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Argus Crude

Crude market prices and analysis

Issue 23-3 | Thursday 5 January 2023

CRUDE MARKETS AT A GLANCE

\$/bl

Europe					
	Basis	Diff	Bid	Ask	Change
North Sea Dated	Mar Nsea	-2.03	77.08	77.14	+1.70 ▲
Ice Brent mth 1	Mar			78.69	+0.85 ▲
Argus Brent Sour	Dated	-1.25	75.83	75.89	+3.85 ▲
WTI cif R'dam period 2	Dated	+1.39	78.47	78.53	+2.19 ▲
Johan Sverdrup	Dated	-1.85	75.23	75.29	+4.05 ▲

North America					
	Basis	Diff	Outright	Change	
Nymex WTI mth 1	Feb		73.67	+0.83	▲
WTI Midland	Feb WTI	+0.52	74.19	+0.96	▲
WTI Houston	Feb WTI	+0.85	74.52	+1.02	▲
Mars	Feb WTI	-4.59	69.08	+1.27	▲
WCS Houston	Feb CMA Nymex	-17.00	56.98	+1.49	▲

Russia					
	Basis	Diff	Bid	Ask	Change
Urals fob Primorsk	Dated	-39.95	37.13	37.19	+1.70 ▲
ESPO fob	Feb Dubai swaps	-7.50	66.56	66.66	-1.88 ▼

Delivered China					
	Basis	Diff	Bid	Ask	Change
Tupi	May Ice Brent	-0.70	77.76	77.96	-3.26 ▼

Mideast Gulf					
	Basis	Diff	Bid	Ask	Change
Dubai	Mar		74.51	74.61	-2.31 ▼
Oman	Mar		75.13	75.23	-2.00 ▼
Murban	Mar		76.75	76.85	-1.93 ▼

West Africa					
	Basis	Diff	Bid	Ask	Change
Qua Iboe	Dated	+1.20	78.28	78.34	+1.70 ▲
Girassol	Dated	-1.60	75.48	75.54	+1.90 ▲
Doba	Dated	-6.70	70.38	70.44	+1.70 ▲

Futures rise

February Nymex WTI rose by 83¢/bl to \$73.67/bl, while March Ice Brent rose by 85¢/bl to \$78.69/bl. The March Brent-March WTI spread widened to \$4.77/bl.

TOP HEADLINES

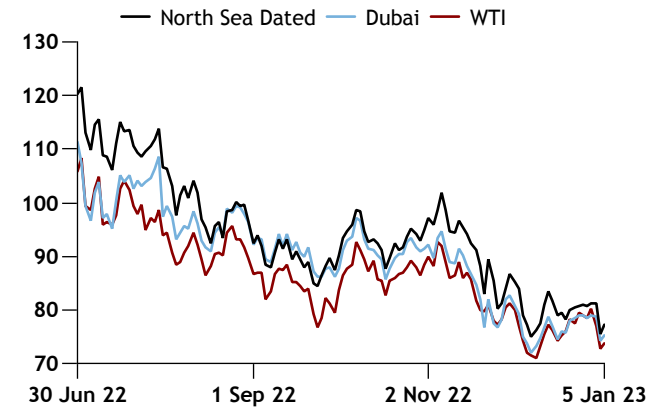
- Germany's Karlsruhe crude unit shut for month
- Colonial shuts Line 3 at Virginia station
- High swells slow Mexico's Salina Cruz port

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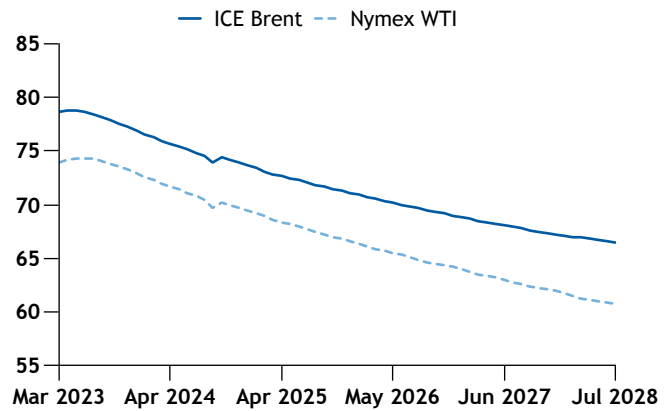
Key benchmarks

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WTI vs Brent forward curve

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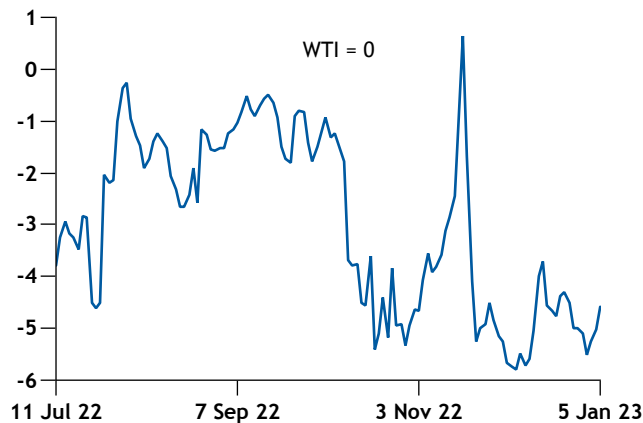
KEY SPREADS

\$/bl

	Spread	±
Interregional Spreads		
Transatlantic		
Ice Brent vs Nymex WTI mth 1	+4.96	-0.01
North Sea Dated vs WTI fob Houston	+2.21	0.69
Argus Brent Sour vs ASCI	+7.11	2.76
Qua Iboe vs WTI Houston	+3.79	0.68
Atlantic Basin to Asia		
Brent-Dubai EFS	+4.71	-0.14
Forties vs Murban	-0.29	3.83
Qua Iboe vs Kimanis	-7.95	0.00
Americas to Asia		
WTI Houston vs Kimanis	-11.74	-0.68
ANS USWC vs ESPO fob	+9.09	2.69
Mars vs Oman	-6.10	3.27
Regional Spreads		
Americas pipeline		
WTI Houston vs WTI Midland	+0.33	0.06
WTI Houston vs Mars	+5.44	-0.25
WTL Midland vs WTI Midland	-0.75	0.27
WTS vs WTI Midland	-3.22	0.02
WCS Hardisty vs WCS Houston	-9.50	-0.67
WCS Cushing vs WCS Houston	-0.98	-0.18
Americas waterborne		
WTI fob Houston vs Ekofisk	-5.32	-0.70
WTI cif Rotterdam vs CPC cif Med	+4.95	-0.50
North Sea		
Dated vs Nsea Forward mth 2	-1.02	4.10
Nsea forwards mth 1 vs mth 3	-0.57	-0.50
Asia-Pacific		
Dubai mth 1 vs mth 3	+0.86	-0.47
Murban cfr China vs WTI del NE Asia	-2.80	-0.20
Oman cfr China vs ESPO fob	+10.54	-0.23

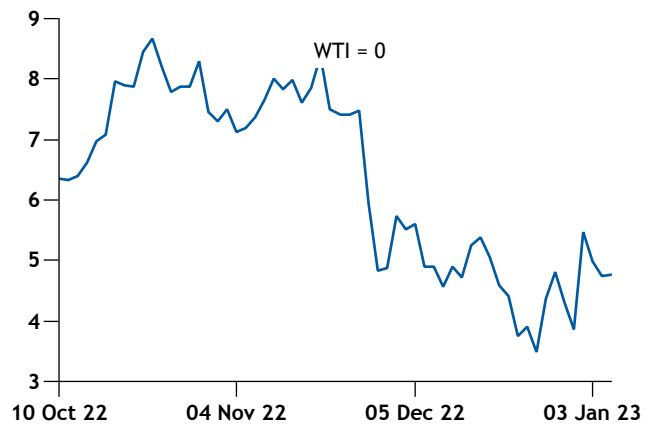
Mars vs WTI

\$/bl



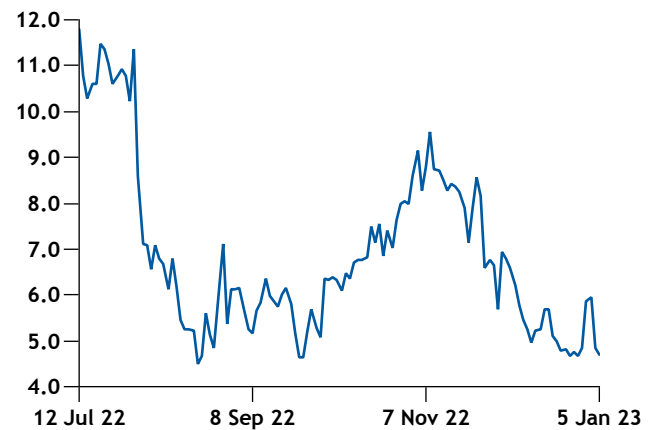
Ice Brent month 1 vs Nymex WTI

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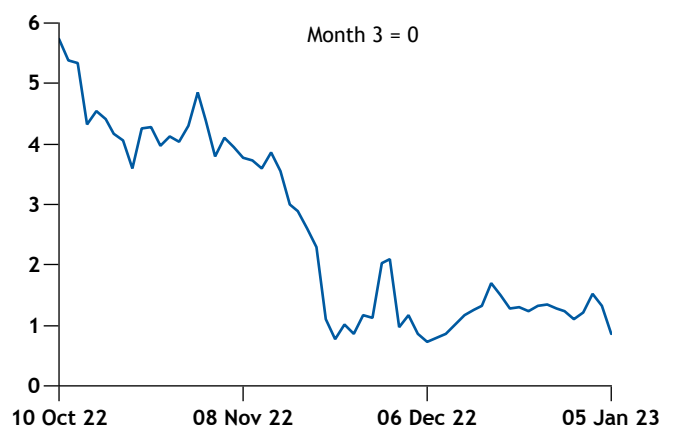
Brent-Dubai Exchange of Futures for Swaps (EFS) m1

\$/bl



Dubai month 1 vs month 3

\$/bl



ANNOUNCEMENT

All data change announcements can be viewed online at www.argusmedia.com/announcements. Alternatively, to be added to the email distribution list for all announcements, please email: datahelp@argusmedia.com.

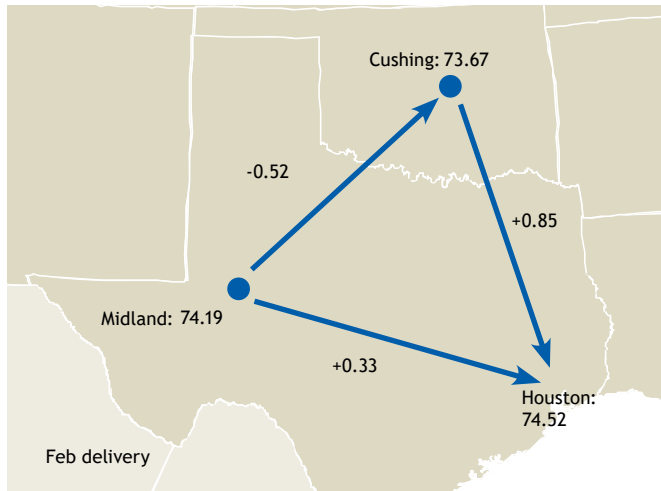
ANNOUNCEMENT

The holiday calendar showing which Argus reports are not published on which days is now available online <https://www.argusmedia.com/en/methodology/publishing-schedule>

US GULF COAST AND MIDCONTINENT

WTI regional prices and spreads

\$/bl



Heavy sour grades reversed course to firm against the CMA Nymex WTI this session.

Western Canadian Select (WCS) and Cold Lake traded at a \$17/bl discount to the CMA Nymex in the Houston area, while Wednesday's session saw trade at discounts between \$17.50-\$18/bl, which was about \$1/bl wider than Tuesday's assessment level. Access Western Blend (AWB) traded in the Houston area this session at CMA -18.45/-18.35. AWB is a heavy sour grade delivered from Canada with a high total acid number (TAN).

Cold Lake traded in Cushing at CMA -18.00/-17.85, firming by about 50¢/bl.

Medium sour Mars for February delivered firmed against the WTI Formula Basis by 44¢/bl, with the high end of reported trade at a \$4.40/bl discount, about 60¢/bl narrower than the weighted-average discount from the prior session. Falling freight rates for VLCCs could incentivize more waterborne activity for Mars, which would tighten supply in the pipeline market.

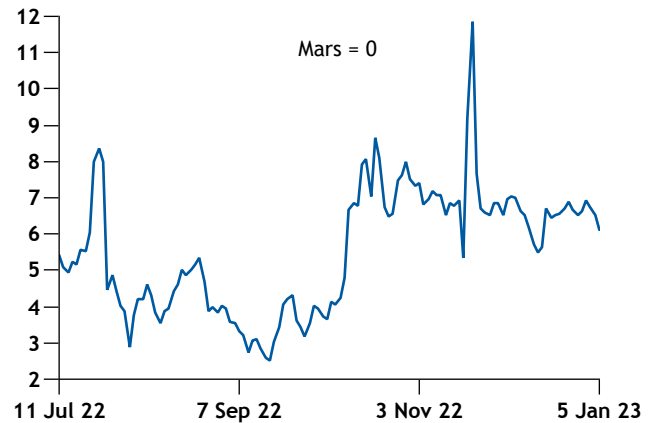
Elsewhere, Bakken DAPL traded in Johnson's Corner and Epping at premiums to the CMA Nymex WTI of 75¢/bl. Bakken DAPL was also heard trading at a 95¢/bl premium, but this was not confirmed. On Wednesday, Bakken DAPL posted a 69¢/bl premium to the CMA Nymex.

In other news, total commercial crude inventories rose by 1.7mn bl for the week ended 30 December according to the Energy Information Administration (EIA), as refinery runs were cut due to a winter storm and the US Strategic Petroleum Reserve (SPR) released 2.7mn bl of supply. The percent utilization of refineries at the US Gulf coast fell by 16.6pc,

Argus Sour Crude Index (ASCI™)				\$/bl
	Month	Basis	Diff	Price
ASCI	Feb	Feb WTI	-4.92	68.75
ASCI 2	Feb	CMA Nymex + Argus WTI diff to CMA	-4.92	68.85

LLS vs Mars

\$/bl



while it slid 12.1pc at the US Midcontinent. Imports of crude at the US Gulf coast and Midcontinent fell by 578,000 bl and 224,000 bl, respectively, likely as a result of the shutdown of the Keystone crude pipeline, which resumed operations on 29 December. Total commercial inventories ended the week at roughly 421mn bl, while production rose by 100,000 b/d to 12.1mn b/d.

Assessment rationale

The minimum volume was met and volume-weighted average calculated according to the methodology for Bakken Cushing month, LLS, Mars, Poseidon, Southern Green Canyon, WCS Cushing, WCS Houston, WTI Diff to CMA Nymex, WTI Houston, WTI Midland Enterprise, WTI Midland, WTL Midland and WTS.

The Bakken at Clearbrook assessment was set on the basis of fresh trade. Bakken at Clearbrook sold at a premium of \$2.10-\$2.15/bl.

US GULF COAST AND MIDCONTINENT

WTI							\$/bl			
	Timing	Low	High	WTI formula basis price	WTI formula basis MTD	Roll to next month				
WTI Cushing	Feb	73.65	73.69	73.67	77.23	0.25				
WTI Cushing	Mar	73.90	73.94	73.92		0.22				
WTI Cushing	Apr	74.12	74.16			0.16				
WTI Cushing	May	74.28	74.32							
	Timing	Price	WTI Nymex spread							
CMA Nymex	Feb	73.98	-0.31							
CMA Nymex	Mar	74.20	-0.28							
CMA Nymex	Apr	74.31								
CMA Nymex	May	74.32								
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	MTD weighted average
Argus AGS Marker	Feb						74.48	74.63	74.53	77.94
Argus AGS	Feb	Feb WTI	+0.81	+0.96	+0.86	+0.70	74.48	74.63	74.53	
WTI Houston	Feb	Feb WTI	+0.80	+0.95	+0.85	+0.69	74.47	74.62	74.52	
WTI Houston	Mar	Mar WTI	+1.00	+1.05	+1.03	+0.82	74.92	74.97	74.95	
WTI Midland	Feb	Feb WTI	+0.50	+0.60	+0.52	+0.38	74.17	74.27	74.19	
WTI Midland	Mar	Mar WTI	+0.60	+0.70	+0.65	+0.56	74.52	74.62	74.57	
WTI Midland Enterprise	Feb	Feb WTI	+0.50	+0.60	+0.52	+0.38	74.17	74.27	74.19	
WTI diff to CMA Nymex	Feb	CMA	-0.23	-0.20	-0.21	-0.10				
WTI postings-plus	Feb	Postings	+3.15	+3.18	+3.17	+3.28				

Midcontinent							\$/bl			
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	
Bakken DAPL	Feb	CMA Nymex	+0.75	+0.80	+0.75	+0.85	74.73	74.78	74.73	
Bakken Patoka	Feb	CMA Nymex	+1.00	+1.10	+1.05	+1.12	74.98	75.08	75.03	
Bakken Clearbrook	Feb	CMA Nymex	+2.10	+2.15						
Bakken Cushing	Feb	Feb WTI	+0.60	+0.80	+0.70	+0.74	74.27	74.47	74.37	
Light Sweet Guernsey	Feb	CMA Nymex	-0.30	-0.20	-0.25	+0.18	73.68	73.78	73.32	
DJ Light	Feb	Feb WTI	-0.40	-0.30	-0.35	-0.32	73.27	73.37	73.73	
White Cliffs	Feb	Feb WTI	-0.40	-0.30	-0.35	-0.32	73.27	73.37	73.32	
Niobrara	Feb	Feb WTI	+1.25	+1.30	+1.29	+1.09	74.92	74.97	74.96	
WCS Cushing	Feb	CMA Nymex	-18.00	-17.85	-17.98	-17.19	55.98	56.13	56.00	
Canadian High TAN Cushing	Feb	CMA Nymex	-19.10	-18.95	-19.03	-18.38	54.88	55.03	54.95	

Texas							\$/bl			
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	
WTL Midland	Feb	Feb WTI	-0.28	-0.18	-0.24	-0.57	73.39	73.49	73.43	
Bakken Beaumont/Nederland	Feb	CMA Nymex + Argus WTI diff to CMA	+1.10	+1.35	+1.23	+1.21	74.87	75.12	75.00	
WTS	Feb	Feb WTI	-3.00	-2.40	-2.73	-2.12	70.67	71.27	70.94	
WTS	Mar	Mar WTI	-2.15	-1.60	-1.88	-1.32	71.77	72.32	72.04	
Southern Green Canyon	Feb	Feb WTI	-4.75	-4.00	-4.50	-4.38	68.92	69.67	69.17	
WCS Houston	Feb	CMA Nymex	-17.10	-16.90	-17.00	-16.20	56.88	57.08	56.98	
Canadian High TAN Houston	Feb	CMA Nymex	-18.45	-18.35	-18.40	-17.53	55.53	55.63	55.58	

Louisiana							\$/bl			
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	
LLS	Feb	Feb WTI	+1.40	+1.75	+1.53	+1.53	75.07	75.42	75.20	
LLS	Mar	Mar WTI	+1.35	+1.40	+1.38	+1.31	75.27	75.32	75.30	
HLS	Feb	Feb WTI	-2.00	-1.90	-1.98	-2.11	71.67	71.77	71.69	
Thunder Horse	Feb	Feb WTI	-1.59	-1.40	-1.50	-2.07	72.08	72.27	72.17	
Poseidon	Feb	Feb WTI	-5.85	-5.50	-5.69	-6.16	67.82	68.17	67.98	
Mars	Feb	Feb WTI	-4.75	-4.40	-4.59	-5.07	68.92	69.27	69.08	
Mars	Mar	Mar WTI	-4.80	-4.65	-4.73	-4.91	69.12	69.27	69.19	

ARGUS AGS

Midland-quality WTI at the US Gulf coast strengthened in an active trade session as freight rates fell, which could support export economics.

