs. Gasoil and fuel oil €/MWh



LNG OPEN BIDS, OFFERS AND RECENT DEALS

Global Open Bids				
Submission date	Validity date	Bid	Period	Note
unknown	unknown	10 cargo(es) des India to Gail	delivery 01 Mar 2023 - 31 Dec 2023	Part of swap tender; To Dahej or Dabhol
06-Jan-23	unknown	12 cargo(es) des Thailand to PTT	delivery 16 Jan 2023 - 21 Apr 2023	For delivery over 16-23 & 27-31 January; 3-5, 16-17, 18-19 & 21-22 February; 1-2, 14-15 & 20-21 March; 1-2, 15-16, 20-21 April
04-Jan-23	unknown	1 cargo(es) des to CFE	delivery 01-10 Feb 2023	Cargo of 128,000-160,000m ³ to Manzanillo
20-Dec-22	unknown	1 cargo(es) des India to Gail	delivery 01-15 Jan 2023	Not awarded. For delivery to Dabhol terminal.
20-Dec-22	unknown	6 cargo(es) des Thailand to PTT	delivery 11 Jan 2023 - 27 Feb 2023	Re-issue; For delivery over 11-13 Jan, 16-18 Jan, 1-2 Feb, 6-7 Feb, 10-11 Feb, 26-27 Feb; to Map Ta Phut terminal
16-Dec-22	unknown	6 cargo(es) des Thailand to PTT	delivery 11 Jan 2023 - 27 Feb 2023	For delivery to Map Ta Phut over 11-13, 16-18 Jan, and 1-2, 6-7, 10-11 and 26-27 Feb
15-Dec-22	unknown	1 cargo(es) des India to Gail	delivery 16-25 Feb 2023	Part of swap

Global Open Offers				
Submission date	Validity date	Offer	Period	Note
29-Dec-22	unknown	1 cargo(es) fob Egypt from Egas	loading 08-09 Jan 2023	Loading Damietta
22-Dec-22	unknown	10 cargo(es) fob USA from Gail	delivery 01 Mar 2023 - 31 Dec 2023	Part of swap tender; From Sabine Pass and Cove Point
16-Dec-22	unknown	1 cargo(es) fob Abu Dhabi from Adgas	loading 23-29 Apr 2023	Loading Das Island
15-Dec-22	unknown	1 cargo(es) fob USA from Gail	loading 01-31 Mar 2023	Part of swap; des Europe

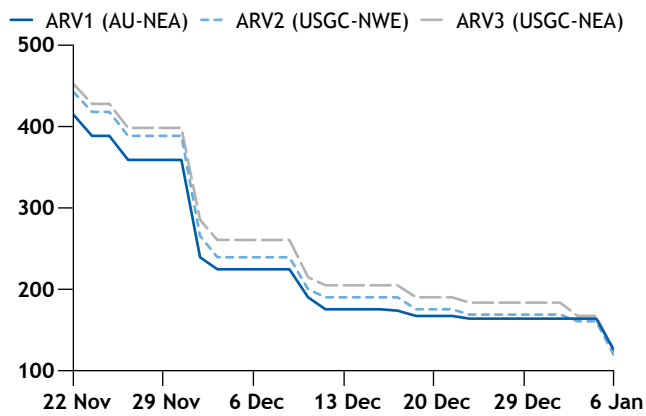
Global Recent Deals				
Date	Transaction	Period	Price	Note
unknown	Petronet LNG bought from Total 1 cargo(es) des India	delivery 05-25 Feb 2023	\$21.50/mnBtu	For delivery to Dahej over 5-25 February
unknown	Botas bought from Unknown 1 cargo(es) des Turkey	delivery 14 Jan 2023 - 05 Feb 2023		Awarded at a premium to the TTF
unknown	PTT bought from Unknown 6 cargo(es) des Thailand	delivery 11 Jan 2023 - 27 Feb 2023		Awarded at least one Feb cargo at \$20.5-20.99/mn Btu; For delivery over 11-13 Jan, 16-18 Jan, 1-2 Feb, 6-7 Feb, 10-11 Feb, 26-27 Feb
unknown	Kufpec sold to Unknown 1 cargo(es) des Australia	loading 16-21 Feb 2023	\$29.50-30.00/mnBtu	Loading at Wheatstone LNG
20-Dec-22	Shell bought from Jera 1 cargo(es) des	delivery 01-03 Feb 2023		Sold at a 25¢/mn Btu premium to a February northeast Asian spot LNG price
unknown	Inpex bought from Unknown 1 cargo(es) des Japan	delivery 01-06 Feb 2023		Awarded at 50¢/mn Btu premium to northeast Asian spot LNG price; Delivery to Naoetsu terminal