The AGS Marker rose by \$1.02/bl to a \$74.53/bl volume-weighted average, supported in part by the AGS index differential to Nymex rising by 19¢/bl to an 86¢/bl premium.

Liquidity was based at the Magellan East Houston (MEH) terminal, where 22 deals totaling 57,000 b/d were transacted at premiums to the Nymex light sweet crude futures contract between 80¢/bl and 95¢/bl.

Reported AGS spot trade volume has totaled 208,000 b/d since the 27 December start to the February US trade month, up by roughly 7pc compared to the 195,000 b/d reported over the same period of the January trade month.

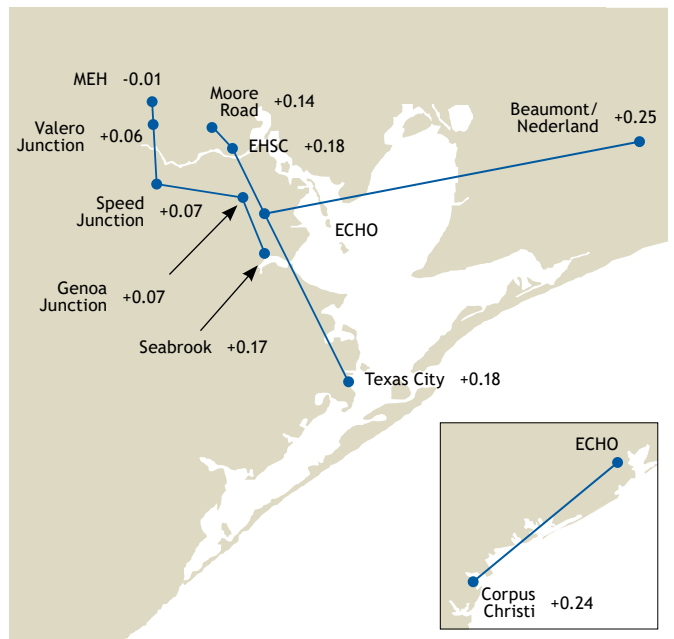
The AGS Marker has averaged \$77.94/bl so far in the February trade month, down by \$2.13/bl from an average \$80.07/bl a month prior amid renewed concerns over a possible recession for one-third of the global economy. The AGS index has meanwhile narrowed its average premium to Nymex by 30¢/bl to 70¢/bl month-to-date.

Separately, US Gulf coast crude inventories rose by 2.28mn bl to 233.94mn bl in the week ended 30 December, while stocks at Cushing, Oklahoma, rose by 244,000 bl to 25.27mn bl, according to the latest available weekly statistics published this session by the US Energy Information Administration (EIA). Inventories earmarked by the US Strategic Petroleum Reserve (SPR) declined by 2.75mn bl to 372.38mn bl.

Argus AGS		\$/bl			
	Timing	Low/high	VWA	VWA MTD	
Argus AGS Marker	Feb	74.48/74.63	74.53	77.94	
Argus AGS	Feb	74.48/74.63	74.53		
	Timing	Basis	Diff low/high	VWA	VWA MTD
Argus AGS	Feb	Feb WTI	+0.81/+0.96	+0.86	+0.70

AGS locational differentials vs Echo

\$/bl



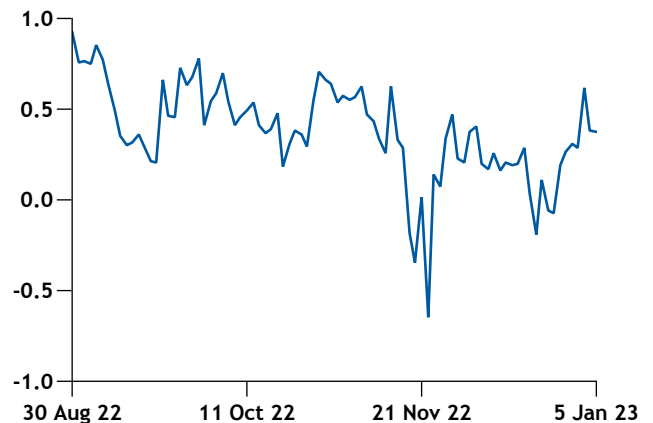
WTI fob USGC diff to Ice Brent

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WTI fob USGC diff to WTI Houston

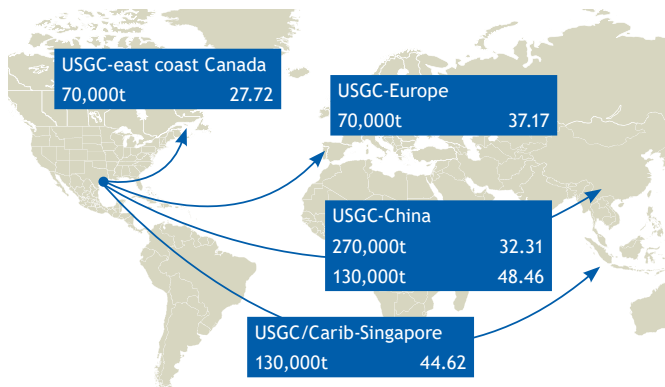
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US WATERBORNE

Dirty freight rates

\$/t



Freight rate	\$ lumpsum
Route	Daily Worldscale
USGC Aframax reverse lightering	475,000

Dirty tanker rates out of the US Gulf coast fell for the third consecutive trade session, helping sustain export activity on signs of an improving arbitrage.

WTI loading in early to mid-February was heard trading at least twice this session at a discount to April Ice Brent narrower than \$4/bl, although specific details were unclear. The US light sweet crude was assessed at discounts to the benchmark between \$4.05/bl and \$3.80/bl this session to reflect bids and offers heard at premiums to the WTI Houston pipeline index between 25¢/bl and 50¢/bl.

February WTI Houston had firmed by roughly 20¢/bl against the Nymex light sweet crude futures contract this session to change hands in the pipeline market at premiums between 80¢/bl and 95¢/bl, reflecting a volume-weighted average \$4.30/bl under April Ice Brent as prompt Nymex settled at a \$5.15/bl discount to the international basis.

West Texas Light (WTL) was meanwhile pegged at an estimated trade value between discounts to April Ice Brent of \$4.45/bl and \$4.30/bl on an fob basis at the US Gulf coast this session.

Meanwhile, WTI delivered to the Netherlands port of Rotterdam was heard valued at a premium to North Sea Dated stronger than \$1.20/bl for cargoes arriving in February and at a premium around \$1.80/bl for cargoes arriving in March.

US Gulf coast waterborne				\$/bl
	Timing	Basis	Diff low/high	Low/High
WTI fob USGC	Prompt	Feb CMA Nymex	+0.79/+1.04	74.77-75.02
	Prompt	Feb WTI Houston	+0.25/+0.50	
	Prompt	Apr Ice	-4.05/-3.80	
Bakken fob Beaumont/ Nederland	Prompt	Feb CMA Nymex	+0.89/+1.39	74.87-75.37
	Prompt	Feb WTI Houston	+0.35/+0.85	
	Prompt	Apr Ice	-3.95/-3.45	

WTI intramonth spreads				\$/bl
Load window (dates)	Timing	Basis	Diff low/high	Diff midpoint
1-10 M1	Feb	Feb WTI Houston	+0.25/+0.40	+0.33
	Feb	Apr Ice	-4.05/-3.90	-3.98
11-20 M1	Feb	Feb WTI Houston	+0.30/+0.50	+0.40
	Feb	Apr Ice	-4.00/-3.80	-3.90
21-28 M1	Feb	Feb WTI Houston	+0.30/+0.50	+0.40
	Feb	Apr Ice	-4.00/-3.80	-3.90

A \$1.20/bl premium to Dated Brent would this session reflect a roughly \$4.80/bl discount to April Ice Brent on an equivalent fob basis at the US Gulf coast if departing in February via Aframax. The delivered premium for March would reflect a roughly \$3.95/bl discount to the benchmark on an equivalent fob basis, suggesting the arbitrage to buy crude at the US Gulf coast in late February to sell on a delivered-Europe basis in early March could be workable.

The dirty Aframax rate from the US Gulf coast to Europe fell by more than \$1/bl to a five-month low at \$4.77/bl for WTI-quality cargoes. Traders might still opt to load larger vessel sizes, with VLCC and Suezmax rates on the same route assessed around roughly \$2.25/bl and \$2.75/bl, respectively.

Separately, Alaskan North Slope (ANS) for March delivery to the US west coast sold twice, with discounts to CMA Ice Brent reported at \$3.10/bl. ANS for March sold four times in

Anticipated US crude export cargoes – 15-45 days forward						
Tanker name	Approximate volume '000 bl	Estimated grade	Load window	Load port	Chartered destination	ETA
Nissos Nikouria	2,100	WTI	20 Jan	tbd	Europe	tbd
Cyan Nova	2,100	WTI	27 Jan	Corpus Christi, Texas	Europe	tbd
Miltiadis Junior	2,100	WTI	29 Jan	tbd	Asia-Pacific	tbd

US WATERBORNE

the prior trade session at discounts between \$3-3.25/bl.

ANS output fell by roughly 1,000 b/d to around 500,500 b/d in the week ended 31 December, according to the Alaska Department of Revenue. The Port of Valdez ended the week holding roughly 4.2mn bl of crude inventories, up by about 700,000 bl from the prior week.

The volume of ANS in transit to the US west coast declined by 1mn bl to 3mn bl, according to the latest available weekly statistics published by the US Energy Information Administration (EIA).

Fresh data released Thursday by the US Census Bureau meanwhile indicated US crude exports eased by 2.7pc from October's record high to 4.04mn b/d in November, still reflecting a nearly 30pc increase compared to the same month last year.

Monthly export flows were expected to weaken from October on the back of cold weather patterns in the Gulf of Mexico that had shut down all lightering and reverse lightering operations across the US Gulf coast for a week starting on 15 November due to high waves.

Flows to Asia-Pacific destinations comprised 1.92mn b/d, or about 47.5pc of US crude exports, while Europe took 37.5pc at roughly 1.5mn b/d. The remaining 620,000 b/d of US crude exports were destined for other locations within the Americas.

This morning's shipping fixture reports indicate BP is planning to charter the Aframax *Philotimos* from the US Gulf coast to the eastern coast of Canada starting 13 January.

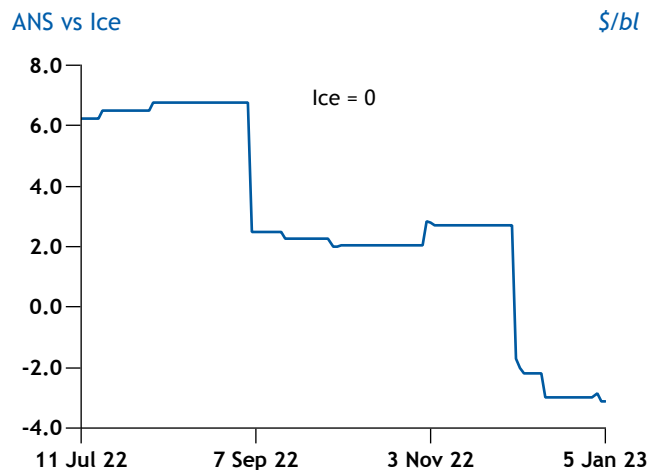
Assessment rationale

The minimum volume was met and assessment calculated according to methodology for ANS.

US west coast pipeline, 4 Jan				\$/bl
	Basis	Diff to Ice Brent		Outright
Light postings avg	Mar	-3.82		74.02
Heavy postings avg	Mar	-7.68		70.16

US west coast waterborne					\$/bl
	Timing	Basis	Diff low/high		Low/High
ANS del	Mar	CMA Nym	+1.45/+1.55		75.65-75.75
	Mar	CMA Ice	-3.15/-3.05		
ANS del concurrent	Mar	Mar WTI	+1.45/+1.55		75.37-75.47

ANS del USWC monthly volume-weighted average				\$/bl
		Basis		Diff
Dec		Ice CMA		+2.02
Jan		Ice CMA		+2.77
Feb MTD		Ice CMA		-2.23
Mar MTD		Ice CMA		-3.08



LATIN AMERICA

Argentinian Medanito inched higher against April Ice Brent to a discount between \$9.20/bl and \$10.20/bl, ahead of a tender expected to close this week offering a February-loading cargo of the light sweet grade.

February-loading heavy sweet Escalante moved in line with Medanito to discounts between \$3.50/bl and \$2.50/bl to April Ice Brent.

Colombia's medium sour Vasconia was steady at a discount between \$8.90/bl and \$9.90/bl against the international basis. The grade receded by roughly 20¢/bl in the prior trade session tracking lower values for competing crude at the US west coast.

At the US west coast, a major hub for Latin American grades, refinery runs last week fell by 25,000 b/d to around 2.15mn b/d, while the region's refinery utilization rates decreased by about 1.4 percentage points to 86pc, according to Energy Information Administration (EIA) data.

Separately, Indonesia's state-owned refiner Pertamina was set to close a tender this session seeking crude supplies for its April requirement.

The tender short listed Brazil's Lula and Guyana's Liza crudes for delivery expected between 5-20 April to the Cilacap port. Offers were due on an fob or delivered basis and will remain valid until 9 January.

The refiner closed a tender in the previous trade session seeking crude for March delivery. Several Latin American grades were listed, but details were slow to emerge.

In shipping, fixture reports indicate ExxonMobil plans to charter the Suezmax *Seaways Hatteras* around 20 January from Guyana to Europe.

Shell placed the VLCC *DHT Osprey* on subjects to load crude from Brazil around 5 February and unload in South Africa.

Several Aframax were booked for a journey from the east coast of Mexico to the US Gulf coast beginning next week. Eni and Atmi booked the *Iridescent* and *Spirit II*, respectively, beginning 12 January. Marathon expects to load crude the following day aboard a Vitol-operated tanker.

South America				\$/bl
	Timing	Basis	Diff low/high	Low/High
Colombia				
Vasconia	Prompt	Apr WTI	-5.22/-4.22	68.92-69.92
		Apr Ice	-9.90/-8.90	
Castilla	Prompt	Apr WTI	-12.32/-11.32	61.82-62.82
		Apr Ice	-17.00/-16.00	
Argentina				
Escalante	Prompt	Apr WTI	+1.18/+2.18	75.32-76.32
		Apr Ice	-3.50/-2.50	
Medanito	Prompt	Apr WTI	-5.52/-4.52	68.62-69.62
		Apr Ice	-10.20/-9.20	
Ecuador				
Oriente	Prompt	Mar WTI	-10.00/-9.00	63.92-64.92
		Mar Ice	-14.77/-13.77	
Napo	Prompt	Mar WTI	-15.30/-14.30	58.62-59.62
		Mar Ice	-20.07/-19.07	
Mexico				\$/bl
	Timing	Basis	Diff	Price
Maya				
Excluding USWC	Jan	Feb Nymex	-14.32	59.35
USWC	Jan	Feb Nymex	-6.57	67.10
Europe	Jan	Mar Dated Brent	-13.57	63.54
India	Jan	Mar Dated Brent	-15.12	61.99
Asia-Pacific	Jan	Mar Dubai	-7.94	66.62
Isthmus				
Excluding USWC	Jan	Feb Nymex	-8.42	65.25
USWC	Jan	Feb Nymex	-9.82	63.85
Europe	Jan	Mar Dated Brent	-11.82	65.29
India	Jan	Mar Dated Brent	-15.97	61.14
Asia-Pacific	Jan	Mar Dubai	-4.44	70.12
Olmeca				
Americas	Jan	Feb Nymex	-5.67	68.00
Europe	Jan	Mar Dated Brent	-5.62	71.49
India	Jan	Mar Dated Brent	-9.57	67.54
Mexico K-factors				\$/bl
	Timing	K-factor		
Maya USGC	Jan	-16.65		
Maya USWC	Jan	-8.90		
Maya Europe	Jan	-15.15		
Maya India	Jan	-16.70		
Maya Asia	Jan	-8.25		
Isthmus USGC	Jan	-10.75		
Isthmus USWC	Jan	-12.15		
Isthmus Europe	Jan	-13.40		
Isthmus India	Jan	-17.55		
Isthmus Asia	Jan	-4.75		
Olmeca USGC	Jan	-8.00		
Olmeca Europe	Jan	-7.20		
Olmeca India	Jan	-11.15		

CANADA

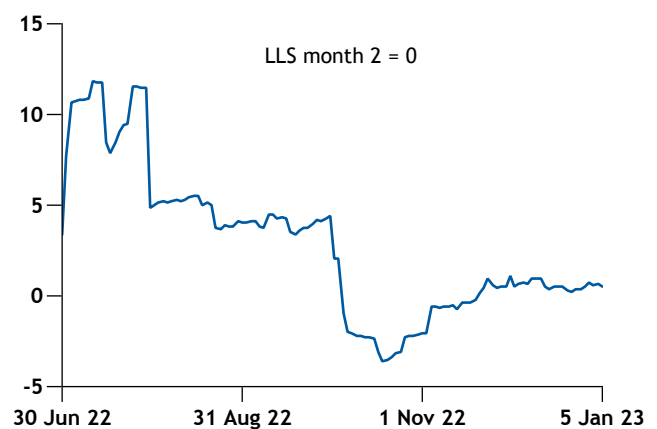
Canada domestic							\$/bl		
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average
Syncrude (SSP)	Feb	CMA Nym	+1.55	+2.05	+1.80	+1.80	75.53	76.03	75.78
WCS	Feb	CMA Nym	-26.75	-26.25	-26.50	-27.64	47.23	47.73	47.48
WCS Cushing	Feb	CMA Nym	-18.00	-17.85	-17.98	-17.19	55.98	56.13	56.00

Canada domestic				\$/bl	
	Timing	Basis	Diff low/high	Low/High	
AWB	Feb	CMA Nym	-29.15/-28.65	44.83-45.33	
CDB	Feb	CMA Nym	-27.90/-27.40	46.08-46.58	
Cold Lake	Feb	CMA Nym	-27.00/-26.50	46.98-47.48	
Condensate	Feb	CMA Nym	+3.25/+3.75	77.23-77.73	
MSW	Feb	CMA Nym	-2.90/-1.45	71.08-72.53	
LSB	Feb	CMA Nym	-3.10/-2.90	70.88-71.08	
LLB	Feb	CMA Nym	-26.50/-24.60	47.48-49.38	

Canada waterborne prices				\$/bl	
	Timing	Basis	Diff low/high	Low/High	
Hibernia	Dated	North Sea	+1.65/+1.85	78.76-78.96	

Canadian Synthetic vs LLS month 2

\$/bl



US imports of Canadian crude fell as refinery throughputs slipped in the third session of the February trade window.

US imports of Canadian crude fell by 16pc to 2.95mn b/d in the week ended 30 December, according to the US Energy Information Administration (EIA).

This is down from US Canadian crude imports of 3.5mn b/d in the week prior, and down from 3.8mn b/d in the same week a year previous.

The four-week average of crude imported into the US from Canada now stands at 3.33mn b/d.

Canadian refinery throughputs decreased in the week ended 27 December, with losses in all regions, according to data from the Canada Energy Regulator (CER).

Total Canadian refinery throughputs fell by 2.6pc week-over-week to 1.66mn b/d, a seven-week low. In the same week a year prior, throughputs totalled 1.62mn b/d.

In Ontario, throughputs decreased by 4.6pc to 379,000 b/d, the lowest level since the week ended 26 July. Ontario's refinery utilization declined by 4.5 percentage points to 92.1pc.

In the US, Bakken at Clearbrook, Minnesota, was heard trading between a \$2.10/bl to \$2.15/bl premium to the February Nymex WTI CMA, with at least 3,000 b/d trading within this range.

Producers of Access Western Blend (AWB) increased bitumen extraction in November on gains from CNRL's Jackfish project, according to data from the Alberta Energy Regulator (AER).

MEG Energy and Canadian Natural Resources (CNRL) extracted 232,000 b/d of bitumen in November, up from 229,000 b/d in the prior month and up from 217,000 b/d a year earlier. The bitumen extracted at MEG Energy's Christina Lake project and CNRL's Jackfish project is destined to become AWB.

MEG Energy's Christina Lake project decreased bitumen extraction to 108,000 b/d from 109,000 b/d in the month previous. In November 2021, the project extracted 97,000 b/d of bitumen.

CNRL's Jackfish project increased output to 123,000 b/d of bitumen, up from 120,000 b/d in the month prior. In November 2021, the Jackfish project extracted 120,000 b/d of bitumen.

Assessment rationale

The minimum volume was met and volume-weighted average calculated according to the methodology for WCS Cushing and WCS Houston.

NORTH SEA DATED

North Sea Dated calculation				\$/bl
North Sea flat price				
North Sea partial trade	Delivery period	Volume bl	Price	
volume weighted average (VWA)	Mar	400,000	79.14	
CFD value against relevant basis month				
		Basis	Midpoint	
9 Jan-13 Jan		Mar	-1.80	
16 Jan-20 Jan		Mar	-1.59	
23 Jan-27 Jan		Mar	-1.42	
30 Jan-3 Feb		Mar	-1.30	
6 Feb-10 Feb		Mar	-1.23	
13 Feb-17 Feb		Mar	-1.18	
CFD value for 15 Jan-5 Feb		Mar	-1.43	
North Sea Anticipated Dated calculation				
		Month	Price	
VWA of North Sea partial trade		Mar	79.14	
CFD value for 15 Jan-5 Feb		Mar	-1.43	
Anticipated Dated			77.71	
Physical differentials for 15 Jan-5 Feb				
Grade		Basis	Diff midpoint	
Brent		Dated	+1.05	
Forties		Dated	-0.60	
Oseberg		Dated	+3.50	
Ekofisk		Dated	+3.10	
Troll		Dated	+4.00	
North Sea quality premiums (QP) for 15 Jan-5 Feb				
Oseberg			+1.85	
Ekofisk			+1.37	
Troll			+1.85	
North Sea Dated calculation				
	Anticipated Dated	Add Diff midpoint	Subtract QP	Price
Brent component of Dated	77.71	+1.05		78.76
Forties component of Dated	77.71	-0.60		77.11
Oseberg component of Dated	77.71	+3.50	+1.85	79.36
Ekofisk component of Dated	77.71	+3.10	+1.37	79.44
Troll component of Dated	77.71	+4.00	+1.85	79.86
North Sea Dated is the lowest component on each day				77.11

North Sea flat price

Argus derives a flat price from trade of a month-ahead forward contract for the delivery of Brent, Forties, Oseberg, Ekofisk or Troll, taking a weighted average of trade between 4:29pm and 4:30pm in London. In the absence of trade, a combination of the Ice Brent futures one-minute marker and the exchange of futures for physical (EFP) market is used.

Anticipated Dated

We then look at contracts for difference (CFDs), with which the market anticipates North Sea Dated in the coming weeks at differentials to the forward month. Prices falling between 10 days and a full calendar month ahead are averaged.

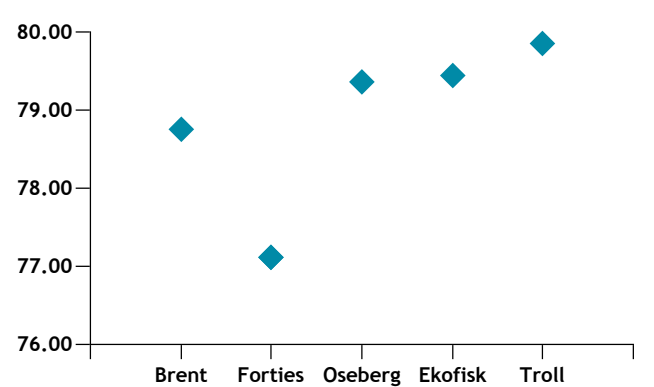
Physical differentials

Argus assesses trade in physical cargoes of Brent, Forties, Oseberg, Ekofisk and Troll crude, assigning differentials to North Sea Dated to each grade for the 10-days to month-ahead range.

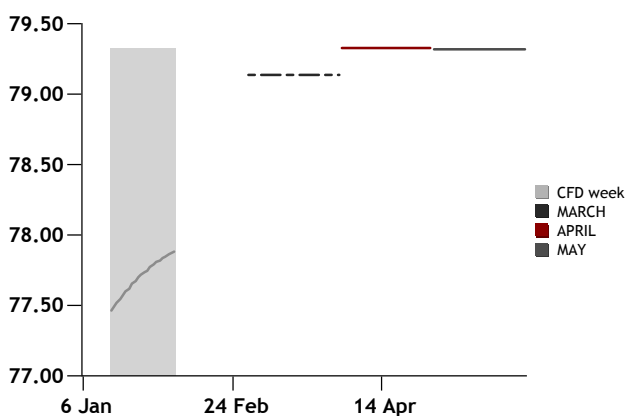
Dated components

The combination of the Anticipated Dated and the physical values gives each grade's component of North Sea Dated for each day of the assessment period. Quality premiums are deducted from Oseberg, Ekofisk and Troll for benchmarking purposes. The lowest-priced of the five components on each day is used to set the price of North Sea Dated.

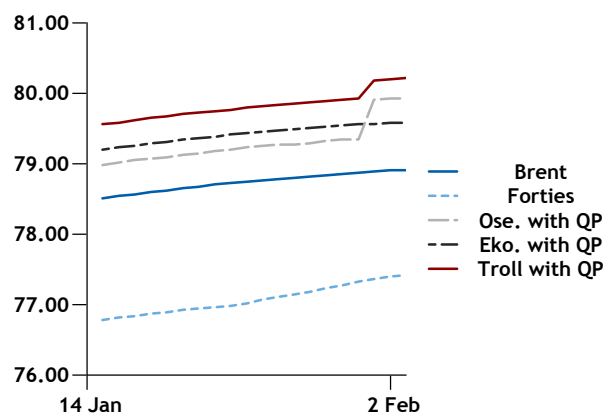
Components of North Sea Dated



North Sea forward curve establishing Anticipated Dated



Dated components-establishing North Sea Dated



NORTH SEA

Forties prices increased on Shell's buying interest, while WTI delivered to Europe and local sour grades were pegged higher.

Mercuria once again was offering Forties delivered on 18-22 January or 22-26 January, both options at North Sea Dated +0.80 fob Hound Point. The offer, which translates to nearly Dated -0.63 on a fob basis, did not attract buyers, even though Mercuria cut the price by 75¢/bl from the previous session.

BP was repeated its offer of a 22-24 January cargo of Forties at Dated -0.40 fob Hound Point, a rise of 20¢/bl from the day before, but again, the firm withdrew its offer without striking a deal.

The only buying interest in the afternoon window for Forties was reserved for February dates. Shell looking for a cargo loading on 2-4 February at Dated -0.50 fob Hound Point, to no avail.

Value for US crude WTI delivered to Europe also strengthened in recent sessions, according to market sources. Cargoes arriving in February were pegged above Dated +1.20 cif Rotterdam, while WTI for March delivery was assessed close to Dated +1.80 cif Rotterdam, up from previous assessments of Dated +0.90 cif Rotterdam.

Prices for North Sea sour grades were also discussed at premiums to the latest indications. Medium sour Johan Sverdrup's differential had risen by nearly \$2.50/bl from previous assessments, traders said. Cargoes of the grade loading in February were heard in a range between Dated -2.00 and Dated -1.75 fob Mongstad, or between Dated -0.20 and Dated +0.10 cif Rotterdam. A revised February loading programme for the grade was expected to be circulated on Thursday, with one cargo due to be removed from next month's plan, some traders suggested.

Fellow medium sour Grane was pegged at around Dated +0.40 cif Rotterdam, or Dated -1.00 fob Sture, up by nearly \$2/bl from previous assessments.

Value for light sour Flotta Gold has also strengthened. February-loading supplies were assessed at around Dated -1.50 on a fob basis, also up by \$2.50/bl from previous assessments. Visibility of offer levels for Flotta Gold might be reduced in January as TotalEnergies has the only cargo of Flotta Gold loading in February, and the company sometimes takes the grade to its own refineries, a trader said.

A rare co-load of Forties and Johan Sverdrup might depart for Asia-Pacific early next week. The Aframax *Sumitomo 1408* laden with nearly 700,000 bl of Johan Sverdrup left Mongstad on 4 January and headed to the ship-to-ship transfer hub of Skagen in Denmark. The VLCC *Fida*, which

North Sea					\$/bl
	Basis	Diff	Bid	Ask	±
Dated*	Mar	-2.03	77.08	77.14	+1.70
Dated (new)**	Mar	-2.08	77.03	77.09	+1.71
Argus Brent Sour	Dated	-1.25	75.83	75.89	+3.85
Brent†	Dated	+1.05	78.13	78.19	+1.70
Forties	Dated	-0.60	76.48	76.54	+1.90
Oseberg	Dated	+3.50	80.58	80.64	+1.70
Ekofisk	Dated	+3.10	80.18	80.24	+1.70
Troll	Dated	+4.00	81.08	81.14	+1.70
Statfjord cif Rotterdam	Dated	+3.80	80.88	80.94	+1.70
Statfjord fob platform	Dated	+1.21	78.29	78.35	+1.70
Gullfaks cif Rotterdam	Dated	+5.05	82.13	82.19	+1.70
Gullfaks fob platform	Dated	+2.46	79.54	79.60	+1.70
Flotta Gold	Dated	-1.50	75.58	75.64	+4.20
Grane	Dated	-1.05	76.03	76.09	+3.60
Johan Sverdrup	Dated	-1.85	75.23	75.29	+4.05

*Argus North Sea Dated is the equivalent of Platts dated Brent

**New North Sea Dated incorporates non-North Sea grades delivered into north-west Europe. A full explanation can be found on p6

†Argus Brent is the price of physical Brent calculated using Argus North Sea Dated plus the Dated-related market differential for Brent

North Sea EFP					
	Basis	Diff			
Mar	Ice	+0.09			
Apr	Ice	+0.14			
Ice minute markers					
			1-minute	±	
Mar			79.09	+1.02	
Apr			79.23	+0.93	
May			79.22	+0.88	
Dated CFDs, Singapore close					
	Basis	Bid	Ask	±	
9 Jan-13 Jan	Mar	-2.19	-2.11	-0.72	
16 Jan-20 Jan	Mar	-2.04	-1.96	-0.67	
23 Jan-27 Jan	Mar	-1.74	-1.66	-0.53	
30 Jan-3 Feb	Mar	-1.56	-1.48	-0.43	
Dated CFDs, London close					
	Basis	Bid	Ask	±	
9 Jan-13 Jan	Mar	-1.84	-1.76	+0.35	
16 Jan-20 Jan	Mar	-1.63	-1.55	+0.41	
23 Jan-27 Jan	Mar	-1.46	-1.38	+0.28	
30 Jan-3 Feb	Mar	-1.34	-1.26	+0.22	
6 Feb-10 Feb	Mar	-1.27	-1.19	+0.16	
13 Feb-17 Feb	Mar	-1.22	-1.14	+0.12	
Delivered northwest Europe assessments					
	Basis	Diff	Bid	Ask	±
WTI cif Rotterdam (period 1)*	Dated	+1.20	78.28	78.34	+1.20
WTI cif Rotterdam (period 2)*	Dated	+1.39	78.47	78.53	+2.19

*Period 1 covers cargoes arriving at Rotterdam from 12 days forward to one month ahead + two days. Period 2 covers cargoes arriving at Rotterdam from one month ahead + three days forward to 60 days.

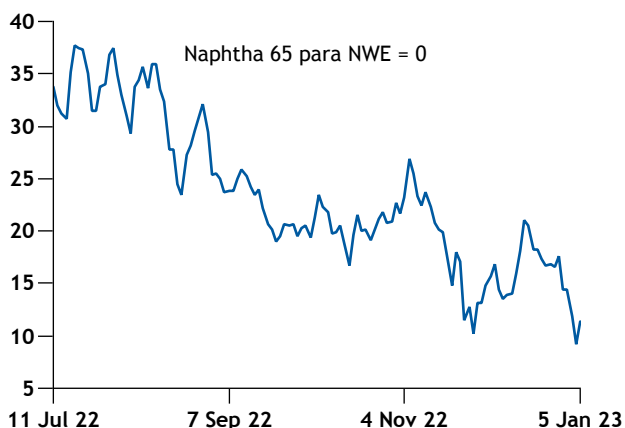
NORTH SEA

loaded Forties and departed Hound Point on 31 December, has been floating near Skagen since arriving there on 2 January. Some tracking data suggest the Fida had only 1.2mn bl of Forties on board, meaning it had enough space to co-load a cargo of Johan Sverdrup. Crude vessels usually go to Asia after combination of cargoes on a larger ship at the Skagen STS site.

Elsewhere, BP was looking to take North Sea crude transatlantic. The company booked the Aframax *Tyrrenian Sea* to sail from the STS of Scapa Flow to a yet-to-be-specified destination in the US Gulf. The date of the departure was not yet revealed. The fixture was not confirmed and may still fail.

Forward prices were higher. The Argus March North Sea price was \$79.14/bl, a rise of \$1.17/bl, based on 400,000 bl of trade in the minute leading up to the timestamp. CFDs also increased. The front-week 9-13 January CFD added 35¢/bl to March North Sea -\$1.80/bl, while the second-week 16-20 January CFD climbed by 41¢/bl to March North Sea -\$1.59/bl.