Global shipping highlights						
Vessel	Capacity m ³	From	To	Loading	Arrival	Notes
Methane Princess	138,000	Elba Island, US	Milford Haven, UK	23 Dec	6 Jan	
Arwa Spirit	168,900	Corpus Christi, US	Tianjin, China	7 Dec	6 Jan	Via Panama
Solaris	155,000	Calcasieu Pass, US	Milford Haven, UK	14 Dec	6 Jan	
Nohshu Maru	180,000	Sabine Pass, US	Milford Haven, UK	16 Dec	6 Jan	
La Seine	174,000	Sabine Pass, US	TBC	22 Dec	6 Jan	Diverted from Milford Haven
Maran Gas Agamemnon	174,000	Sabine Pass, US	Gate, Netherlands	22 Dec	7 Jan	Diverted from Milford Haven
Christophe de Margerie	172,600	Yamal, Russia	TBC	30 Dec	7 Jan	
Hyundai Princepia	174,000	Sabine Pass, US	Pyeongtaek, South Korea	8 Dec	8 Jan	Via Panama
Methane Jane Elizabeth	145,000	Corpus Christi, US	TBC	5 Dec	8 Jan	Via Panama
Gaslog Warsaw	180,000	Corpus Christi, US	Sagunto, Spain	26 Dec	8 Jan	
Flex Vigilant	174,000	Sabine Pass, US	TBC	27 Dec	8 Jan	
Flex Volunteer	174,000	Corpus Christi, US	TBC	23 Dec	9 Jan	
Energy Glory	165,000	Cove Point, US	TBC	20 Nov	9 Jan	
Golar Bear	160,000	Cameron, US	TBC	11 Dec	9 Jan	Via Panama
Grace Emilia	174,000	Cove Point, US	TBC	31 Dec	9 Jan	
Nikolay Yevgenov	172,600	Yamal, Russia	TBC	1 Jan	9 Jan	
Asklipios	174,000	Sabine Pass, US	TBC	18 Dec	10 Jan	
SM Albatross	171,000	Sabine Pass, US	Milford Haven, UK	20 Dec	10 Jan	
Maran Gas Alexandria	161,900	Corpus Christi, US	TBC	28 Dec	10 Jan	
Shinshu Maru	177,000	Corpus Christi, US	TBC	21 Dec	11 Jan	Via Suez
Rudolf Samoylovich	172,600	Yamal, Russia	Zeebrugge, Belgium	3 Jan	11 Jan	
Rioja Knutsen	176,000	Sabine Pass, US	Sines, Portugal	24 Dec	12 Jan	Diverted from Huelva
Marvel Falcon	174,000	Cameron, US	Higashi-Ogishima, Japan	9 Dec	12 Jan	Via Panama
Rias Baixas Knutsen	180,000	Corpus Christi, US	Isle of Grain, UK	29 Dec	12 Jan	
Alicante Knutsen	174,000	Calcasieu Pass, US	Sagunto, Spain	31 Dec	12 Jan	
BW Lesmes	174,000	Calcasieu Pass, US	Aliaga, Turkey	12 Dec	13 Jan	
Mol Hestia	174,000	Corpus Christi, US	TBC	27 Dec	13 Jan	
Energy Endeavour	173,400	Sabine Pass, US	TBC	28 Dec	13 Jan	
Maran Gas Ithaca	174,000	Sabine Pass, US	TBC	23 Dec	14 Jan	
Minerva Chios	174,000	Sabine Pass, US	TBC	29 Dec	14 Jan	
Energy Atlantic	159,700	Corpus Christi, US	Huelva, Spain	30 Dec	14 Jan	
Gaslog Windsor	180,000	Sabine Pass, US	TBC	30 Dec	14 Jan	
Kool Boreas	170,200	Sabine Pass, US	TBC	17 Dec	15 Jan	
Adriano Knutsen	180,000	Corpus Christi, US	TBC	3 Jan	15 Jan	
Flex Aurora	174,000	Cameron, US	TBC	3 Jan	16 Jan	
Marvel Crane	177,000	Cameron, US	Hitachi, Japan	21 Dec	19 Jan	Via Panama
Transgas Force	174,000	Cameron, US	Gate, Netherlands	2 Jan	19 Jan	
Cool Discoverer	174,000	Corpus Christi, US	TBC	5 Jan	19 Jan	
K. Mugungwha	151,700	Sabine Pass, US	Hosan, South Korea	23 Dec	20 Jan	Via Panama
Marvel Heron	177,000	Cameron, US	Fos Sur Mer, France	3 Jan	20 Jan	
Catalunya Spirit	138,200	Sabine Pass, US	Aliaga, Turkey	4 Jan	20 Jan	

FREIGHT RATES

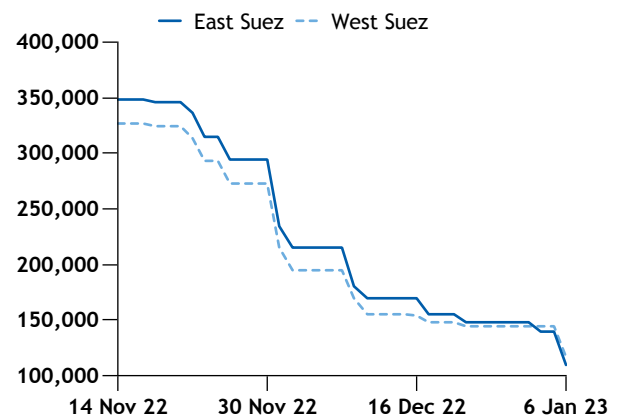
Argus round voyage forward curves (6 Jan)							
Month	ARV1: Australia-Northeast Asia		ARV2: USGC-Northwest Europe		ARV3: USGC-Northeast Asia		
	\$/day	+/- 30 Dec	\$/day	+/- 30 Dec	\$/day	+/- 30 Dec	
Feb	105,000	nc	110,000	nc	115,000	nc	
Mar	69,500	-500	76,000	nc	80,000	-1,000	
Apr	58,500	-2,500	64,000	-3,000	67,000	-4,000	
May	60,000	-1,500	63,000	-500	65,000	-500	
Jun	65,000	nc	70,000	nc	75,000	nc	
Jul	75,000	nc	80,000	nc	85,000	nc	
Aug	95,000	nc	100,000	nc	105,000	nc	
Sep	122,000	nc	130,000	nc	137,000	nc	
Oct	210,000	nc	220,000	nc	230,000	nc	
Nov	240,000	nc	250,000	nc	270,000	nc	
Dec	200,000	nc	210,000	nc	220,000	nc	
Jan	126,000	nc	130,000	nc	137,000	nc	

Argus Round Voyage spot rates \$'000/day

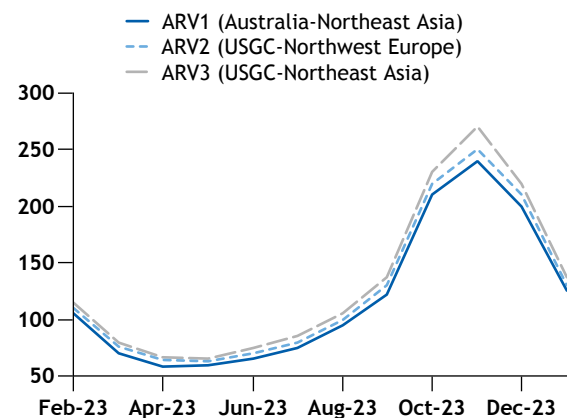


Argus ballast leg TFDE rates (6 Jan 2023)		
	%	+/- 30 Dec
Day rate - west of Suez	100	nc
Day rate - east of Suez	100	nc
Fuel cost - west of Suez	40	nc
Fuel cost - east of Suez	40	nc

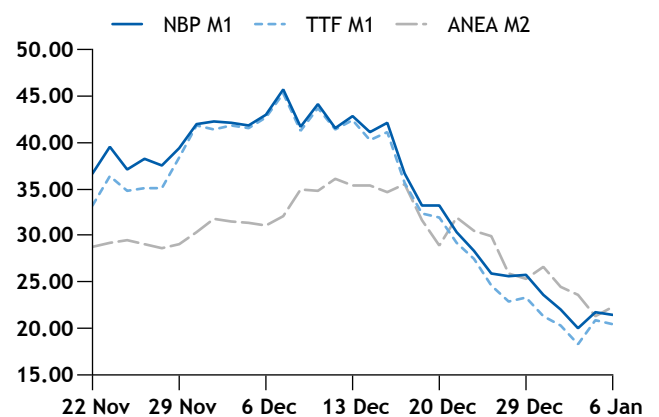
Laden freight rate (prompt - TFDE) \$/day