Ekofisk vs naphtha 65 para NWE cif \$/bl

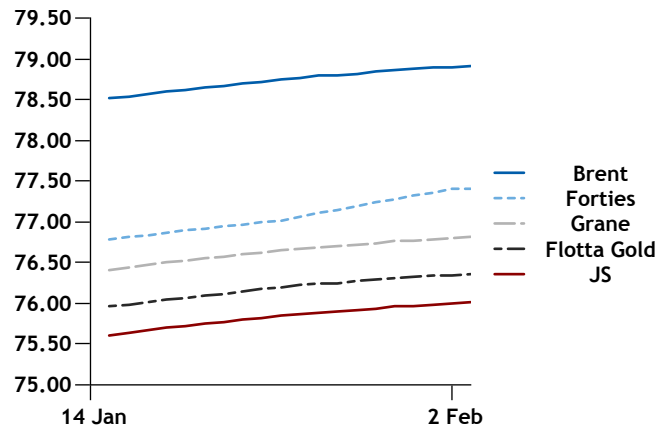


North Sea		\$/bl		
North Sea quality premiums (QP)				
	Jan	Feb		
Ekofisk	1.36	1.37		
Oseberg	1.97	1.43		
Troll	1.90	1.65		
De-escalators				
Sulphur			0.30	
North Sea calculations				
	Basis	Price		
Volume-weighted average of North Sea partial traded	Mar	79.14		
Ice Brent marker	Mar	79.09		
Exchange of futures for physical (EFP)	Apr	+0.14		
North Sea basis (flat price)	Mar	79.14		
Anticipated Dated based on 10 days-month ahead CFD strip:				
	Price	±		
15 Jan-05 Feb	77.71	+1.50		
Argus Brent component of Dated	78.76	+1.50		
Argus Forties component of Dated	77.11	+1.70		
Argus Oseberg component of Dated (QP applied)	79.36	+1.52		
Argus Oseberg component of Dated (no QP applied)	81.21	+1.50		
Argus Ekofisk component of Dated (QP applied)	79.44	+1.49		
Argus Ekofisk component of Dated (no QP applied)	80.81	+1.50		
Argus Troll component of Dated (QP applied)	79.86	+1.50		
<i>*the lowest component on each day of the 10-day - month-ahead assessment period sets Dated.</i>				
Argus alternative Dated illustration				
	Basis	Diff	Price	±
Argus Dated Average	Mar	+0.78	79.920	+1.540
Dated to Ice Brent frontline, London close				
		Bid	Ask	±
Jan		-1.57	-1.49	+0.32
Feb		-1.26	-1.18	+0.18
Mar		-1.01	-0.93	+0.13
Apr		-0.71	-0.63	+0.06
1Qc"		-0.37	-0.29	+0.05
2Qc"		+0.15	+0.23	nc
2023		+0.14	+0.20	+0.51
Ice Bwave, 4 Jan 23				
Mar				84.33
Apr				84.24
May				84.15
Saudi formula base				81.61

ARGUS BRENT SOUR

Argus Brent Sour calculation		\$/bl	
Anticipated Dated		77.71	
Argus Brent Sour calculation			
Components of Argus Brent Sour	Anticipated Dated	Add Diff midpoint	Price
Brent	77.71	+1.05	78.76
Forties	77.71	-0.60	77.11
Grane	77.71	-1.05	76.66
Flotta Gold	77.71	-1.50	76.21
Johan Sverdrup fob Mongstad	77.71	-1.85	75.86
Argus Brent Sour is the lowest component on each day of the assessment period			75.86

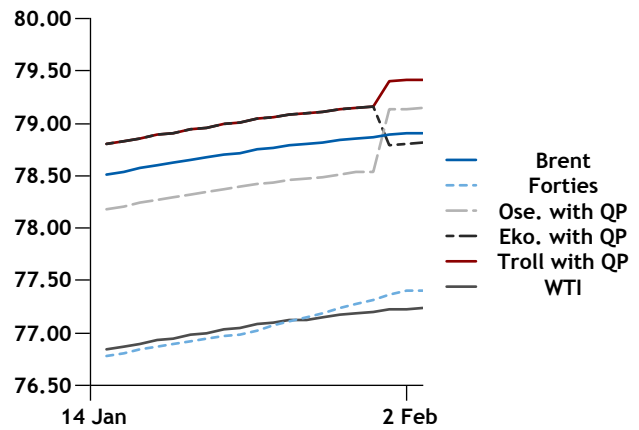
Components of Argus Brent Sour



ALTERNATIVE NORTH SEA DATED ILLUSTRATIONS

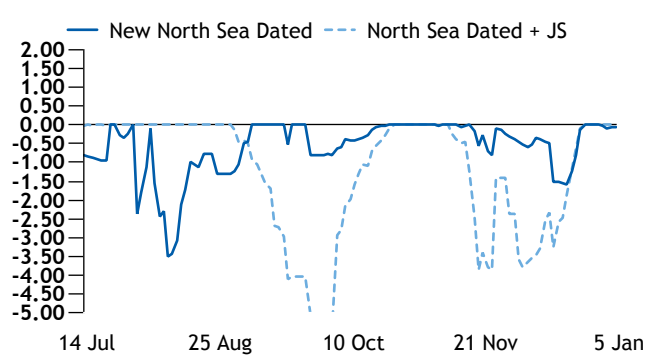
New North Sea Dated calculation		\$/bl		
Anticipated Dated		77.71		
Freight adjustment				
10-day average UK-UK continent rate 22 Dec-4 Jan		1.82		
10-day average UK-UK continent rate 23 Dec-5 Jan		1.76		
North Sea quality adjustments (QA) for 15 Jan-5 Feb				
Oseberg		+2.65		
Ekofisk		+1.85		
Troll		+2.61		
New North Sea Dated calculation				
Components of New North Sea Dated	Anticipated Dated	Add Diff midpoint	Subtract QA and freight	Price
Brent	77.71	+1.05		78.76
Forties	77.71	-0.60		77.11
Oseberg	77.71	+3.50	+2.65	78.56
Ekofisk	77.71	+3.10	+1.85	78.96
Troll	77.71	+4.00	+2.61	79.10
WTI	77.71	+1.20	+1.82	77.09
North Sea Dated is the lowest component on each day of the assessment period				77.06

Components establishing New North Sea Dated



North Sea Dated + JS calculation		\$/bl		
Anticipated Dated		77.71		
North Sea quality adjustments (QA) for 15 Jan-5 Feb				
Oseberg		+1.85		
Ekofisk		+1.37		
Troll		+1.85		
Johan Sverdrup fob Mongstad		-5.61		
North Sea Dated + JS calculation				
Components of North Sea Dated + JS	Anticipated Dated	Add Diff midpoint	Subtract QA and freight	Price
Brent	77.71	+1.05		78.76
Forties	77.71	-0.60		77.11
Oseberg	77.71	+3.50	+1.85	79.36
Ekofisk	77.71	+3.10	+1.37	79.44
Troll	77.71	+4.00	+1.85	79.86
Johan Sverdrup fob Mongstad	77.71	-1.85	-5.61	81.47
North Sea Dated is the lowest component on each day of the assessment period				77.11

Dated illustrations vs North Sea Dated



RUSSIA-CASPIAN

Azeri crude was booked to head east of the Suez canal at the end of this month.

Fixture reports indicate that India's largest state-run refiner IOC fixed the *Serenea* to load 130,000t of crude, most likely Azeri BTC Blend, from the Turkish port of Ceyhan on 27 January and deliver it to Paradip. The fixture was not confirmed and may yet fail.

Demand for Azeri crude from Asia-Pacific appears to have picked up in recent sessions, after BTC Blend's eastward flows slowed to a crawl towards the end of last year. Data from Vortexa indicated that two cargoes will leave for India before 10 January, with both due to head for Vizag on behalf of another of the country's top state refiners HPCL.

Another shipment was meanwhile due to leave Ceyhan on 15 January for Indonesia. Should all four scheduled shipments discharge at their listed destinations, it would be the first time since October that four cargoes of Azeri crude have headed east of the Suez canal in a single month.

Traders otherwise continued to peg light sweet BTC Blend at close to North Sea Dated +6.50 cif Augusta, unchanged from where this month's final cargoes changed hands earlier this week. The February export schedule for Azeri shipments out of Ceyhan was due to surface early next week, according to traders.

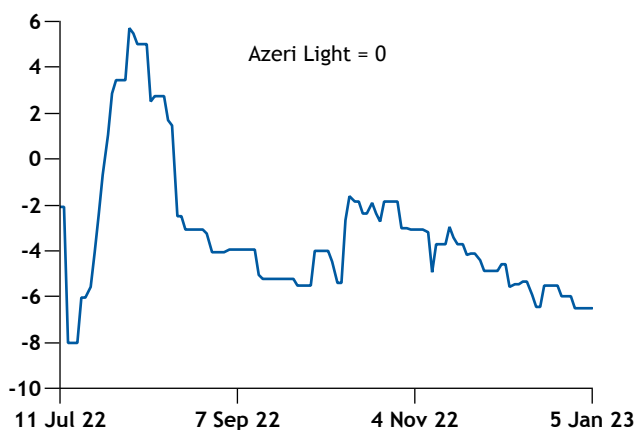
Elsewhere, more very large crude carriers (VLCCs) were receiving Urals crude via ship-to-ship (STS) transfer in the western Mediterranean, most likely ahead of long-haul journeys to destinations east of Suez.

The VLCC *Lauren II* arrived in the Alboran Sea, between Spain and Morocco, on 18 December and received a 730,000 bl cargo of Urals around 25 December from the Aframax *Emily S*, which loaded at Primorsk with crude supplied by Rosneft. The *Lauren II* received another 790,000 bl cargo of

Russia-Caspian					\$/bl
	Basis	Diff	Bid	Ask	±
fob Russia					
Urals fob Primorsk	Dated	-39.95	37.13	37.19	+1.70
Urals fob Ust-Luga	Dated	-39.95	37.13	37.19	+1.70
Urals Aframax fob Novo	Dated	-37.25	39.83	39.89	+1.70
Urals Suezmax fob Novo	Dated	-37.45	39.63	39.69	+1.70
Siberian Light fob Novo	Dated	-17.50	59.58	59.64	+1.70
Delivered					
Kebco cif Augusta	Dated	-10.50	66.58	66.64	+1.70
CPC Blend cif Augusta	Dated	-3.75	73.33	73.39	+1.70
BTC Blend cif Augusta	Dated	+6.50	83.58	83.64	+1.70
Azeri Light cif Augusta	Dated	+6.30	83.38	83.44	+1.70
Netforwards					
Urals NWE cif Rotterdam	Dated	-36.85	40.23	40.29	+1.70
Urals Med Aframax cif	Dated	-30.01	47.07	47.13	+1.41
Urals Med Suezmax cif	Dated	-33.59	43.49	43.55	+1.17
Siberian Light cif Augusta	Dated	-13.50	63.58	63.64	+1.70
Netbacks					
Urals cif Black Sea	Dated	-35.07	42.01	42.07	+1.90
CPC fob terminal	Dated	-9.29	67.79	67.85	+2.44
BTC fob Ceyhan	Dated	+4.50	81.58	81.64	+1.58
Azeri Light fob Supsa	Dated	+0.47	77.55	77.61	+1.99
Retrospective netbacks					
Urals fob Primorsk	Dated	-37.70	39.38	39.44	+1.70
Urals fob Ust-Luga	Dated	-37.70	39.38	39.44	+1.70
Urals fob Novo (Aframax)	Dated	-38.04	39.04	39.10	+2.35
CPC Blend fob	Dated	-14.81	62.27	62.33	+2.83
Turkish straits demurrage					
Delay days					21.00
Aframax demurrage rate \$/d					70,000
Suezmax demurrage rate					70,000

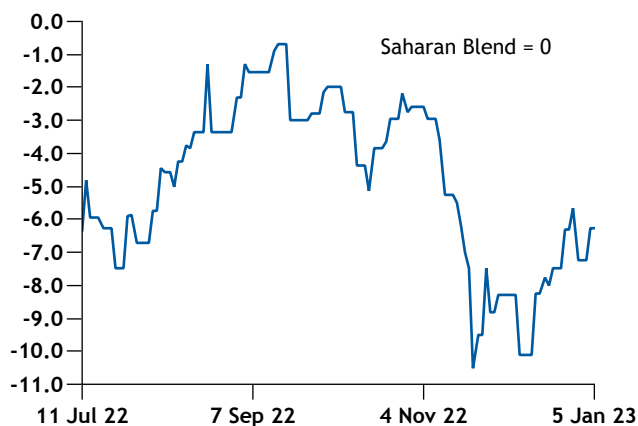
Bonny Light vs Azeri Light

\$/bl



CPC Blend vs Saharan Blend

\$/bl



RUSSIA-CASPIAN

Rosneft Urals from Ust-Luga, supplied on the Aframax *Heidi A*, on 1-2 January. The *Lauren II* remains in the area.

Another VLCC, the *Sao Paulo*, was in the same area and received around 775,000 bl of Urals on 30 December from the *Oriental Pearl*, which loaded at Ust-Luga with Surgutneftegaz crude on 12 December. The *Sao Paulo* then received 735,000 bl of Urals on 1 January in another STS transfer from the Aframax *Seagull*, which loaded at Ust-Luga on 15 December.

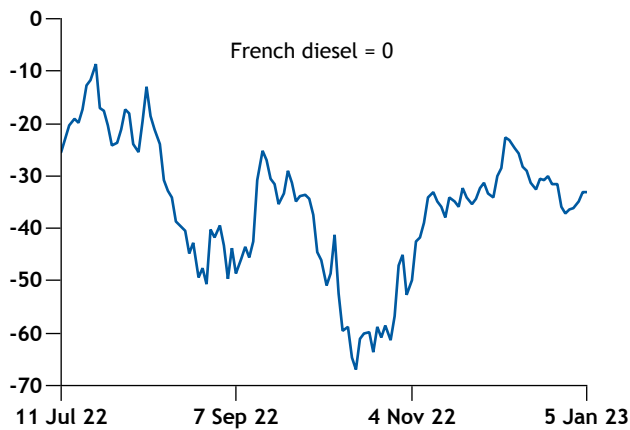
No deals, offers or bids surfaced in the afternoon window.

Druzhba pipeline – Urals (monthly prices) \$/bl					
	Basis	Diff low	Diff high	Low	High
Slovakia					
Nov	Monthly avg of Dated	-28.12	-27.62	62.98	63.48
Oct	Monthly avg of Dated	-26.55	-26.05	66.56	67.06
Sep	Monthly avg of Dated	-24.95	-24.45	64.81	65.31
Hungary					
Nov	Monthly avg of Dated	-28.12	-27.62	62.98	63.48
Oct	Monthly avg of Dated	-26.55	-26.05	66.56	67.06
Sep	Monthly avg of Dated	-24.95	-24.45	64.81	65.31
Poland					
Nov	Monthly avg of Dated	-26.89	-26.39	64.21	64.71
Oct	Monthly avg of Dated	-21.03	-20.53	72.08	72.58
Sep	Monthly avg of Dated	-22.37	-21.87	67.39	67.89
Germany					
Nov	Monthly avg of Dated	-27.00	-26.29	64.10	64.81
Oct	Monthly avg of Dated	-25.00	-20.43	68.11	72.68
Sep	Monthly avg of Dated	-24.00	-21.77	65.76	67.99

North Sea Dated month average \$/bl	
Nov	91.097
Oct	93.109
Sep	88.955

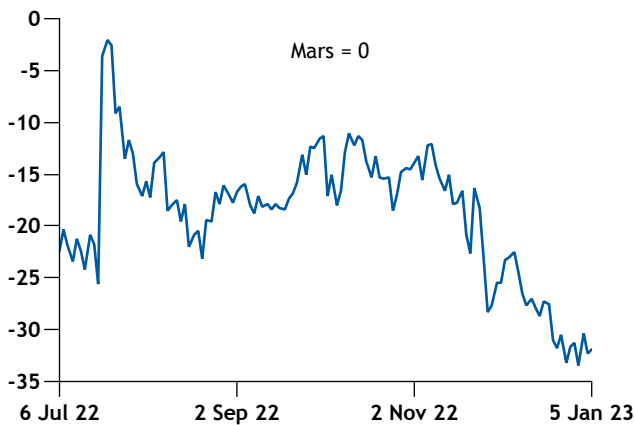
BTC Blend vs French diesel

\$/bl



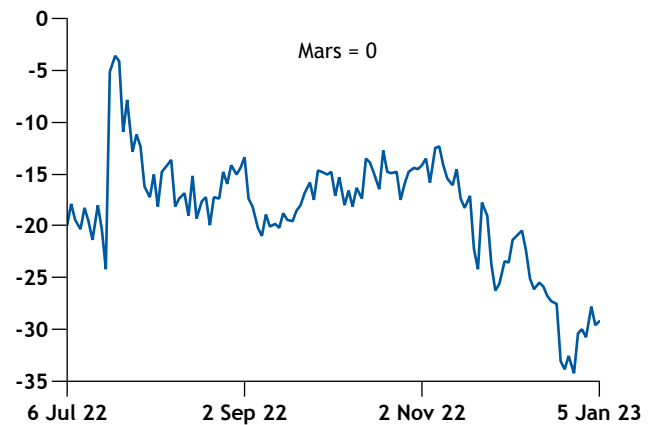
Urals fob Primorsk vs Mars

\$/bl



Urals fob Novo vs Mars

\$/bl



MEDITERRANEAN

State-controlled Saudi Aramco reduced its official formula prices for February-loading exports to Europe, while Libya's state-owned oil firm NOC lifted its prices for January-loading cargoes of all its 10 sweet crude grades.

For northwest European customers, Aramco cut the official February prices of Extra Light, Light, Medium and Heavy grades by between \$1.00/bl and \$1.80/bl. It cut prices in the same range for Mediterranean-bound exports of the same grades on both a fob Ras Tanura and fob Sidi Kerir basis.

Market participants had anticipated Aramco to increase prices to northwest Europe and the Mediterranean, although spot prices for sour crudes have declined. The Argus Brent Sour Index – which prices sour crude in northwest Europe – was at a \$6.58/bl discount to North Sea Dated benchmark in December, a drop of \$4.00/bl from November's discount of \$2.58/bl.

Elsewhere, NOC lifted the January formula price of Es Sider, its largest export grade, by \$1.00/bl compared with December to a \$1.85/bl discount to the North Sea Dated benchmark. The latest Argus spot price assessments for Es Sider came in at a 25¢/bl premium to Dated as demand for the region's light sweet grades has been climbing since early December.

Exports of Libya's Es Sider crude grade will remain steady in January, sources said based on a final loading schedule. This month's exports are scheduled at around 271,000 b/d on 14 cargoes of 600,000 bl. NOC will load around 4.8mn bl on eight cargoes, US independent ConocoPhillips will take one 600,000 bl shipment, ExxonMobil will take one 600,000 bl loading, TotalEnergies will load one 600,000 bl cargo, and Greek refiner Motor Oil Hellas will take one 600,000 bl shipment. Preliminary loading dates for January showed 273,000 b/d of Es Sider exports.

NOC increased the formula price of Esharara, its second-largest export stream, by \$1.05/bl to a 65¢/bl discount to Dated. The light sweet grade is a direct competitor of Algeria's Saharan Blend, for which state-owned Sonatrach reduced the official January price by \$1.75/bl on the month to a 90¢/bl premium to Dated.

NOC increased the January prices of its other eight sweet crudes by between 90¢/bl -\$1.05/bl on the month. The firm reported Libyan crude production at 1.23mn b/d on 22 December.

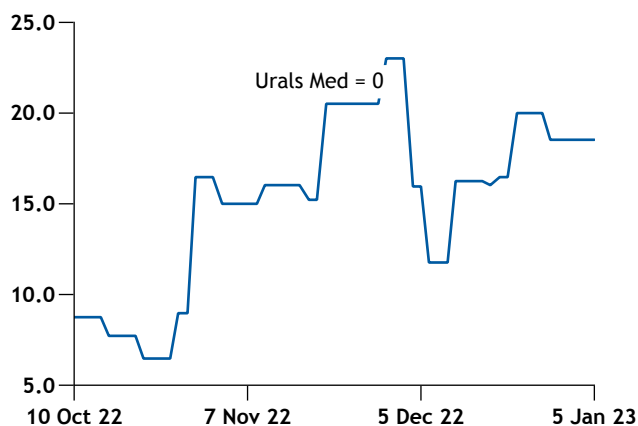
NOC also issued formula prices for its two sour grades, Bouri and Al-Jurf, at \$6.50/bl and \$5/bl discounts to Dated, respectively. These grades used to be priced against Russian Urals, but values fell to record low discounts to Dated since the start of the conflict in Ukraine.

Mediterranean					\$/bl
	Basis	Diff	Bid	Ask	±
Saharan Blend	Dated	+2.50	79.58	79.64	+1.70
Zarzaitine	Dated	+2.40	79.48	79.54	+1.70
Es Sider	Dated	+0.25	77.33	77.39	+1.70
Kirkuk	Dated	-18.75	58.33	58.39	+1.70
Basrah Medium fob (Med)	Dated	+0.55	67.73	67.79	+1.70
Basrah Heavy fob (Med)	Dated	-0.25	62.08	62.14	+1.70
Iranian Light fob Sidi Kerir	Dated	-7.12	69.96	70.02	+1.70
Iranian Heavy fob Sidi Kerir	Dated	-9.92	67.16	67.22	+1.70
Suez Blend	Dated	-7.25	69.83	69.89	+1.70

Official formula prices					\$/bl
	Basis				
Algeria		Nov	Dec	Jan	
Saharan Blend	Dated	2.5	2.65	0.9	
Syria		Aug	Sep	Oct	
Syrian Light	Dated	na	na	na	
Souedie	Dated	na	na	na	
Libya		Nov	Dec	Jan	
Al-Jurf	Urals Med	na	na	na	
Amna	Dated	1.35	-1.5	-0.6	
Bouri	Urals Med	na	na	na	
Brega	Dated	0.4	-2.45	-1.45	
Bu Atiffel	Dated	0.1	-2.9	-1.85	
Es Sider	Dated	0.15	-2.85	-1.85	
Esharara	Dated	1.3	-1.7	-0.65	
Mellitah	Dated	0	-2.85	-1.8	
Mesla	Dated	-0.35	-3.05	-2.05	
Mesla ex Ras Lanuf	Dated	na	na	na	
Sarir	Dated	-2.2	-4.9	-3.9	
Sirtica	Dated	0.6	-2.25	-1.3	
Zueitina	Dated	0.6	-2.4	-1.4	

Kirkuk vs Urals fob Novo

\$/bl



WEST AFRICA

Angolan crude was assessed higher, as more offers for February-loading cargoes emerged.

Angola's medium sweet grade Girassol was heard to be on offer at North Sea Dated +1.00, while sourer grade Mostarda was said to have been offered at Dated -3.00. While no cargoes were heard to have changed hands, traders expected Angolan grades to trade at higher levels than previous assessments.

There were mixed market signals from the key Asia-Pacific region. While Chinese demand was still expected to rebound in the second quarter of this year, high Covid-19 infection rates were threatening short-term buying interest. Angolan flows to China have already slowed, with December's shipments averaging 462,000 b/d, down from 503,000 b/d in the previous month.

Price gains could also be capped by competing flows from other regions. Asia-Pacific is still the biggest destination for Russian crude, while Chinese refiners this week reportedly bought large quantities of Brazilian crude – which competes with west African grades – for March delivery.

But lower freight costs could boost demand for west African crude over the next few weeks. The cost to charter a VLCC from west Africa to China this week dropped to its lowest rate since August last year.

Separately, traders said that no new offers had been circulated by Angola's state-run Sonangol for February-loading spot cargoes, after the firm had sought buyers for a 650,000 bl cargo of Saxi at Dated -2.00 on 28 December. Traders said the cargo had likely been sold, although no new deals were confirmed.

Two cargoes of Nigeria's light sweet CJ Blend were scheduled to load in February. Traders said that two 650,000 bl cargoes of CJ Blend will load on 9-10 February and 23-23 February on behalf of trading firm Oando.

Elsewhere, trading firm Vitol was offering a 430,000 bl cargo of Gabonese Rabi Light in the afternoon window, for 7-15 January arrival aboard the Aframax *Penelop*. The firm offered the cargo from Dated -6.50 cif Rotterdam down to Dated -7.15. The unconfirmed offer failed to entice a buyer.

West Africa					\$/bl
	Basis	Diff	Bid	Ask	±
Agbami	Dated	-3.00	74.08	74.14	+1.70
Amenam	Dated	-2.60	74.48	74.54	+1.70
Bonga	Dated	+1.75	78.83	78.89	+1.70
Bonny Light	Dated	-0.20	76.88	76.94	+1.70
Brass River	Dated	-0.70	76.38	76.44	+1.70
CJ Blend	Dated	+1.70	78.78	78.84	+1.70
EA Blend	Dated	+1.80	78.88	78.94	+1.70
Egina	Dated	+2.75	79.83	79.89	+1.70
Erha	Dated	+1.80	78.88	78.94	+1.70
Escravos	Dated	+1.60	78.68	78.74	+1.70
Forcados	Dated	+1.30	78.38	78.44	+1.70
Qua Iboe	Dated	+1.20	78.28	78.34	+1.70
Usan	Dated	-3.75	73.33	73.39	+1.70
Cabinda	Dated	-1.85	75.23	75.29	+1.90
Dalia	Dated	-2.30	74.78	74.84	+1.90
Girassol	Dated	-1.60	75.48	75.54	+1.90
Hungo	Dated	-4.80	72.28	72.34	+1.90
Kissanje	Dated	-2.40	74.68	74.74	+1.90
Mostarda	Dated	-5.80	71.28	71.34	+1.90
Nemba	Dated	-4.10	72.98	73.04	+1.90
Zafiro	Dated	-0.10	76.98	77.04	+1.70
Jubilee	Dated	-1.60	75.48	75.54	+1.70
Doba	Dated	-6.70	70.38	70.44	+1.70
Djeno	Dated	-6.65	70.43	70.49	+1.70

Nigerian official formula prices				\$/bl
	Basis	Nov	Dec	Jan
Abo	Dated	+2.08	-0.44	-0.26
Agbami	Dated	-0.03	-0.94	-2.59
Ajapa	Dated	+4.01	+2.67	+1.10
Aje	Dated	+2.14	+0.71	-0.50
Akpo	Dated	-0.68	-1.24	-3.19
Amenam	Dated	+2.49	+0.66	-1.63
Antan	Dated	-0.16	-2.78	-2.00
Asaramatoru	Dated	+4.13	+1.91	+1.09
Bonga	Dated	+4.03	+2.46	+1.18
Bonny Light	Dated	+1.74	+0.31	-0.50
Brass River	Dated	+1.63	+0.11	-1.15
CJ Blend	Dated	+3.12	+2.12	+1.27
EA	Dated	+3.49	+2.22	+1.37
Ebok	Dated	-2.10	-2.28	-3.46
Egina	Dated	+5.95	+3.97	+1.90
Eremor	Dated	-24.01	-22.43	-21.37
Erha	Dated	+3.97	+2.54	+1.00
Escravos	Dated	+4.01	+2.67	+1.10
Forcados	Dated	+2.51	+1.73	+0.92
Ima	Dated	-2.30	-3.35	-3.34
Jones Creek	Dated	+2.51	+1.68	+0.97
Obe	Dated	-0.02	-1.74	-1.77
Okono	Dated	+4.76	+2.66	+1.66
Okoro	Dated	+10.92	+10.68	+6.84
Okwori	Dated	+7.12	+4.58	+3.27
Okwibome formula	Dated	+2.90	+1.62	+0.55
Otakikpo	Dated	+2.14	+0.71	-0.50
Oyo	Dated	+8.58	+5.58	+4.86
Pennington	Dated	+5.05	+2.54	+2.30
Qua Iboe	Dated	+2.90	+1.62	+0.55
Ukpokiti	Dated	+4.48	+2.39	+1.48
Usan	Dated	-1.58	-2.42	-3.36
Yoho	Dated	+2.80	+1.57	+0.50
Zafiro*	Dated	+0.40	+0.77	-0.08
Premium for advanced pricing	Dated	+0.07	+0.07	+0.07
Premium for deferred pricing	Dated	+0.07	+0.07	+0.07

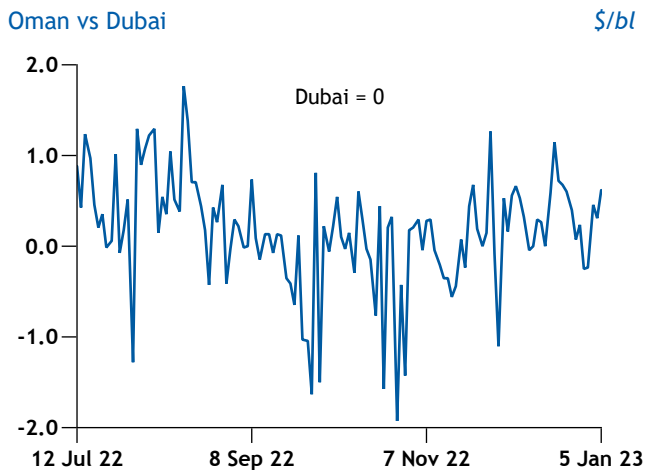
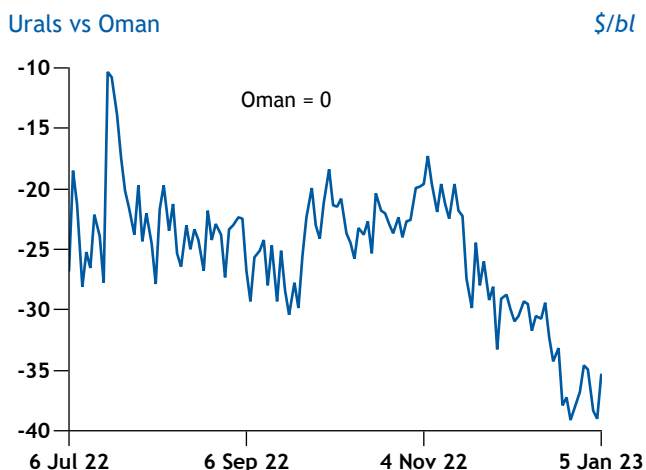
*Equatorial Guinea, priced by NNPC

MIDEAST GULF

State-controlled Saudi Aramco cut all its official formula prices for February-loading exports to Asia-Pacific.

Aramco cut the February formula price for flagship medium sour Arab Light by \$1.45/bl from January, setting the grade at a \$1.80/bl premium to Oman/Dubai assessments. The reduction was slightly smaller than the \$1.60/bl cut that many refiners had anticipated although the February formula price is still the lowest since November 2021 when Arab Light was set at a \$1.30/bl premium to Oman/Dubai.

Aramco cut the February prices for both Arab Medium and Arab Heavy to Asia-Pacific by \$1/bl from January. February Arab Super Light and Arab Extra Light were cut by \$2.40/bl and \$2.90/bl, respectively. The deeper cuts for Arab Super Light and Arab Extra Light reflected the narrower premium of lighter crudes to medium sour grades last month.



Mideast Gulf					\$/bl	
	Month	Basis	Diff	Bid	Ask	±
Dubai	Mar			74.51	74.61	-2.31
Oman	Mar	Dubai swaps	+1.48	75.13	75.23	-2.00
Murban	Mar	Dubai swaps	+3.10	76.75	76.85	-1.93
Das	Mar	Dubai swaps	+1.70	75.35	75.45	-1.93
Upper Zakum	Mar	Dubai swaps	+1.45	75.10	75.20	-1.90
Umm Lulu	Mar	Dubai swaps	+3.15	76.80	76.90	-1.93
Qatar Land	Mar	QP	0.00	78.99	79.09	-1.92
Qatar Marine	Mar	QP	0.00	76.24	76.34	-1.92
Qatar Al-Shaheen	Mar	Dubai swaps	+1.20	74.85	74.95	-1.84
Banoco Arab Medium	Mar	Aramco	0.00	76.49	76.59	-1.92
Basrah Medium fob Iraq†	Feb	Somo	+1.00	75.05	75.15	-1.85
Basrah Heavy fob Iraq†	Feb	Somo	0.00	69.50	69.60	-1.85
DFC fob Qatar	Mar	Dubai swaps	0.00	73.65	73.75	-1.84
LSC fob Qatar	Mar	Dubai swaps	-0.40	73.25	73.35	-1.84

†Asia-Pacific destination-restricted cargoes

RGV differentials to Murban			\$/bl	
	Diff		±	
Das	-0.27		+0.01	
Upper Zakum	-1.86		+0.04	
Umm Lulu	-0.74		-0.02	
Qatar Land	-0.86		+0.02	
Qatar Marine	-1.98		+0.05	

Differentials to Murban, 4:30pm Singapore					\$/bl	
	Month	Basis	Diff	±		
Mideast Gulf						
Dubai	Mar	Mar Murban	-2.24	-0.38		
Oman	Mar	Mar Murban	-1.62	-0.07		
Qatar Al-Shaheen	Mar	Mar Murban	-1.90	+0.09		
Banoco Arab Medium	Mar	Mar Murban	-0.26	+0.01		
Basrah Medium fob Iraq	Feb	Mar Murban	-1.70	+0.08		
Basrah Heavy fob Iraq	Feb	Mar Murban	-7.25	+0.08		
DFC fob Qatar	Mar	Mar Murban	-3.10	+0.09		
LSC fob Qatar	Mar	Mar Murban	-3.50	+0.09		
Russia Asia-Pacific						
ESPO Blend		Mar Murban	-10.19	+0.05		
Sokol		Mar Murban	-13.10	+0.09		
Sakhalin Blend		Mar Murban	-13.10	+0.09		
Substitute North Sea Dated		Mar Murban	-1.05	-0.69		

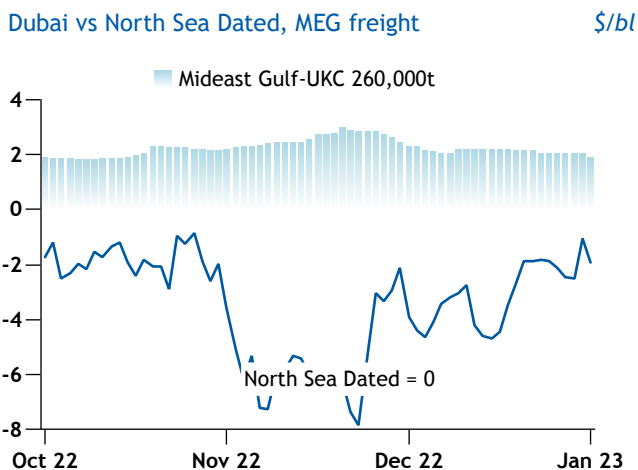
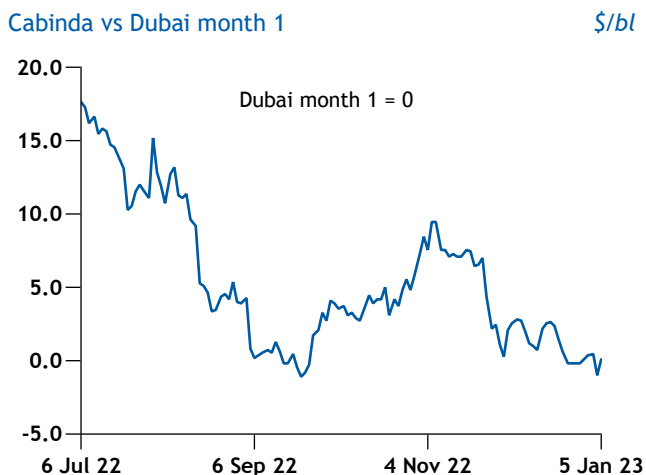
MIDEAST GULF

The March Brent-Dubai EFS, or the premium of the March Ice Brent to March Dubai swaps, fell to \$4.71/bl, from \$4.85/bl in the previous session.

The Singapore marker for the front-month March Murban futures contract on IFAD traded at the equivalent of \$3.10/bl premium to March Dubai swaps, from a \$3.19/bl premium on 4 January.

Front-month March Oman futures on the DME traded at a \$1.48/bl premium to March Dubai swaps, narrower than \$1.64/bl premium in the previous session.

March Dubai partials were heard to have traded at \$75.15/bl.



Mideast Gulf		\$/bl			
	Bid	Ask	±		
Dubai forward, 4:30pm Singapore					
Mar	74.51	74.61	-2.31		
Apr	74.06	74.16	-1.88		
May	73.65	73.75	-1.84		
Jun	73.39	73.49	-1.79		
Dubai forward, 4:30pm London					
Mar	75.16	75.24	+0.85		
Apr	74.70	74.80	+1.28		
May	74.29	74.39	+1.32		
Jun	74.03	74.13	+1.37		
Dubai intermonths, 4:30pm Singapore					
Mar/Apr			0.45	-0.43	
Apr/May			0.41	-0.04	
May/Jun			0.26	-0.05	
Dubai swaps, 4:30pm Singapore					
Feb	74.07	74.17	-1.87		
Mar	73.65	73.75	-1.84		
Apr	73.39	73.49	-1.79		
May	73.08	73.18	-1.73		
<i>Dubai swaps months are pricing months</i>					
Dubai EFS, 4:30pm Singapore					
Mar			+4.71	-0.14	
Apr			+5.17	-0.10	
May			+5.43	-0.13	
Ice Brent, 4:30pm Singapore					
Mar			78.41	-1.98	
Apr			78.61	-1.89	
May			78.56	-1.86	
Jun			78.39	-1.81	
Oman forward, 4:30pm Singapore					
	Diff	Dubai swaps	Bid	Ask	±
Mar	+1.48	Mar	75.13	75.23	-2.00
Apr	+1.64	Apr	75.03	75.13	-1.82
May	+1.71	May	74.79	74.89	-1.86

Methodology		\$/bl			
Dubai forward month calculator					
Ice Brent month 1	Mar			78.41	
Dubai EFS month 1	Mar		-	+4.71	
Dubai swap month 2*	Mar		=	73.70	
Dubai forward month 3*	May		=	73.70	
Dubai intermonth	Apr/May		+	0.41	
Dubai forward month 2	Apr		=	74.11	
Dubai intermonth	Mar/Apr		+	0.45	
Dubai forward month 1	Mar		=	74.56	
<i>*Dubai swap month 2 = Dubai forward month 3</i>					
Oman forward month calculator					
	MOG formula	Dubai-Oman spread	Diff to Dubai swaps	Dubai swaps outright	Oman forward midpoint
Mar	0.00	+1.48	+1.48	73.70	75.18
Apr	0.00	+1.64	+1.64	73.44	75.08
May	0.00	+1.71	+1.71	73.13	74.84

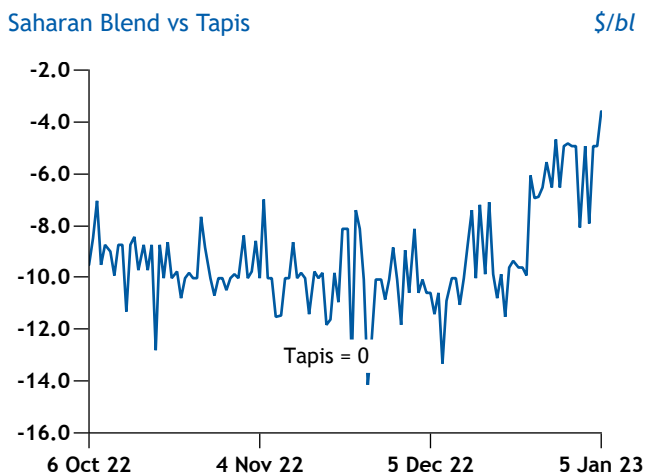
ASIA-PACIFIC

Vietnam's state-owned PVOil issued a tender to sell Sutu Den crude loading in March.