Argus Round Voyage forward curves \$'000/day



European gas hubs vs ANEA \$/mn Btu



download data on [Argus direct](#)

FREIGHT COSTS AND NETBACKS

Standard round-trip freight costs*																\$/mn Btu
	route via	Ain Sukhna and Aqaba	Altaga	Altamira	Dahej and Qasim	Escobar	Incheon	Jebel Ali and Mina al-Ahmadi	Manzanillo	Map ta Phut	Milford Haven	Peccem	Quintero	Shenzen and Taipei	Singapore	Tokyo
Angola	-		1.52	1.45	1.54	0.96	2.77	1.65	2.31	1.78	1.32	0.74	1.45	3.29	1.62	2.87
	Suez	1.56														
	Panama								1.81							
Bintulu and Tangguh	-	1.63			1.01	2.65	0.74	1.25	2.36	0.40		2.61	2.85	0.52	0.29	0.84
	Suez		2.00	3.72							2.73					
	Panama			3.44												
Bonny	-		1.42	1.37	1.65	1.01	2.90	1.78	2.34	1.90	1.19	0.69	1.45	2.06	1.78	2.98
	Suez	1.45														
	Panama								1.72							
Bontang	-	1.77			1.22	2.65	0.84	1.42	2.32	0.61		2.71	2.64	0.59	0.47	0.84
	Suez		2.21	3.86							2.87					
	Panama			3.41												
Dampier	-	1.47		3.23	1.00	2.44	1.17	1.17	2.46	0.79		2.47	2.54	0.95	0.61	1.17
	Suez		2.21								2.87					
	Panama			3.44												
Gladstone	-	2.00		2.67	1.47	2.23	1.28	1.65	1.90	1.25		2.81	1.99	1.17	1.07	1.20
	Suez		2.77								3.42					
	Panama			2.88												
Rotterdam	-		0.96	1.15		1.48			2.90			0.95	2.02			
	Suez	1.06			1.59		3.30	1.68		2.30				3.09	2.10	3.40
	Panama							1.65					1.84			
Papua New Guinea	-	2.00		2.67	1.38	2.44	1.17	1.65	1.90	1.04		2.81	1.99	0.95	1.07	1.06
	Suez		2.77								3.42					
	Panama			2.99												
Ras Laffan and UAE	-	0.72			0.35	2.65	1.86	0.19	3.44	1.36			3.09	1.61	1.15	1.97
	Suez		1.34	2.99							2.00	2.48				
Sakhalin	-	2.52			1.77	3.07	0.52	2.00	1.66	1.04		3.46	2.54	0.70	1.04	0.48
	Suez		2.77	4.62							3.50					
	Panama			2.74												
Singapore	-	1.45			0.93	2.62	0.84	1.11	2.54	0.37		2.61	2.85	0.59		0.95
	Suez		1.90	3.55							2.56					
Sagunto	-		0.48	1.18		1.29			2.69		0.55	0.80	1.82			
	Suez	0.72			1.24		2.88	1.29		1.90				2.64	1.73	2.98
	Panama								1.65				1.81			
Trinidad and Tobago	-		1.42	0.53		1.01			2.40	2.57	1.09	0.45	1.53		2.40	
	Suez	1.48			2.00		3.85	2.05						3.61		3.95
	Panama						2.98		0.88				1.04	3.08		2.74
USGC	-		1.73	0.14		1.23	4.28		0.65	2.57	1.32	0.75	1.69		2.43	4.35
	Suez	1.48			1.94			2.01						3.95		
	Panama							3.08	0.83				0.96	3.19		2.77

*Standard freight costs include full charter costs and fuel for the return leg of a delivery fixture

Netbacks (standard freight costs*)												\$/mn Btu (prompt)	
	India	China	Japan	South Korea	Taiwan	Iberian peninsula	Greece	Italy	Turkey	NW Europe	North-east US		
Middle East	19.62	21.11	20.76	20.87	21.20	18.54	19.55	19.22	19.52	18.82	15.80		
Australia	18.96	21.79	21.64	21.67	21.89	17.74	18.71	18.41	18.71	17.98	15.01		
Nigeria	18.00	19.85	19.54	19.65	19.97	19.18	19.43	19.36	19.36	19.46	16.71		
Norway	17.71	19.12	18.86	19.00	19.29	19.48	19.63	19.56	19.56	20.10	17.03		
Algeria	18.57	20.02	19.79	19.90	20.19	19.91	20.47	20.40	20.40	20.17	17.12		
Trinidad and Tobago	17.48	19.01	18.64	18.75	19.21	19.15	19.36	19.33	19.33	19.53	17.51		
Russia	18.44	22.26	22.43	22.36	22.25	17.21	18.18	17.88	18.11	17.48	14.74		

FREIGHT COSTS AND NETBACKS

Spot (ARV) freight costs*																\$/mn Btu
	route via	Ain Sukhna and Aqaba	Altaga	Altamira	Dahej and Qasim	Escobar	Incheon	Jebel Ali and Mina al-Ahmadi	Manzanillo	Map ta Phut	Milford Haven	Peccem	Quintero	Shenzen and Taipei	Singapore	Tokyo
Angola	-		1.34	1.24	1.31	0.82	2.42	1.41		1.52	1.16	0.62	1.24	2.87	1.38	2.51
	Suez	1.35														
	Panama							1.56								
Bintulu and Tangguh	-	1.44			0.89	2.36	0.64	1.10	2.09	0.35		2.35	2.55	0.45	0.25	0.74
	Suez		1.78	3.30							2.43					
	Panama			3.05												
Bonny	-		1.25	1.17	1.41	0.86	2.54	1.52		1.63	1.04	0.59	1.24	1.77	1.52	2.60
	Suez	1.25														
	Panama							1.49								
Bontang	-	1.56			1.07	2.36	0.74	1.26	2.06	0.53		2.44	2.37	0.51	0.41	0.74
	Suez		1.97	3.42							2.55					
	Panama			3.02												
Dampier	-	1.25		2.85	0.85	2.17	1.02	1.00	2.19	0.69		2.22	2.27	0.83	0.53	1.02
	Suez		1.97								2.55					
	Panama			3.05												
Gladstone	-	1.70		2.36	1.25	1.99	1.12	1.40	1.69	1.10		2.53	1.78	1.02	0.94	1.05
	Suez		2.46								3.04					
	Panama			2.55												
Rotterdam	-		0.83	0.97		1.25						0.80	1.71			
	Suez	0.91			1.37		2.89	1.44		1.97				2.71	1.79	2.98
	Panama							1.42					1.59			
Papua New Guinea	-	1.70		2.36	1.18	2.17	1.02	1.40	1.69	0.91		2.53	1.78	0.83	0.94	0.93
	Suez		2.46								3.04					
	Panama			2.65												
Ras Laffan and UAE	-	0.62			0.30	2.36	1.63	0.15	3.06	1.19			2.77	1.40	1.01	1.72
	Suez		1.19	2.65							1.78	2.24				
Sakhalin	-	2.24			1.56	2.73	0.45	1.78	1.47	0.91		3.12	2.27	0.61	0.91	0.42
	Suez		2.46	4.10							3.10					
	Panama			2.43												
Singapore	-	1.29			0.82	2.33	0.74	0.98	2.25	0.31		2.35	2.55	0.51		0.83
	Suez		1.69	3.14							2.27					
Sagunto	-		0.42	1.00		1.10					0.47	0.69	1.56			
	Suez	0.63			1.07		2.52	1.11		1.64				2.31	1.50	2.62
	Panama								1.42				1.56			
Trinidad and Tobago	-		1.25	0.45		0.86				2.20	0.95	0.38	1.31		2.05	
	Suez	1.28			1.74		3.38	1.78						3.16		3.47
	Panama						2.61		0.76				0.90	2.70		2.40
USGC	-		1.51	0.13		1.13	3.74			2.36	1.16	0.69	1.55		2.23	3.80
	Suez	1.37			1.79			1.85						3.47		
	Panama						2.70		0.76				0.89	2.79		2.43