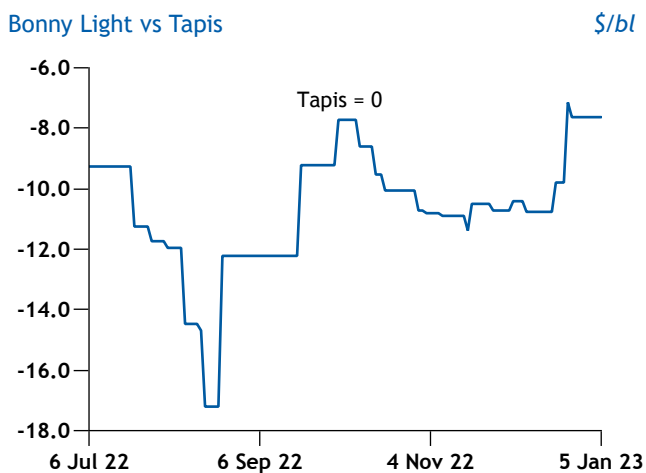
The tender offered 300,000 bl of Sutu Den loading on 16-22 March. Bids were due in on 11 January and must be valid until 12 January. Sutu Den was last lost to Thailand's PTT for January loading back in November at a premium slightly above \$6/bl to North Sea Dated, .

Traders were still awaiting other offers of March-loading crude and condensate cargoes.

Saharan Blend vs Tapis



Bonny Light vs Tapis



Asia-Pacific					\$/bl
	Basis	Diff	Bid	Ask	±
Minas	ICP	+1.00	76.16	76.26	-1.98
Duri	ICP	+1.00	72.66	72.76	-1.98
Cinta	ICP	+0.30	75.16	75.26	-1.98
Widuri	ICP	+0.30	75.36	75.46	-1.98
Senipah	ICP	+2.00	74.16	74.26	-1.98
Attaka	ICP	+1.50	79.16	79.26	-1.98
Ardjuna	ICP	0.00	73.41	73.51	-1.98
Belida	ICP	+1.00	75.11	75.21	-1.98
Sutu Den	Dated*	+6.15	83.21	83.31	+1.70
Bach Ho	Dated*	+6.15	83.21	83.31	+1.70
Tapis	Dated*	+7.45	84.51	84.61	+1.70
Kikeh	Dated*	+8.95	86.01	86.11	+1.70
Kimanis	Dated*	+9.15	86.21	86.31	+1.70
Labuan	Dated*	+9.85	86.91	87.01	+1.70
Miri Light	Dated*	+7.90	84.96	85.06	+1.70
Kutubu Light	Dated*	-6.00	71.06	71.16	+1.70
Cossack	Dated*	-1.50	75.56	75.66	+1.70
North West Shelf	Dated*	-10.30	66.76	66.86	+1.70
Ichthys	Dated*	-2.75	74.31	74.41	+1.70
Vincent	Dated*	+7.00	84.06	84.16	+1.70
Pyrenees	Dated*	+8.50	85.56	85.66	+1.70
Van Gogh	Dated*	+4.50	81.56	81.66	+1.70
Sudan					
	Basis	Diff	Bid	Ask	±
Nile Blend	Dated*	-3.00	74.06	74.16	+1.70
Dar Blend	Dated*	-1.85	75.21	75.31	+1.70

*when North Sea Dated is unavailable owing to a UK holiday, Substitute Dated will be used

Benchmarks	
North Sea Dated	77.11
Substitute Dated	75.75
Tapis Singapore close	83.20

Argus Condensate Index (ACI)

	\$/bl
ACI, Qatar DFC	69.83
Qatar DFC cfr Singapore	74.78
Australia North West Shelf (NWS) cfr Singapore	69.83
DFC cfr differential to NWS cfr	5
\$/t	
VLCC Qatar-Singapore freight	9.05
Aframax northwest Australia-Singapore freight	26.98

Argus Japanese Crude Cocktail Index

	Jul	Aug	Sep	Oct	Nov
Argus JCC (fixed)	116.3807	112.4639	110.8562	106.0289	-
Argus JCC (preliminary)					100.3833

ASIA-PACIFIC

Delivered China

Brazilian Tupi fell on delivered ex-ship (des) Shandong basis, while the differentials for the other key grades held steady.

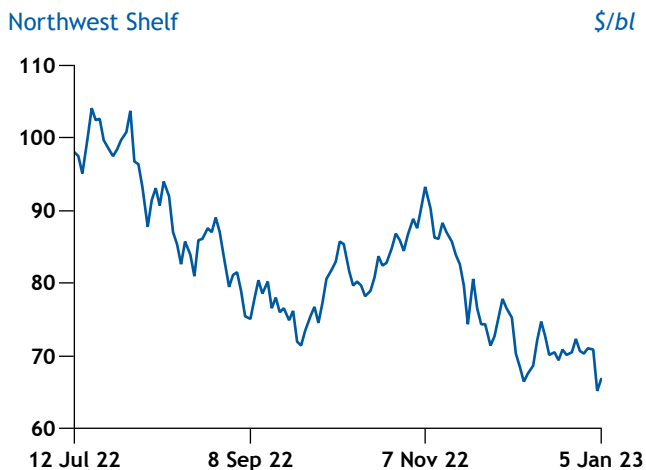
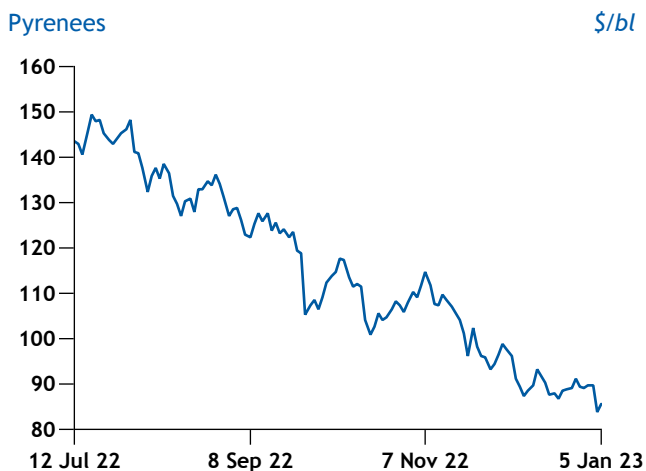
March-delivery Tupi was valued at a 70¢/bl discount to May Ice Brent, down by \$1.40/bl from previous session. A Chinese state-owned refiner was heard to have bought up to 24mn bl of Brazilian crude for March-delivery. This could be because of the relatively high oil products exports quota issued so far for 2023. But this meant that demand for March-delivery cargoes was covered, leading sellers to reduce offered levels. Offers for March-delivery Tupi cargoes were now around a 60¢/bl discount to May Ice Brent.

March-delivery Johan Sverdrup was stable at a 20¢/bl discount to May Ice Brent. European refiners prefer North Sea crude to Brazilian grades, which has helped to keep Johan Sverdrup's price supported.

Delivered Northeast Asia						\$/bl
	Month	Basis	Diff	Bid	Ask	±
WTI del NE Asia	Apr	Mar Dubai	+7.80	81.45	81.55	-1.84

Delivered ex-ship Shandong prices							\$/bl
Grade	Timing	Basis	Diff Mid	Low	High	Price	±
ESPO Blend	Feb	Apr Ice Brent	-6.50	71.61	72.61	72.11	-1.89
Djeno	Feb	Apr Ice Brent	-3.20	75.21	75.61	75.41	-1.89
Tupi	Mar	May Ice Brent	-0.70	77.76	77.96	77.86	-3.26
Johan Sverdrup	Mar	May Ice Brent	-0.20	77.56	79.16	78.36	-1.86
Oman	Feb	Apr Ice Brent	-10.50	67.61	68.61	68.11	-1.89

Mideast Gulf and Atlantic basin crude cfr Asia (fob plus freight)					
	Month	Singapore \$/bl	±	China \$/bl	±
Mideast Gulf					
Dubai	Mar	75.90	-2.39	76.56	-2.42
Oman	Mar	76.51	-2.07	77.15	-2.11
Murban	Mar	78.08	-2.00	78.70	-2.04
Upper Zakum	Mar	76.47	-1.97	77.12	-2.00
Umm Zulu	Mar	78.11	-2.00	78.73	-2.03
Qatar Marine	Mar	77.59	-1.99	78.23	-2.03
Al-Shaheen	Mar	76.24	-1.92	76.90	-1.95
Basrah Medium	Feb	76.46	-1.93	77.13	-1.96
Basrah Heavy	Feb	70.96	-1.92	71.65	-1.96
West Africa					
Cabinda	Dtd	76.18	-2.71	76.78	-2.73
Girassol	Dtd	76.45	-2.71	77.06	-2.73
Bonny Light	Dtd	78.00	-2.70	78.59	-2.73
Qua Iboe	Dtd	79.37	-2.70	79.95	-2.73
Escravos	Dtd	79.81	-2.70	80.40	-2.73
North Sea					
Forties	Dtd			78.70	-2.86
US Gulf coast					
WTI	Prompt	78.98	-2.25	79.46	-2.25
Mars	Feb	73.22	-1.80	73.74	-1.80
WCS	Feb	60.82	-3.35	61.37	-3.35



RUSSIA ASIA-PACIFIC

Crude exports from Russian ports fell to 2.61mn b/d in December from around 3.13mn b/d in November, according to data analytics firm Vortexa.

The figures do not include CPC Blend, which is mostly non-Russian in origin, or Urals supplied by Kazakh firms and designated as Kebco. The reduction follows the EU's 5 December ban on Russian seaborne crude imports.

ESPO Blend loadings from Kozmino in December were down by about 170,000 b/d at just over 650,000 b/d, while seaborne Urals supplies fell by 200,000 b/d to 1.4mn b/d. Russian Arctic crudes, Siberian Light and Sakhalin crudes make up the remainder.

Asia-Pacific remained the biggest destination for December-loading exports. Loadings for China were just under 750,000 b/d, down from a little over 1mn b/d in November, while shipments to India dipped below 700,000 b/d, down from over 1.3mn b/d.

Assessment rationale

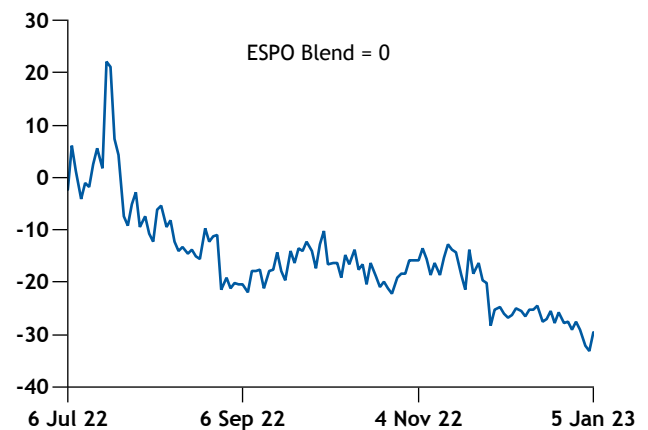
ESPO Blend fob Kozmino (PA0007196) is assessed on the basis of transactions, as and when these are identified in the market commentary, in accordance with the methodology.

Russia Asia-Pacific						\$/bl
	Basis		Diff	Bid	Ask	±
ESPO Blend	Feb	Dubai swaps	-7.50	66.56	66.66	-1.88
ESPO Blend*	Mar	Ice Brent	-11.39	66.56	66.66	-1.88
Sokol	Mar	Dubai swaps	-10.00	63.65	63.75	-1.84
Sakhalin Blend	Mar	Dubai swaps	-10.00	63.65	63.75	-1.84
*Feb-loading cargoes						
Russia-Caspian crude cif basis Singapore						
				Bid	Ask	±
BTC Blend				85.90	85.96	+1.58
Urals (Black Sea)				46.33	46.39	+1.70

Dirty freight rates from Kozmino (ESPO) 100,000t		\$/bl
		Rate
To Yosu		2.61
To north China		2.69
To Chiba		2.69
To Singapore		2.75

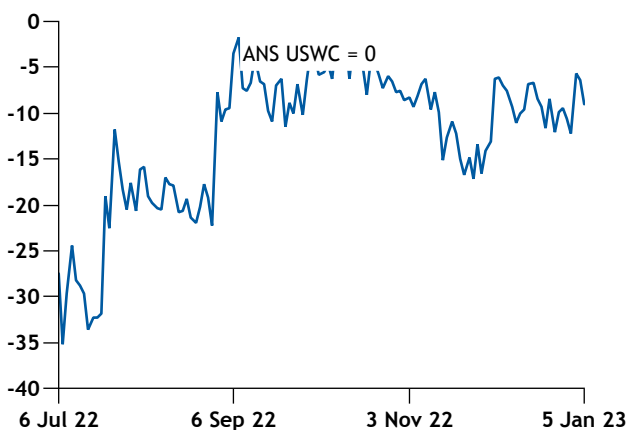
Urals fob Primorsk vs ESPO Blend

\$/bl



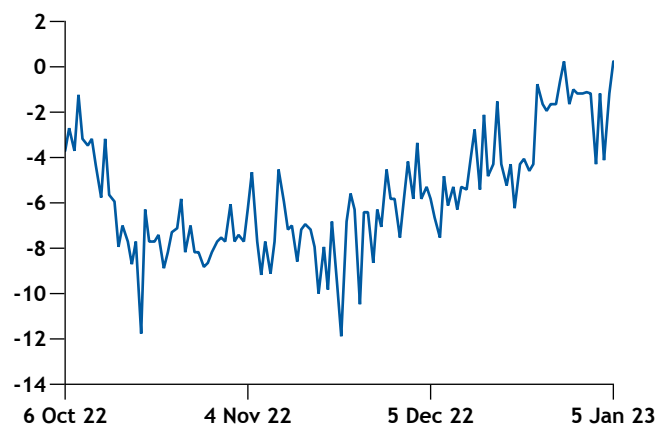
ESPO Blend vs ANS USWC

\$/bl



Azeri Light vs Tapis

\$/bl



OFFICIAL PRICES

Official formula prices		\$/bl		
Basis				
Saudi Arabia		Dec	Jan	Feb
Saudi Arabia to US: fob Ras Tanura				
Arab Extra Light	ASCI	+8.20	+8.20	+8.20
Arab Light	ASCI	+6.35	+6.35	+6.35
Arab Medium	ASCI	+6.15	+6.15	+6.15
Arab Heavy	ASCI	+5.70	+5.70	+5.70
Saudi Arabia to US: delivered US Gulf				
Arab Extra Light	ASCI	+9.50	+9.50	+9.50
Arab Light	ASCI	+7.65	+7.65	+7.65
Arab Medium	ASCI	+7.45	+7.45	+7.45
Arab Heavy	ASCI	+7.00	+7.00	+7.00
Saudi Arabia to NW Europe: fob Ras Tanura*				
Arab Extra Light	Ice Brent Settlement	+3.40	+1.40	-0.40
Arab Light	Ice Brent Settlement	+1.70	-0.10	-1.50
Arab Medium	Ice Brent Settlement	-1.30	-1.80	-2.80
Arab Heavy	Ice Brent Settlement	-4.90	-4.90	-5.90
Saudi Arabia to Mediterranean: fob Sidi Kerir*				
Arab Extra Light	Ice Brent Settlement	+3.50	+1.80	0.00
Arab Light	Ice Brent Settlement	+1.40	-0.10	-1.50
Arab Medium	Ice Brent Settlement	-1.00	-1.50	-2.50
Arab Heavy	Ice Brent Settlement	-5.40	-5.40	-6.40
Saudi Arabia to Mediterranean: fob Ras Tanura*				
Arab Extra Light	Ice Brent Settlement	+3.50	+1.80	0.00
Arab Light	Ice Brent Settlement	+1.40	-0.10	-1.50
Arab Medium	Ice Brent Settlement	-1.00	-1.50	-2.50
Arab Heavy	Ice Brent Settlement	-5.40	-5.40	-6.40
Saudi Arabia to Asia-Pacific: fob Ras Tanura				
Arab Super Light	Oman/Dubai avg	+9.15	+7.35	+4.95
Arab Extra Light	Oman/Dubai avg	+6.45	+6.45	+3.55
Arab Light	Oman/Dubai avg	+5.45	+3.25	+1.80
Arab Medium	Oman/Dubai avg	+3.20	+2.10	+1.10
Arab Heavy	Oman/Dubai avg	+1.25	-1.25	-2.25
Iran		Nov	Dec	Jan
Iran to Mediterranean: fob Kharg Island				
Iranian Light	Ice Brent Settlement	-1.25	-0.70	-2.10
Iranian Heavy	Ice Brent Settlement	-4.45	-4.25	-4.75
Foroozan Blend	Ice Brent Settlement	-4.40	-4.35	-4.60
Soroush	Ice Brent Settlement	na	na	na
Nowruz	Ice Brent Settlement	na	na	na
Iran to NW Europe: fob Kharg Island				
Iranian Light	Ice Brent Settlement	-1.15	-0.35	-2.05
Iranian Heavy	Ice Brent Settlement	-4.40	-4.40	-4.85
Foroozan Blend	Ice Brent Settlement	-4.50	-4.30	-4.95
Iran to Asia-Pacific: fob Kharg Island				
Iranian Light	Oman/Dubai avg	+5.65	+5.35	+3.15
Iranian Heavy	Oman/Dubai avg	+2.60	+1.85	+0.75
Foroozan Blend	Oman/Dubai avg	+2.70	+1.95	+0.70
Soroush	Oman/Dubai avg	-1.15	-2.30	-4.05
Nowruz	Oman/Dubai avg	-1.15	-2.30	-4.05
Kuwait		Nov	Dec	Jan
Kuwait to Asia-Pacific				
Kuwait	Oman/Dubai avg	+4.00	+3.20	+2.10
Kuwait to US				
Kuwait	ASCI	+6.15	+6.15	+6.15
Kuwait	Arab Medium	0.00	0.00	0.00
Kuwait to Mediterranean				
fob Kuwait	Dated	-2.70	-2.70	-3.80
fob Sidi Kerir	Dated	-2.40	-2.40	-3.50
Kuwait to northwest Europe				
fob Kuwait	Dated	-2.95	-2.95	-4.05

*months prior to July were priced against Ice Bwave

Official formula prices (continued)		\$/bl		
Basis				
Dubai		Jan	Feb	Mar
Dubai fob	Oman MOG OSP	-0.05	-0.05	-0.10
Yemen fob Salif/Ash Shihr		Apr	May	Jun
Marib Light	Dated	na	na	na
Masila	Dated	na	na	-4.45
Iraq		Nov*	Dec*	Jan†
Iraq to Europe				
Kirkuk (fob Ceyhan)	Dated	-3.60	-2.55	-4.35
Basrah Medium	Dated	-9.20	-8.20	-9.90
Basrah Heavy	Dated	-13.95	-13.25	-14.75
Iraq to US				
Kirkuk (fob Ceyhan)	ASCI	0.30	0.00	0.00
Basrah Medium	ASCI	-2.00	-1.70	-2.00
Basrah Heavy	ASCI	-6.05	-5.75	-6.25
Iraq to Asia-Pacific				
Basrah Medium	Oman/Dubai avg	1.70	0.90	-0.50
Basrah Heavy	Oman/Dubai avg	-2	-3.25	-5.05

Official selling prices		\$/bl		
Abu Dhabi		Dec	Jan	Feb
Murban		93.53	90.90	80.11
Das premium to Murban		-1.10	-1.20	-1.40
Umm Lulu premium to Murban		0.00	0.00	+0.05
Upper Zakum premium to Murban		-2.80	-5.20	-3.10
Qatar		Oct	Nov	Dec
Dukhan/Land premium to Oman/Dubai avg		+5.40	+5.15	+4.80
Marine premium to Oman/Dubai avg		+4.55	+4.55	+4.00
Oman		Dec	Jan	Feb
Oman		90.79	86.15	77.43
Indonesia		Oct	Nov	Dec
Minas		93.45	90.84	78.74
Duri		97.87	96.28	85.13
Widuri		92.29	89.68	77.58
Belida		90.32	89.15	78.91
Attaka		90.21	89.03	78.82
Ardjuna		89.28	88.11	77.87
Cinta		91.74	89.13	77.03
Senipah		80.94	80.01	70.25
Malaysia		Oct	Nov	Dec
Tapis		100.38	99.19	88.00
MCO Alpha Premium		+13.50	+13.20	+12.75
Labuan		106.83	104.87	93.87
Miri		106.83	104.87	93.87
Kikeh		106.83	104.87	93.87
Bintulu		102.96	100.40	88.64
Dulang		109.82	107.64	96.12
Brunei		Aug	Sep	Oct
Seria Light		111.75	102.58	100.38
Champion		111.85	102.68	100.48

Reference prices		\$/bl		
Opec reference basket monthly avg		Oct	Nov	Dec
Opec		93.57	89.73	79.68
Argus Japanese Crude Cocktail Index		Aug	Sep	Oct
Argus JCC		112.46	110.86	106.03

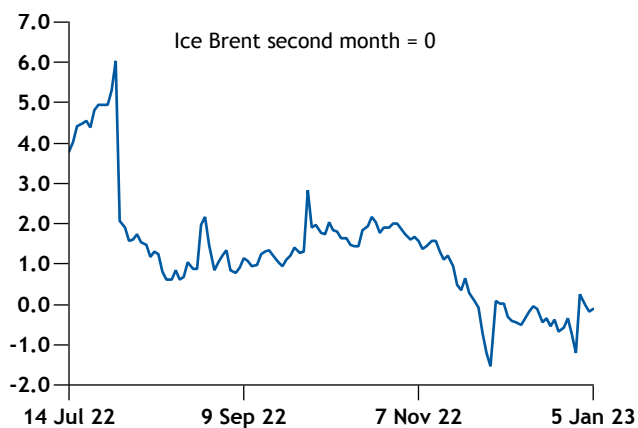
The Argus Japanese Crude Cocktail Index is created by Argus based on data published by the Customs and Tariff Bureau of Japan's Ministry of Finance.

FUTURES AND FORWARD MARKETS

Futures markets							\$/bl
	Open	High	Low	S'pore*	London†	Settle	±
Ice Brent							
Mar	78.16	79.97	77.61	78.41	79.09	78.69	+0.85
Apr	78.35	80.07	77.77	78.61	79.23	78.82	+0.81
May	78.33	79.96	77.76	78.56	79.22	78.80	+0.79
*4:30pm Singapore minute marker, †4:30pm London minute marker							
Nymex Light Sweet							
Feb	73.25	74.92	72.46	73.45	74.06	73.67	+0.83
Mar	73.51	75.15	72.74	73.70	74.31	73.92	+0.82
Apr	73.75	75.33	72.97	73.90	74.52	74.14	+0.81
May	73.77	75.43	73.17	73.92	74.70	74.30	+0.79
Dec 23						72.95	+0.67
Dec 24						69.47	+0.35
Dec 25						66.63	+0.12
Dec 26						64.16	-0.02
Dec 27						61.98	-0.06
DME Oman							
Mar				75.18			-2.00
Apr				75.08			-1.82
May				74.84			-1.86
Jun				74.64			-1.86
Volume bl				4,191,000			
IFAD Murban							
Mar				76.80			-1.93
Apr				76.34			-1.87
May				76.13			-1.83
Jun				76.08			-1.83
Volume bl				3,143,000			
Tocom Mideast Gulf (day session)							
Mar						73.85	-2.27
Apr						73.35	-1.60
May						72.57	-1.64
Jun						71.94	-1.50
Volume bl						902,904	

INE crude futures				
Timing	Settle Yuan/bl	±	Settle \$/bl	±
Feb	522.70	-30.90	75.83	-4.25
Mar	527.50	-28.60	76.53	-3.91
Apr	530.90	-26.00	77.02	-3.54
May	531.50	-25.00	77.11	-3.39
Volume bl			83,880,500	

Ice Brent: First month vs second month \$/bl



Forward markets				\$/bl
	Bid	Ask		±
North Sea, Singapore close				
Feb	78.09	78.17		-2.40
Mar	78.47	78.53		-1.99
Apr	78.66	78.74		-1.90
May	78.61	78.69		-1.87
North Sea, London close				
Dated	77.08	77.14		+1.70
Feb	78.90	78.98		+1.34
Mar	79.11	79.17		+1.17
Apr	79.29	79.37		+1.08
May	79.28	79.36		+1.03
Dubai, Singapore close				
Mar	74.51	74.61		-2.31
Apr	74.06	74.16		-1.88
May	73.65	73.75		-1.84
Jun	73.39	73.49		-1.79
Dubai, London close				
Mar	75.16	75.24		+0.85
Apr	74.70	74.80		+1.28
May	74.29	74.39		+1.32
Jun	74.03	74.13		+1.37
WTI Cushing, 1:30pm Houston				
Feb	73.65	73.69		+0.83
Mar	73.90	73.94		+0.82
Apr	74.12	74.16		+0.81
May	74.28	74.32		+0.79

Intermonths		\$/bl
		Mid
North Sea Singapore close		
Feb/Mar		-0.370
Mar/Apr		-0.200
Apr/May		0.050
North Sea London close		
Feb/Mar		-0.200
Mar/Apr		-0.190
Apr/May		0.010

Forward spreads 4:30pm London				\$/bl
	N Sea/Dubai	WTI/N Sea	WTI/Dubai	
Feb	-	-4.88		
Mar	-	-4.83		-0.89
Apr	4.58	-4.81		-0.23
May	4.98	-4.62		0.36

DAILY NETBACKS

Northwest Europe (5 Jan)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 4 Jan	Yield	Freight	Netback	± 4 Jan	
Arab Light	93.57	1.88	91.69	+1.85	90.04	1.88	88.16	+1.75	
Arab Heavy	83.69	1.95	81.74	+1.88	79.82	1.95	77.87	+1.79	
Azeri	101.83	3.44	98.39	+0.91	97.30	3.44	93.86	+0.68	
Bonny Light	103.60	2.52	101.08	+2.13	99.79	2.52	97.27	+1.92	
Brass River	101.77	2.44	99.33	+2.12	98.46	2.44	96.02	+1.94	
Brent	97.56	1.63	95.93	+1.65	93.44	1.63	91.81	+1.54	
Es Sider	96.12	3.42	92.70	+0.73	92.52	3.42	89.10	+0.57	
Forties	96.42	1.62	94.80	+1.68	93.15	1.62	91.53	+1.58	
Iranian Light	92.63	1.88	90.75	+1.80	88.50	1.88	86.62	+1.66	
Kirkuk	91.07	1.87	89.20	+1.95	87.52	1.87	85.65	+1.82	
Kuwait	86.44	1.93	84.51	+1.91	82.96	1.93	81.03	+1.81	
Murban	98.35	1.80	96.55	+1.89	95.00	1.80	93.20	+1.78	
Saharan Blend	98.37	3.25	95.12	+0.90	95.83	3.25	92.58	+0.80	
Urals	93.27	0.00	93.27	+1.62	89.02	0.00	89.02	+1.47	
Zueitina	98.26	3.40	94.86	+0.88	93.92	3.40	90.52	+0.75	

Singapore (5 Jan)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 4 Jan	Yield	Freight	Netback	± 4 Jan	
Arab Light	91.01	1.90	89.11	-0.09	78.44	1.90	76.54	-0.15	
Arab Heavy	83.28	1.97	81.31	-0.34	67.60	1.97	65.63	-0.45	
Dubai	90.49	1.93	88.56	-0.22	75.90	1.93	73.97	-0.29	
ESPO Blend	92.87	2.75	90.12	-0.11	75.94	2.75	73.19	-0.26	
Iranian Heavy	86.93	1.94	84.99	-0.30	70.03	1.94	68.09	-0.43	
Minas	92.22	5.73	86.49	+0.22	72.50	5.73	66.77	+0.19	
Murban	93.86	1.82	92.04	-0.43	81.34	1.82	79.52	-0.21	
Oman	87.59	1.94	85.65	-0.17	70.07	1.94	68.13	-0.35	

US Gulf coast (5 Jan)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 4 Jan	Yield	Freight	Netback	± 4 Jan	
Arab Light	108.67	2.31	106.36	+0.47	93.93	2.31	91.62	-0.38	
Arab Medium	106.05	2.34	103.71	+0.38	87.68	2.34	85.34	-0.73	
Bonny Light	115.01	3.39	111.62	-0.06	92.35	3.39	88.96	+1.07	
LLS	111.29	0.00	111.29	+0.24	100.28	0.00	100.28	+0.15	
Mars	105.73	0.00	105.73	+0.16	86.10	0.00	86.10	-0.94	
Maya	95.95	5.93	90.02	+0.37	66.24	5.93	60.31	-0.85	
WTI	110.31	0.00	110.31	+0.26	101.17	0.00	101.17	+0.33	

US west coast (5 Jan)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 4 Jan	Yield	Freight	Netback	± 4 Jan	
ANS	105.78	0.00	105.78	+0.02	83.41	0.00	83.41	+1.74	
Oriente	104.82	9.84	94.98	-0.15	80.86	9.84	71.02	+1.79	

DEALS DONE

Argus AGS deals done							\$/bl
Location	Differential basis	Reported differential	price	Adjusted		Volume	
				AGS index differential	AGS Marker price	b/d	bl
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	2,000	
Magellan East Houston	Feb WTI	+0.85		+0.86	74.53	2,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	3,000	
Magellan East Houston	Feb WTI	+0.85		+0.86	74.53	2,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	3,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	1,000	
Magellan East Houston	Feb WTI	+0.85		+0.86	74.53	5,000	
Magellan East Houston	Feb WTI	+0.85		+0.86	74.53	3,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	3,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	3,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	1,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	2,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	2,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	1,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	3,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	5,000	
Magellan East Houston	Feb WTI	+0.80		+0.81	74.48	5,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	3,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	2,000	
Magellan East Houston	Feb WTI	+0.90		+0.91	74.58	2,000	
Magellan East Houston	Feb WTI	+0.95		+0.96	74.63	3,000	
Magellan East Houston	Feb WTI	+0.95		+0.96	74.63	1,000	

*Table shows deals as reported and also normalized values for the calculation of VWAs

North America pipeline deals done							
Grade	Location	Trade month	Basis month	Differential basis	Differential	Price \$/bl	Volume b/d
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.23		1,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.23		3,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.23		8,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.22		5,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.21		3,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.21		3,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.21		5,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.21		5,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.21		5,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.20		2,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.20		3,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.20		4,000
WTI	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-0.20		44,643
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		500
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		3,000

DEALS DONE (CONTINUED)

North America pipeline deals done							
Grade	Location	Trade month	Basis month	Differential basis	Differential	Price \$/bl	Volume b/d
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		4,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		4,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		4,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.50		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.55		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.55		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.55		3,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.55		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.60		1,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.60		2,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.60		5,000
WTI	Midland Enterprise	Feb	Feb	WTI	+0.60		5,000
AWB Houston	Houston area	Feb	Feb	CMA Nymex trade days	-18.45		4,500
AWB Houston	Houston area	Feb	Feb	CMA Nymex trade days	-18.35		2,214
AWB Houston	Houston area	Feb	Feb	CMA Nymex trade days	-18.35		2,214
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		2,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		2,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		2,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		4,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		5,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		5,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		5,000
Bakken	Cushing Oklahoma	Feb	Feb	WTI	+0.70		5,000
Bakken	DAPL North Dakota	Feb	Feb	CMA Nymex trade days	+0.75		1,000
Bakken	DAPL North Dakota	Feb	Feb	CMA Nymex trade days	+0.75		1,000
Bakken	Patoka Illinois	Feb	Feb	CMA Nymex trade days	+1.05		3,571
Bakken	Patoka Illinois	Feb	Feb	CMA Nymex trade days	+1.05		3,571
Bakken	Patoka Illinois	Feb	Feb	CMA Nymex trade days	+1.05		7,143
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		1,071
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		1,607
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		1,964
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		2,214
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		3,750
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		3,750
Cold Lake Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-17.85		1,929
Cold Lake Houston	Houston area	Feb	Feb	CMA Nymex trade days	-17.00		17,857
Grand Mesa Light	Cushing Oklahoma	Feb	Feb	WTI	-0.35		2,000
HLS	Empire Louisiana	Feb	Feb	WTI	-2.00		2,000
HLS	Empire Louisiana	Feb	Feb	WTI	-2.00		2,000
HLS	Empire Louisiana	Feb	Feb	WTI	-2.00		4,000
HLS	Empire Louisiana	Feb	Feb	WTI	-1.90		2,000
LLS	St. James Louisiana	Feb	Feb	WTI	+1.40		2,000
LLS	St. James Louisiana	Feb	Feb	WTI	+1.50		1,000
LLS	St. James Louisiana	Feb	Feb	WTI	+1.50		5,000
LLS	St. James Louisiana	Feb	Feb	WTI	+1.75		2,000
Light Sweet Guernsey	Guernsey Wyoming	Feb	Feb	CMA Nymex trade days	-0.25		1,000
Mars	Clovelly Louisiana	Feb	Feb	WTI	-4.75		1,000
Mars	Clovelly Louisiana	Feb	Feb	WTI	-4.60		2,000
Mars	Clovelly Louisiana	Feb	Feb	WTI	-4.60		3,000
Mars	Clovelly Louisiana	Feb	Feb	WTI	-4.40		1,000
Niobrara Cushing	Cushing Oklahoma	Feb	Feb	WTI	+1.25		4,000
Niobrara Cushing	Cushing Oklahoma	Feb	Feb	WTI	+1.30		5,000
Niobrara Cushing	Cushing Oklahoma	Feb	Feb	WTI	+1.30		10,000
Poseidon	Houma Louisiana	Feb	Feb	Mars	-1.10		2,000
Poseidon	Houma Louisiana	Feb	Feb	Mars	-1.10		2,000

DEALS DONE (CONTINUED)

North America pipeline deals done							
Grade	Location	Trade month	Basis month	Differential basis	Differential	Price \$/bl	Volume b/d
Saddlehorn Light	Cushing Oklahoma	Feb	Feb	WTI	-0.35		2,000
Saddlehorn Light	Cushing Oklahoma	Feb	Feb	WTI	-0.35		3,000
Southern Green Canyon	Nederland / Texas City	Feb	Feb	WTI	-4.50		2,000
Thunder Horse	Clovelly Louisiana	Feb	Feb	Mars	+3.00		3,000
Thunder Horse	Clovelly Louisiana	Feb	Feb	WTI	-1.55		2,000
Thunder Horse	Clovelly Louisiana	Feb	Feb	WTI	-1.40		4,000
WCS Cushing	Cushing Oklahoma	Feb	Feb	CMA Nymex trade days	-18.00		1,071
WCS Houston	Houston area	Feb	Feb	CMA Nymex trade days	-17.00		7,143
WTL Midland	Midland Texas	Feb	Feb	WTI Midland	-0.80		1,000
WTL Midland	Midland Texas	Feb	Feb	WTI Midland	-0.80		2,000
WTL Midland	Midland Texas	Feb	Feb	WTI Midland	-0.80		3,000
WTL Midland	Midland Texas	Feb	Feb	WTI Midland	-0.70		2,000
WTL Midland	Midland Texas	Feb	Feb	WTI Midland	-0.70		2,000
WTS	Midland Texas	Feb	Feb	WTI Midland	-3.25		1,000
White Cliffs Cushing	Cushing Oklahoma	Feb	Feb	WTI	-0.35		2,000

Global crude deals											\$/bl
Region	Grade	Deal date	Delivery period	Volume bl	Price	Diff timing	Diff basis	Diff price	Loading from	Loading to	
Northwest Europe	North Sea	5 Jan 23	Mar	100,000	79.14						
Northwest Europe	North Sea	5 Jan 23	Mar	100,000	79.11						
Northwest Europe	North Sea	5 Jan 23	Mar	100,000	79.16						
Northwest Europe	North Sea	5 Jan 23	Mar	100,000	79.16						
Northwest Europe	North Sea Dated CFD	5 Jan 23		400,000		Mar	North Sea	-1.80	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.65	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.65	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000		Mar	North Sea	-1.62	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.60	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.60	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.60	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.60	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.57	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.45	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.45	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.42	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000		Mar	North Sea	-1.42	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000			CFD	-0.17	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		150,000			CFD	-0.17	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000			CFD	-0.18	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		100,000			CFD	-0.18	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000			CFD	-0.20	9 Jan 23	13 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000			CFD	-0.12	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000			CFD	-0.14	16 Jan 23	20 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000			CFD	-0.20	9 Jan 23	9 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		375,000			CFD	-0.15	19 Jan 23	23 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		500,000			CFD	-0.12	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		200,000			CFD	-0.12	23 Jan 23	27 Jan 23	
Northwest Europe	North Sea Dated CFD	5 Jan 23		300,000			CFD	-0.16	30 Jan 23	3 Feb 23	