*ARV freight costs take into account a varying proportion of return leg fuel and charter costs, in line with Argus' ballast bonus assessments. For more details, consult the Argus Round Voyage methodology.

Netbacks (ARV freight costs*)												\$/mn Btu (prompt)
	India	China	Japan	South Korea	Taiwan	Iberian peninsula	Greece	Italy	Turkey	NW Europe	North-east US	
Middle East	19.68	21.32	21.02	21.12	21.40	18.73	19.70	19.40	19.67	19.04	16.05	
Australia	19.09	21.93	21.79	21.82	22.01	18.03	18.96	18.69	18.96	18.30	15.34	
Nigeria	18.24	20.21	19.94	20.04	20.32	19.31	19.60	19.53	19.54	19.62	16.87	
Norway	17.98	19.56	19.33	19.46	19.71	19.57	19.78	19.71	19.72	20.19	17.16	
Algeria	18.74	20.36	20.15	20.25	20.50	19.96	20.52	20.45	20.46	20.25	17.24	
Trinidad and Tobago	17.76	19.47	19.14	19.23	19.66	19.28	19.54	19.50	19.51	19.68	17.58	
Russia	18.63	22.34	22.49	22.42	22.33	17.56	18.49	18.21	18.43	17.86	15.11	

NEWS

FSRU heads for Turkey

The 180,000m³ *Vasant* floating storage and regasification unit (FSRU) was heading to Turkey on Friday, where it is set to be installed at the planned import facility in the Gulf of Saros.

The vessel is declaring arrival in Turkey on 23 January, vessel tracking data show, where it is set to operate under a year-long charter between Turkish firm Botas and Indian vessel owner Swan Energy. The Turkish energy minister said in December that the Saros import terminal would be commissioned this month, and once operational, would be able to send up to 20mn m³/d to the Turkish grid, lifting the country's total LNG sendout capacity to 153mn m³/d.

Before setting off for Turkey, the FSRU had been holding offshore Sri Lanka throughout December after berthing at a Singaporean shipyard for much of November.

The *Vasant* was previously intended to be installed at the 5mn t/yr Jafrabad terminal in December. The Jafrabad facility has been repeatedly delayed, most recently because of damage caused by cyclone Tauktae in May 2021.

By Ellie Holbrook

S Korea approves Kori 3 nuclear reactor restart

South Korea's Nuclear Safety and Security Commission (NSSC) has approved the restart of the 950MW Kori 3 reactor near the southern port city of Busan after the unit went off line two weeks ago.

The Kori 3 reactor, part of the 7.4GW Kori plant, went off line automatically on 22 December because of a line-to-ground fault detected on an excitation transformer.

Korea Hydro and Nuclear Power, the operator of the nuclear power plant, has since replaced the part, according to the NSSC. Safety protocols and cooling systems have otherwise operated normally amid Kori 3's shutdown, it added.

But it remains unclear exactly when the Kori 3 reactor will restart operations. 20 out of the country's 25 nuclear reactors are operational, and four others are under maintenance.

The majority of nuclear units in the country being operational is a testament to South Korea's latest efforts under the government of President Yoon Suk-yeol to [prioritise nuclear power](#) as part of its goals in reducing energy costs and achieving decarbonisation by 2050.

By Subethira Ahrumugam

Lubmin LNG terminal set to be commissioned

Germany's planned 3.5mn t/yr Deutsche Ostsee LNG terminal at Lubmin will be commissioned on 14 January, operator Deutsche Regas told *Argus* on Friday.

The operator declined to provide details on the ramp-up of operations at the terminal over time in response to an *Argus* query on the start-up.

The announcement for a commissioning date of 14 January comes after Germany's Mecklenburg-Vorpommern state noted that the approval for the terminal can be signed on 13 January, following a four-day public disclosure period which starts 9 January. The state has already given the terminal permission to [start test operations](#).

Existing infrastructure for the terminal is in place to start operations. The 10,000m³ *Coral Furcata* [has docked alongside](#) the 145,000m³ *Neptune* floating storage and regasification unit (FSRU), having loaded a cargo from the 140,500m³ *Seapeak Hispania* floating storage unit (FSU). Cargoes for Deutsche Ostsee LNG will be transhipped to the FSU, which will then transfer the LNG to smaller shuttle carriers that will deliver the supply to the FSRU.

A commissioning of mid-January is a slight delay from Deutsche Regas' previous target to start operations [in December](#).

Deutsche Ostsee looks set to be the second LNG terminal to come on line this winter, following the 5.8mn t/yr Wilhelmshaven terminal on [21 December](#). The third German terminal set to come on line this winter – the planned 3.1mn t/yr Brunsbuttel facility – is yet to receive its FSRU. The terminal is still completing onshore construction work for the operation of the FSRU, which should be finished this month, operator RWE told *Argus* on Friday.

By Martin Senior

French LNG terminals add March nominations

French regulated LNG terminal operator Elengy has added one scheduled unloading at the smaller Fos Tonkin terminal in March, leaving the total number of planned deliveries to the country's three regulated terminals at 26 that month.

LNG imports into France's regulated LNG terminals could rise gradually during the first quarter, based on the latest available slot nominations.

As of Friday morning, four unloadings were scheduled at Fos Tonkin in March, one more than [late last month](#) when March nominations were first published.

And a combined 22 unloading slots were booked at the larger Montoir and Fos Cavaou terminals in March, topping the scheduled 21 in February and 19 in January, but holding below the 25 booked in December.

According to terminal data, the average size of cargoes unloaded at Montoir, Fos Cavaou and Fos Tonkin during

the fourth quarter of last year was 1.05TWh, 875GWh and 481GWh, respectively.

If cargoes arriving at the three terminals conform to these averages in the coming months, deliveries at the three regulated terminals would total 23.1TWh in March, 21.7TWh in February and 20.1TWh in January.

This gradual increase of roughly 15pc in potential unloaded volume between the first and last months of this quarter could enable France's three regulated terminals to maintain strong sendout in the coming months.

Sendout from Montoir, Fos Cavaou and Fos Tonkin in recent months has exceeded three-year averages. Combined sendout from these terminals totalled 823 GWh/d on 1-5 January, up from 775 GWh/d in December and 738 GWh/d in November.

By Charles Cohen

Shell sees lower LNG output in 4Q22

Shell expects liquefaction volumes for the fourth quarter of last year to be lower than its previous estimates.

Shell expects liquefaction volumes of 6.6mn-7.0mn t, down from a previous estimate of 7.0mn-7.6mn t and also lower than its third-quarter volumes of 7.24mn t, it said in a [fourth-quarter 2022 update note](#).

Shell has attributed the lower production to outages at Australia's 3.6mn t/yr [Prelude](#) floating LNG and extended maintenance at Australia's 8.5mn t/yr [Queensland Curtis LNG \(QCLNG\)](#).

Output at Prelude was disrupted by downtime at the facility that was followed by a fire on the same day in mid-December that it loaded its first cargo after the maintenance. The facility has not loaded a cargo since this loading.

And downtime at QCLNG affected one liquefaction train at the two-train facility from 7-21 December, which was followed by a second bout of maintenance starting on 27 December that is set to run until 16 January with a similar impact on liquefaction capacity.

Shell has been experiencing production problems in recent years at several liquefaction facilities worldwide.

The firm is a large shareholder in Trinidad and Tobago's 14.8mn t/yr Atlantic LNG facility, which saw total exports drop to 8.0mn t in 2022, from 12.9mn t in 2019, according to data from oil analytics firm Vortexa, as the facility experienced lower feedgas supply.

Shell holds a 25.6pc stake in Nigeria's 22mn t/yr Bonny export terminal, which has also seen exports drop in recent years. The facility declared force majeure in [October](#) and has also experienced feedgas issues. This drove exports lower in each month in 2022 compared with the corresponding month a year earlier.

But lower summer production at Egypt's 7.2mn t/yr Idku export terminal, where Shell has a 35.5pc and 38pc stake in the two trains at the facility, did not continue in the fourth quarter of 2022, with loadings rising back to hold closer in line with a year earlier over the period, Vortexa data show.

By Martin Senior

Algerian October LNG exports remain slow

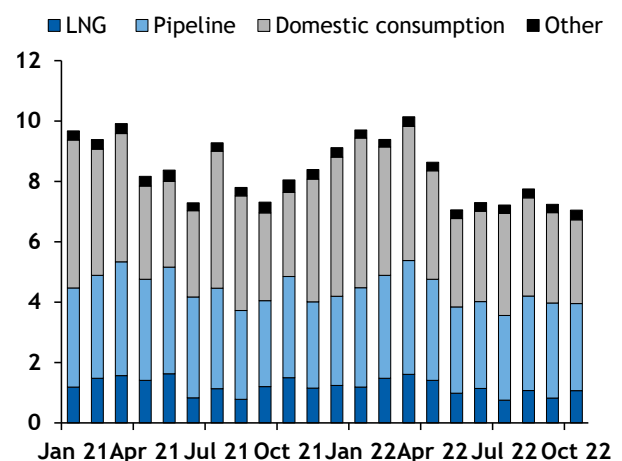
LNG loadings at Algeria's two liquefaction terminals were well below a year earlier in October, as upstream production fell to a two-year low.

Algeria loaded 1bn m³ of pipeline-equivalent gas in October, down from 1.5bn m³ a year earlier, the most recent data from the Joint Organisation Data Initiative show.

Loadings stepped down in October from a year earlier, despite weaker domestic consumption and slower pipeline exports, as upstream production fell to 7.1bn m³, the lowest for any month since September 2020.

Algerian production steps down

bn m³



Algerian LNG exports fell in January-October 2022 from a year earlier, with the country loading an average of 1.2bn m³/month across January-October, down from 1.3bn m³/month a year earlier.

And pipeline exports have also fallen, possibly because of weaker upstream production. Pipe deliveries to Italy rose by 3.9bn m³ to 19.3bn m³ in January-October 2022 from the previous year.

But pipeline deliveries to Spain over the period fell by 7.7bn m³ to 7.1bn m³, more than offsetting increased supply to Italy. Exports along the 10.5bn m³/yr Medgaz pipeline were just 8.4bn m³ in 2022, suggesting that the fall in Spanish imports is not directly related to the Algerian halt to exports along the Maghreb-Europe pipeline in November 2021.

By Auguste Breteau

Rio Grande LNG survives permit challenge

US firm NextDecade's proposed 27mn t/yr Rio Grande LNG export facility and a related pipeline prevailed on Friday against a lawsuit that challenged water permits for the project.

The US Army Corps of Engineers had chosen the "least environmentally damaging" option when it approved the project's water permits, a three-judge panel on 5th US Circuit Court of Appeals ruled on Friday. The federal appeals court also found regulators did not act arbitrarily when evaluating the effects of building the export project.

The proposed LNG project would be located at a site near Brownsville, Texas. The project would receive gas from the proposed 4.5 Bcf/d (127mn m³/d) Rio Bravo pipeline, which would stretch 130 miles (209km) to the Agua Dulce hub, near Corpus Christi, Texas.

The Sierra Club and other environmentalists had filed their lawsuit to challenge federal water permits for the LNG project and the pipeline. They said the two projects should have been revised to better protect wetlands, but the 5th Circuit found regulators were justified in issuing the permits.

NextDecade plans to make a final investment decision on three liquefaction trains at Rio Grande LNG project by this quarter. The export facility is proposed to eventually have a total of five trains, each with 5.4mn t/yr of liquefaction capacity.

By Chris Knight

LNG Easy looks to develop large LNG carrier

Singaporean firm LNG Easy has signed a long-term commercialisation agreement with Finnish shipbuilding firm and China Merchants subsidiary DeltaMarin and Chinese shipping firm Bluesoul to develop new LNG carrier designs.

The designs will focus on large LNG carriers using tanks developed by Bluesoul and its subsidiary, Norwegian technology firm Torgy LNG, LNG Easy said.

LNG Easy on 3 January revealed a design for a carrier with a capacity of 235,000m³. Only Q-Max carriers with a capacity of 266,000m³ are designed to hold more LNG.

The vessels would use tanks that could save 10-11 months in construction time, LNG Easy said.

By Martin Senior

Japan's Mizuho to invest in decarbonisation

Japanese private bank Mizuho Financial plans to promote the decarbonisation of oil, gas and coal supply chains, enhancing its sustainability policies further.

Mizuho has set a goal to reduce CO₂ and methane emissions from its portfolio relating to the production of oil and gas to 4.2g CO₂ equivalent (CO₂e)/megajoule by the April 2030-March 2031 fiscal year, compared to 6.6g CO₂e/megajoule in 2019-20, by investing in producers' decarbonisation efforts. The bank aims to curb absolute greenhouse gas emissions by 12-29pc compared with 2019-20's 60.6mn t of CO₂e from the use of oil and gas.

Mizuho also aims to achieve zero emissions in the production and consumption of thermal coal in OECD countries by 2030-31 and in non-OECD countries by 2040-41 by providing financial support to coal suppliers. This is in line with emissions reduction targets under the Cop26 agreements, Mizuho said.

But Mizuho is not considering cutting credit available for oil, gas and thermal coal projects for now.

Mizuho previously announced its goal to reduce CO₂ emissions by 40-65pc from 2020-21 in power generation businesses by 2030-31, through investment in sustainable projects and next-generation fuels or technologies, as well as [reducing credit](#) available for coal-fired power development projects. The bank also plans to withdraw from investing in new thermal coal mining projects.

By Nanami Oki

JGC, SHI win Malaysian FLNG plant deal

Japanese engineering company JGC and its South Korean partner Samsung Heavy Industries (SHI) have won a construction contract for a floating LNG (FLNG) plant in Malaysia.

Petronas awarded the engineering, procurement, construction and commissioning (EPCC) contract for a nearshore FLNG facility project, JGC announced on 6 January. The firms [won the project's engineering contract](#) in 2021.

The plant will have a minimum capacity of 2mn t/yr and will be completed in 2027.

The facility will be located at the Sipitang Oil and Gas Industrial Park in Malaysia's Sabah state, where Petronas is currently [developing other domestic LNG projects](#).

The plant will produce LNG from gas supplied by an existing pipeline from an offshore field in Sabah state. "It will not take too long" before commercial operations begin, a JGC representative told *Argus*.

It is still unclear where the produced LNG will be exported to, but Japan is a potential destination among other Asian nations.

Japan has [shown interest in securing LNG supply from Malaysia](#) in the event of shortages.

By Yusuke Maekawa

AUSTRALIA WEEKLY - MARKET COMMENTARY

Australia gas: Prices lower on LNG outage

Spot prices for month-ahead gas deliveries to Wallumbilla and Victoria edged lower as maintenance on a liquefaction train at a major LNG facility in Queensland allowed more gas to be released into the market.

The AWX, the Argus assessment for month-ahead spot gas deliveries to Wallumbilla, was at A\$15.833/GJ for February deliveries this week, down by 84¢/GJ from the previous week. Maintenance at the 8.5mn t/yr Queensland Curtis LNG (QCLNG) export terminal has been **extended by nine days** in January to last from 27 December to 16 January, compared to its earlier schedule of 27 December to 7 January. The facility had **previously shut the other train** of its two-train facility across 7-22 December.

The extension in the maintenance schedule is expected to send more gas back into the domestic market over the prompt period and help cover some February requirements as well, market participants said.

Flows to the Queensland liquefaction plants including the 7.8mn t/yr Gladstone LNG, the 9mn t/yr Australia Pacific LNG and QCLNG was at 3.277TJ on 5 January, which was lower than flows at 3.410TJ a week earlier on 29 December.

The continued outage at QCLNG has also helped boost domestic storage levels. The 26,000TJ Iona underground gas storage site in Victoria has been filling up well, standing at 84pc full on 5 January, compared to 79pc a week earlier. This has bolstered confidence in supply availability and has limited urgency among buyers to procure spot supplies.

The AVX, the Argus assessment for month-ahead spot gas deliveries to Victoria, was at A\$13.833/GJ, down by A\$1.167/GJ from the previous week.

Trades in the domestic market continue to remain thin in the aftermath of the holiday season because of low industrial and commercial activity, weakening demand for gas-fired power generation. Market participants are also gradually returning to work after the holiday season, limiting discussions for spot supplies. There are limited offers following the imposition of the **12-month price cap**, limiting market activity even more. These factors have all largely weighed on month-ahead prices for the past few weeks.

But most market participants are keeping an eye on the possibility of an increase in prices for February deliveries on expectations of more intense warm weather over the month. Australia's Bureau of Meteorology predicts that maximum temperatures have a 60-80pc chance of being higher than median for almost all of Australia across February and April, according to its latest forecast issued on 5 January. Heat-

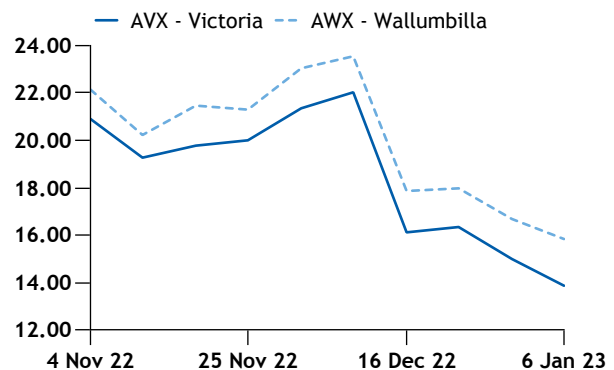
Argus Wallumbilla Index (AWX)					
Delivery	Units	Bid	Offer	Midpoint	±
Feb	A\$/GJ	13.33	18.33	15.833	na
Feb	\$/mn Btu	9.48	13.03	11.255	na

Argus Victoria Index (AVX)					
Delivery	Units	Bid	Offer	Midpoint	±
Feb	A\$/GJ	11.33	16.33	13.833	na
Feb	\$/mn Btu	8.06	11.61	9.833	na

AEMO weekly average Victoria 6am price			
Delivery	Units	Price	±
Prompt	A\$/GJ	11.040	+1.082
Prompt	\$/mn Btu	7.906	+0.815

LNG netbacks weekly average			
	Units	Price	±
Gladstone oil-linked LNG	A\$/GJ	20.95	-0.01
	\$/mn Btu	14.99	+0.04
Gladstone spot LNG	A\$/GJ	31.01	-3.88
	\$/mn Btu	22.19	-2.70

Argus Victoria Index vs Wallumbilla Index AUD/GJ



waves and typhoons especially in Queensland are expected to escalate in frequency from the month of February, some market participants said.

Supply availability to the domestic market may also tighten in mid-January when the 1,150 TJ/d Longford gas plant in Victoria is scheduled to undergo maintenance, market participants said. This is likely to drive prices for gas supplies higher, especially since that may coincide with warmer weather, increasing demand for gas-fired power generation for cooling.

NEWS

China considers lifting ban on Australian coal imports

China could be moving to loosen its informal ban on imports of Australian coal, potentially restarting trade flows for the first time in over two years.

China's main economic planning agency the NDRC has discussed the potential lifting of the unofficial ban, market participants said. Four major coal importers – China Energy Investment, Huaneng, Datang and Baowu Steel – could have been given permission to import Australian coal, they said.

The developments could not be confirmed. Details on an effective date for the trade to restart and annual import quotas have not yet been finalised, market participants said.

Potential trades will likely have to be concluded on a “point-to-point” basis, whereby consumers purchase Australian coal without relying on third-party intermediaries, some market participants said. This also indicates that potential buyers should not resell cargoes to other consumers.

China has unofficially banned Australian coal imports since late 2020 because of political tensions. Australia was a significant coal supplier to China before the ban, which has pushed Chinese buyers to purchase more coal from other origins such as Indonesia and Russia.

Australia and China agreed last month to hold further talks about resolving several trade disputes. That came after Chinese president Xi Jinping and Australian prime minister Anthony Albanese met at the G20 summit in Indonesia, in the first meeting between the two countries’ top leaders in six years.

Chinese demand for Australian coal is likely to remain muted, even if the ban is lifted, because of recent volatility in Australian thermal coal prices, market participants said. This, together with the relatively long shipping times involved, will exacerbate the potential financial exposure for

Chinese consumers, they added.

Australian thermal coal prices have been highly volatile as supplies have been curbed by weather-related disruptions surrounding recent La Nina events. European demand for Australian coal has also increased following Russia's invasion of Ukraine in February 2022, which tightened gas supplies. The EU also banned Russian coal imports in August last year as part of wider sanctions against Russia.

The price arbitrage of Australian high calorific value (CV) NAR 5,500 kcal/kg and NAR 6,000 kcal/kg thermal coal is unlikely to be attractive to Chinese end users, as the NDRC capped the spot price for Chinese domestic NAR 5,500 kcal/kg thermal coal at 1,155 yuan/t (\$167.8/t) fob north China ports in May last year.

Australian high-ash NAR 5,500 kcal/kg coal prices hit a record high of \$287.15/t fob Newcastle on 11 March 2022, after touching an historical low of \$35.04/t on 4 September 2020, when global Covid-19 lockdowns and restrictions weighed on demand. Argus last assessed this market at \$133.56/t fob Newcastle on 30 December 2022.

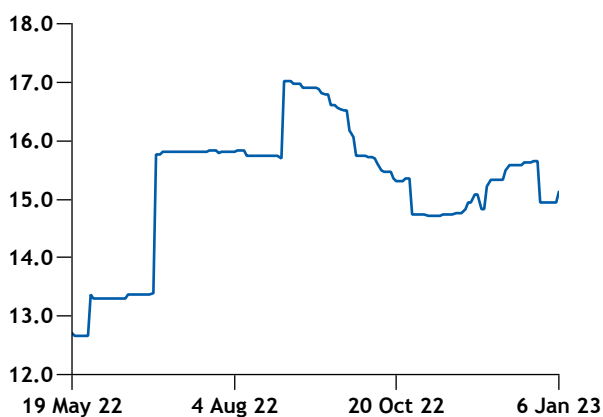
Chinese enquiries have picked up for Australian NAR 5,100 kcal/kg coal because of its relatively attractive price differential, putting pressure on Indonesian mid-CV coal prices, some traders and Australian producers said. Others said Australian NAR 5,100 kcal/kg coal is being offered in a \$104-110/t fob Newcastle range. Argus last assessed Indonesian mid-CV GAR 5,000 kcal/kg coal prices at \$115.82/t fob Kalimantan on 30 December.

China imported 42.5mn t of Australian thermal coal in 2020, but this plummeted to 5.5mn t in 2021, Chinese customs data show.

By Siew Kuan Yong

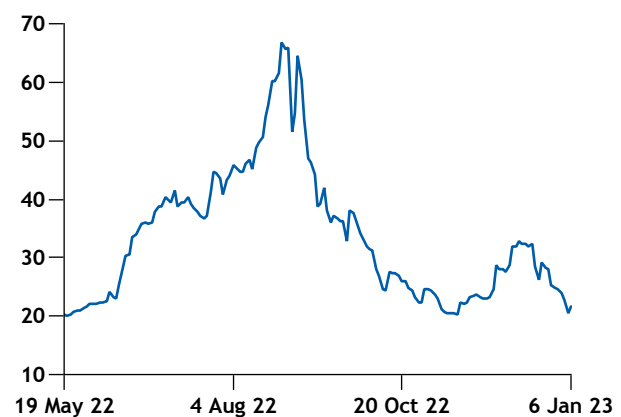
Gladstone oil-indexed netback

USD/mn Btu



Gladstone spot netback

USD/mn Btu



APPENDIX

Full methodology of oil-linked LNG prices available at <http://www.argusmedia.com/methodology-and-reference/>. A subset of the oil-linked LNG prices are published in the print edition of Argus LNG Daily. The full series is available electronically.

Oil-linked LNG on six-month crude average (601) contract (5 Jan 2023)										\$/mn Btu
Delivery	10pc	10.5pc	11pc	11.5pc	12pc	12.5pc	13pc	13.5pc	14pc	14.5pc
Feb	9.92	10.42	10.92	11.41	11.91	12.40	12.90	13.40	13.89	14.39
Mar	9.32	9.78	10.25	10.71	11.18	11.65	12.11	12.58	13.04	13.51
Apr	8.88	9.32	9.76	10.21	10.65	11.10	11.54	11.98	12.43	12.87
May	8.56	8.99	9.42	9.85	10.27	10.70	11.13	11.56	11.99	12.41
Jun	8.36	8.78	9.20	9.62	10.04	10.46	10.87	11.29	11.71	12.13
Jul	8.12	8.52	8.93	9.33	9.74	10.15	10.55	10.96	11.36	11.77
2Q23	8.60	9.03	9.46	9.89	10.32	10.75	11.18	11.61	12.04	12.47
3Q23	7.96	8.36	8.76	9.16	9.55	9.95	10.35	10.75	11.15	11.55
4Q23	7.82	8.22	8.61	9.00	9.39	9.78	10.17	10.56	10.95	11.34
1Q24	7.74	8.12	8.51	8.90	9.28	9.67	10.06	10.44	10.83	11.22
2024	7.60	7.98	8.36	8.74	9.12	9.50	9.88	10.26	10.64	11.02
2025	7.30	7.66	8.03	8.39	8.75	9.12	9.48	9.85	10.21	10.58

Oil-linked LNG on three-month crude average (301) contract (5 Jan 2023)										\$/mn Btu
Delivery	10pc	10.5pc	11pc	11.5pc	12pc	12.5pc	13pc	13.5pc	14pc	14.5pc
Feb	9.17	9.63	10.08	10.54	11.00	11.46	11.92	12.38	12.83	13.29
Mar	8.85	9.29	9.74	10.18	10.62	11.07	11.51	11.95	12.39	12.84
Apr	8.36	8.77	9.19	9.61	10.03	10.44	10.86	11.28	11.70	12.11
May	7.95	8.35	8.75	9.15	9.54	9.94	10.34	10.74	11.14	11.53
Jun	7.88	8.27	8.66	9.06	9.45	9.85	10.24	10.63	11.03	11.42
Jul	7.88	8.27	8.66	9.06	9.45	9.85	10.24	10.63	11.03	11.42
2Q23	8.06	8.46	8.87	9.27	9.67	10.08	10.48	10.88	11.29	11.69
3Q23	7.86	8.25	8.65	9.04	9.43	9.83	10.22	10.61	11.01	11.40
4Q23	7.78	8.17	8.56	8.95	9.34	9.73	10.12	10.51	10.90	11.29
1Q24	7.69	8.07	8.46	8.84	9.23	9.61	10.00	10.38	10.77	11.15
2024	7.56	7.94	8.31	8.69	9.07	9.45	9.83	10.20	10.58	10.96
2025	7.26	7.62	7.99	8.35	8.71	9.08	9.44	9.80	10.17	10.53

Oil-linked LNG on three-month crude average with one month lag (311) contract (5 Jan 2023)										\$/mn Btu
Delivery	10pc	10.5pc	11pc	11.5pc	12pc	12.5pc	13pc	13.5pc	14pc	14.5pc
Feb	9.40	9.87	10.34	10.81	11.28	11.75	12.22	12.69	13.16	13.63
Mar	9.17	9.63	10.08	10.54	11.00	11.46	11.92	12.38	12.83	13.29
Apr	8.85	9.29	9.74	10.18	10.62	11.07	11.51	11.95	12.39	12.84
May	8.36	8.77	9.19	9.61	10.03	10.44	10.86	11.28	11.70	12.11
Jun	7.95	8.35	8.75	9.15	9.54	9.94	10.34	10.74	11.14	11.53
Jul	7.88	8.27	8.66	9.06	9.45	9.85	10.24	10.63	11.03	11.42
2Q23	8.39	8.80	9.23	9.65	10.06	10.48	10.90	11.32	11.74	12.16
3Q23	7.87	8.27	8.66	9.05	9.45	9.84	10.23	10.63	11.02	11.41
4Q23	7.81	8.20	8.60	8.99	9.38	9.77	10.16	10.55	10.94	11.33
1Q24	7.72	8.11	8.49	8.88	9.27	9.65	10.04	10.42	10.81	11.20
2024	7.59	7.97	8.34	8.73	9.10	9.48	9.86	10.24	10.62	11.00
2025	7.29	7.65	8.01	8.38	8.74	9.11	9.47	9.83	10.20	10.56

Oil-linked LNG on previous-month crude average (101) contract (5 Jan 2023)										\$/mn Btu
Delivery	10pc	10.5pc	11pc	11.5pc	12pc	12.5pc	13pc	13.5pc	14pc	14.5pc
Feb	9.09	9.54	9.99	10.45	10.90	11.36	11.81	12.26	12.72	13.17
Mar	8.11	8.52	8.92	9.33	9.73	10.14	10.54	10.95	11.36	11.76
Apr	7.87	8.26	8.66	9.05	9.44	9.84	10.23	10.62	11.02	11.41
May	7.88	8.28	8.67	9.06	9.46	9.85	10.25	10.64	11.03	11.43
Jun	7.88	8.27	8.67	9.06	9.46	9.85	10.24	10.64	11.03	11.43
Jul	7.87	8.26	8.65	9.05	9.44	9.83	10.23	10.62	11.01	11.41
2Q23	7.88	8.27	8.67	9.06	9.45	9.85	10.24	10.63	11.03	11.42
3Q23	7.84	8.24	8.63	9.02	9.41	9.80	10.20	10.59	10.98	11.37
4Q23	7.75	8.14	8.53	8.92	9.30	9.69	10.08	10.47	10.85	11.24
1Q24	7.66	8.04	8.42	8.81	9.19	9.57	9.96	10.34	10.72	11.10
2024	7.53	7.91	8.28	8.66	9.04	9.41	9.79	10.17	10.54	10.92
2025	7.24	7.60	7.96	8.33	8.69	9.05	9.41	9.77	10.13	10.50

Crude oil forward prices												\$/bl
	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024
Argus Calculated Japanese Crude Cocktail	88.48	91.81	91.62	91.39	91.12	90.82	90.51	90.19	89.88	89.58	89.26	88.96
Ice Brent (Singapore close)	78.80	78.93	78.88	78.73								

Months 13-24 available to LNG Daily data subscribers. Months 25-47 available to Asia Crude Oil Forward Curves subscribers.

JAPAN, KOREA AND TAIWAN LNG PRICES

Argus Japan, South Korea, Taiwan des spot LNG					\$/mn Btu
	Delivery	Bid	Offer	Mid	±
Japan, South Korea, Taiwan	1H Feb	21.49	24.19	22.840	+0.890
	2H Feb	21.33	24.03	22.680	+1.070
	1H Mar	21.09	23.79	22.440	+1.110
	2H Mar	20.93	23.63	22.280	+1.180



Argus LNG Daily is published by Argus Media group

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ISSN: 2046-2301

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