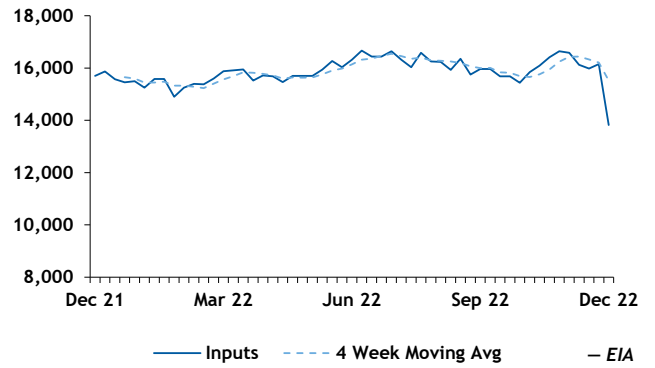
EIA WEEKLY DATA

Industry statistics	'000 b/d	
	EIA	Change
Production	12,100	100
Imports	5,712	-540
Total Stocks	420,646	1,694
Runs	13,820	-2,329
Percent Utilization	79.6%	-12.4
Stocks Padd 1	7,575	-669
Stocks Padd 2	106,272	421
Stocks Padd 3	233,943	2,279
Stocks Padd 4	23,894	-479
Stocks Padd 5	48,962	142
Imports Padd 1-4	4,106	-910
Imports Padd 1	547	33
Imports Padd 2	2,344	-578
Imports Padd 3	877	-224
Imports Padd 4	338	-141
Imports Padd 5	1,607	370
Runs Padd 1	708	-57
Runs Padd 2	3,312	-505
Runs Padd 3	7,118	-1,697
Runs Padd 4	523	-47
Runs Padd 5	2,158	-25

— EIA

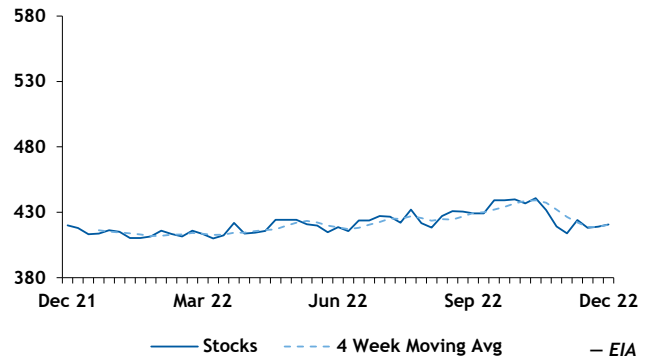
US refinery inputs

'000 b/d



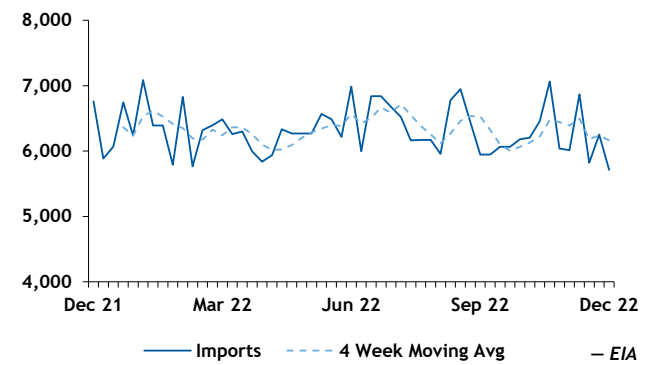
US crude inventories

mn bl



US crude imports

'000 b/d



INFRASTRUCTURE NEWS

Germany's Karlsruhe crude unit shut for month

German refining joint venture Miro has confirmed that one of the three crude distillation units (CDUs) at its 299,000 b/d Karlsruhe refinery is shut as a result of a technical fault.

The issue, which was identified on 25 December, is affecting output of all products. Miro expects the unit to remain offline for about four weeks while repair work is carried out.

In the meantime, throughput has been increased at the other two CDUs. Shipowners report that inquiries for transporting products out of the refinery are on the decline.

Miro is a joint venture between ExxonMobil, Shell, Phillips 66 and Russia's Rosneft. The German government placed Rosneft's German refining subsidiaries under trust administration last year.

By *Gabriele Zindel*

Colonial shuts Line 3 at Virginia station

Colonial Pipeline shut down a segment of its 5,000-mile (8,851km) system for maintenance on Wednesday after a spill of refined product at a Virginia delivery station.

Line 3 was shut on 4 January from the Witt delivery station near Danville, Virginia, to Linden, New Jersey, following the product release, which was contained to the property, the company said. A restart of operations along the pipeline route was tentatively scheduled for 7 January.

Line 3, with a capacity of 885,000 b/d, transports gasoline and distillates between Greensboro, North Carolina and Linden.

The operator did not comment on the volume or type of product that was released in the incident.

Operations along the rest of Colonial's system were unaffected the company said.

By *Jason Metko*

Marathon Los Angeles refinery plans flaring

Marathon Petroleum has scheduled a planned flaring event to start on Friday at its 363,500 b/d refinery in Los Angeles, California.

Flaring associated with shutdown/start-up operations in the Carson end of the refinery is scheduled to start at 1pm ET on Friday, and conclude at around 3am ET on 10 January, according to a filing with regional air quality monitors.

Marathon Petroleum does not comment on refinery operations.

High swells slow Mexico's Salina Cruz port

High swells have halted the arrival of smaller vessels into the port of Salina Cruz on Mexico's west coast since 4 January, disrupting some crude exports and deliveries of fuels produced at Pemex's 330,000 b/d refinery with the same name.

Mexico's meteorological service expects swells of 7-9 feet to continue for the next 24-48 hours, with wind speeds of 30-35 knots and visibility limited at 2-4 nautical miles because of fog, it said today in its 9am ET report.

The plant is operating with some modifications related to high swells, a source at the Salina Cruz refinery told *Argus*. Smaller vessels are needed to load and direct larger tankers.

Some Mexican media outlets reported a power supply disruption at the refinery, but a different source with state-owned Pemex said the electricity service is normal.

The Salina Cruz refinery, the country's largest, processed 159,000 b/d of crude in November, using 48pc of its capacity, according to the latest data available from the energy ministry (Sener).

No vessel congestion was reported. Four vessels – carrying LPG and fuel oil, among other products – were close to the port of Salina Cruz, Vortexa data showed today.

The port of Salina Cruz exports Maya crude primarily to refineries in California on the US west coast, while the Salina Cruz refinery delivers refined products for much of the Mexican west coast through tankers.

By *Sergio Meana*

ANNOUNCEMENT

Argus successfully completes annual Iosco assurance review

Argus has completed the 11th external assurance review of its price benchmarks covering crude oil, oil products, LPG, chemicals, thermal and coking coal, natural gas, biofuels, biomass, metals, fertilizers and agricultural markets. The review was carried out by professional services firm PwC. Annual independent, external reviews of oil benchmarks are required by international regulatory group Iosco's Principles for Oil Price Reporting Agencies, and Iosco encourages extension of the reviews to non-oil benchmarks. For more information and to download the review visit our website <https://www.argusmedia.com/en/about-us/governance-compliance>

INDUSTRY NEWS

US crude stocks rise by 1.7mn bl

US crude inventories last week increased by 1.7mn bl to 420.6mn bl as refinery runs slid, according to the Energy Information Administration (EIA).

Stocks at the Cushing storage hub in Oklahoma during the week ended 30 December rose to 25.3mn bl, up by 244,000 bl from the prior week.

US refiners processed about 13.8mn b/d of crude last week, down by 2.3mn b/d from the prior week, as winter storms curtailed operations. Refinery utilization rates on average slid to 79.6pc, the lowest since March 2021, from 92pc a week earlier.

Crude inventories at the US Strategic Petroleum Reserve (SPR) fell by 2.7mn bl to 372.4mn bl, the lowest level since December 1983. SPR stocks are not included in the overall EIA commercial crude inventory figures.

The US Department of Energy released 180mn bl from the SPR last year, with the final sale of 15.05mn bl of sweet and sour crude delivered to six companies last month.

President Joe Biden had authorized the sales as a "war-time bridge" to counter supply losses resulting from the war in Ukraine.

US crude imports fell by 540,000 b/d during the latest week to 5.7mn b/d. US crude exports rose by 742,000 b/d to 4.2mn b/d.

Domestic crude output rose by 100,000 b/d to 12.1mn b/d last week.

Production has lagged expectations due to cost inflation and supply-chain disruptions. Although output is poised to hit a record this year, many public explorers are still focused on improving shareholder returns rather than growing production.

Gasoline inventories last week fell by 0.3mn bl to 222.7mn bl and are about 6pc below the five-year average for this time of year.

By Stephen Cunningham

Aramco cuts February prices to Asia, Europe

Saudi Arabia's state-controlled Aramco has reduced all its official formula prices for February-loading crude exports to Asia-Pacific and Europe.

Aramco cut February formula prices for exports to Asia-Pacific, with Arab Super Light, Arab Extra Light, Arab Light, Arab Medium and Arab Heavy prices all reduced in a range of \$1.00-2.90/bl from January. A reduction of \$1.45/bl from January puts the February medium sour Arab Light formula price at a \$1.80/bl premium to Oman/Dubai assessments, the lowest since November 2021 when Arab Light was at a

\$1.30/bl premium.

Most [Asia-Pacific refiners had expected](#) Aramco to reduce the February formula price for Arab Light by around \$1.60/bl from January, although at least one expected a deeper cut of more than \$2.00/bl.

For northwest European customers, Aramco cut the official February formula prices of Extra Light, Light, Medium and Heavy grades by between \$1.00/bl and \$1.80/bl. It cut prices in the same range for Mediterranean-bound exports of the same grades on both a fob Ras Tanura and fob Sidi Kerir basis.

Market participants had anticipated Aramco to increase prices to northwest Europe and the Mediterranean, although spot prices for sour crudes have declined. The *Argus* Brent Sour Index – which prices sour crude in northwest Europe – was at a \$6.58/bl discount to North Sea Dated benchmark in December, a drop of \$4.00/bl from November's discount of \$2.58/bl.

Aramco left the January formula prices of all its crudes for the US unchanged from December.

By Edmundo Alfaro

Libya's NOC lifts official Jan crude prices

Libya's state-owned oil firm NOC has lifted the official formula prices for January-loading cargoes of all its 10 sweet crude grades, and issued Bouri and Al-Jurf official formula prices for the first time in 10 months.

NOC lifted the January formula price of Es Sider, its largest export grade, by \$1/bl compared with December to a \$1.85/bl discount to the North Sea Dated benchmark. The latest *Argus* spot price assessments for Es Sider came in at a 25¢/bl premium to Dated as demand for the region's light sweet grades has been climbing since early December.

NOC increased the formula price of Esharara, its second-largest export stream, by \$1.05/bl to a 65¢/bl discount to Dated. The light sweet grade is a direct competitor of Algeria's Saharan Blend, for which state-owned [Sonatrach reduced the official January price](#) by \$1.75/bl on the month to a 90¢/bl premium to Dated.

NOC has managed to maintain stable oil production since lifting force majeure on operations at several of its eastern terminals and onshore fields in mid-July. The firm reported Libyan crude production at 1.23mn b/d on 22 December.

NOC has issued formula prices for its two sour grades, Bouri and Al-Jurf, at \$6.50/bl and \$5/bl discounts to Dated, respectively. These grades used to be priced against Russian Urals, but values fell to record low discounts to Dated since the start of the conflict in Ukraine.

INDUSTRY NEWS

Sour grades in Europe traded at steep discounts to sweet grades in December. *Argus* Brent Sour – the sour crude marker for northwest Europe – was priced at an average discount to Dated Brent of \$6.58/bl in December, compared with discounts of \$4.00/bl in November and just \$2.58/bl in October.

By *Edmundo Alfaro*

EU recommends Covid test for China arrivals

The EU has recommended its member states implement Covid-19 testing for all arrivals from China, where a rapid lifting of pandemic restrictions and mass testing has led to a resurgence in infections.

The bloc's presidency said late on 4 January that member states "are strongly encouraged" to require all passengers leaving China to provide a negative Covid-19 test taken not more than 48 hours before departure. It also recommended random testing on arrival.

Many countries have [already introduced](#) or are considering new measures on travellers from China, ahead of Beijing [easing its travel restrictions](#) from 8 January.

The extent to which the pandemic is affecting China is unclear because the government stopped issuing national Covid case totals on 25 December. But the World Health Organisation said this week it has asked Beijing for "more rapid, regular and reliable data" on hospitalisations and deaths, and said it is concerned about the risk to life in the country.

China has been largely closed to the outside world since the start of the Covid-19 pandemic three years ago, hitting jet fuel consumption in particular. With the pandemic having suppressed air travel demand globally, the prospect of new testing requirements deterring travellers has not been welcomed by the aviation sector. Industry body International Air Transport Association this week described the reinstatement of measures as a "knee-jerk" reaction.

The EU will assess the situation again in mid-January.

By *Ben Winkley*

Philippines, China agree to restart oil talks

China and the Philippines have agreed to restart negotiations on oil and gas exploration in the disputed South China Sea.

The agreement, reached during a visit by Philippine President Ferdinand Marcos to Beijing this week, could reduce tensions over energy exploration in the area, which have sparked several maritime clashes in recent years.

The two governments will handle maritime issues through friendly consultations, restart energy talks, promote

ANNOUNCEMENTS

Changes to North Sea Dated assessment

Following consultation, *Argus* will include light sweet Midland WTI crude shipments in its assessment of North Sea Dated crude prices from May 2023. *Argus* has published a list of 12 US Gulf coast terminals from which exports of Midland WTI to Europe are eligible for consideration in the price discovery process.

The approved terminals from which cargoes of Midland WTI loading for delivery to Europe will be eligible for inclusion in the *Argus* North Sea Dated assessment are:

Houston/Texas City/surrounding area

- Enterprise Houston Ship Channel (EHSC)
- Energy Transfer Houston Terminal (ETHT)
- LBC Bayport (Seabrook)
- Enterprise Texas City
- Enterprise Freeport

Corpus Christi/Ingleside

- Epic
- Enbridge Ingleside
- Flint Hills Resources
- Nustar Corpus Christi North Beach
- Pin Oak
- Buckeye Texas Hub
- South Texas Gateway

Argus will continue to publish a version of the North Sea Dated assessment excluding WTI, called Dated BFOET but will retire its New North Sea Dated assessment (PA0025857).

To discuss these changes, please contact Michael Carolan at michael.carolan@argusmedia.com or call +44 20 7780 4200.

INDUSTRY NEWS

co-operation on oil and gas exploration in “non-disputed areas” and work together on solar and wind power and new energy vehicles, the Chinese government said on 5 January. Energy, agriculture and infrastructure are among the top priority areas for co-operation between the two countries, it said.

China and the Philippines have rival claims to areas of the potentially energy-rich South China Sea, which Beijing claims almost in its entirety under its controversial “nine-dash line”. Manila won a [landmark 2016 decision](#) at the Permanent Court of Arbitration in the Netherlands, which ruled that China’s claims to sovereignty over most of the South China Sea were without merit.

The agreements were reached during a meeting between Marcos and Chinese President Xi Jinping, in what was the Philippine leader’s first trip outside southeast Asia since taking office in June 2022.

The two leaders also agreed to establish a “direct communications line” to avoid miscommunication in the West Philippine Sea, Manila said, using the Philippines’ term for areas of the South China Sea that fall within its exclusive economic zone. That could include the Reed Bank, a [contested region of the Spratly Islands](#) where gas drilling has been repeatedly stalled by the territorial disputes.

The talks also touched on fishing rights, potentially helping defuse tensions over Chinese activities in the South China Sea. Only last month the Philippines ordered its navy to step up monitoring of China’s fishing fleets in its waters.

Investment pledges

Chinese companies have pledged to invest almost \$14bn in the Philippines’ renewable energy sector, Manila said on 5 January, without giving details. The Philippines has set a target for renewables to make up 35pc of electricity supplies by 2030 and 50pc by 2040, which will require another 52,000MW of renewable energy by the latter date.

China’s state-owned transmission network operator State Grid already owns a 40pc stake in Philippine national power grid operator NGCP.

Other deals announced during Marcos’ visit included over \$7bn of Chinese investment pledges in the Philippines’ electric vehicle and mineral processing sectors. The Philippines is China’s largest supplier of nickel ore and exports some cobalt and other metals.

Manila also signed an initial agreement to co-operate with China’s infrastructure-led Belt and Road Initiative.

The Philippines is one of the US’ oldest allies in Asia-Pacific, with a mutual defence treaty that allows US armed forces to be stationed in the country and commits Washing-

ton to aid Manila in the event of an attack.

Trade between the Philippines and China has surged in recent years, while the US alliance became increasingly strained under Marcos’ populist predecessor, Rodrigo Duterte, who also consistently played down the country’s territorial disputes with Beijing. But Marcos – whose parents, former Philippine president Ferdinand Marcos and his wife Imelda Marcos, were given sanctuary by the US after being driven from power in a popular revolution in 1986 – has smoothed diplomatic relations with Washington since taking office.

By Kevin Foster

US crude exports ease from record high in Nov

US crude exports eased by 2.7pc in November but remained above 4mn b/d for a second month as global demand remained strong, while loading operations experienced disruptions.

The US exported 4.04mn b/d of crude in November, down by just 110,000 b/d compared to the [record high of 4.15mn b/d set in October](#), but up by nearly 30pc compared to the 3.14mn b/d of US crude exported in November 2021, according to fresh data by the US Census Bureau.

Monthly export flows were expected to weaken from October on the back of cold weather patterns in the Gulf of Mexico that had [shut down all lightering and reverse lightering operations](#) across the US Gulf coast for a week starting on 15 November because of high waves.

India and South Korea remained the top two importers of US crude in November, lifting roughly 585,000 b/d and 521,000 b/d, respectively, up compared with 430,000-509,300 b/d in October.

Total flows to Asia-Pacific destinations comprised 1.92mn b/d, or about 47.5pc of US crude exports as refiners sought out economic alternatives to Mideast Gulf light sour Murban crude.

Meanwhile, US crude exports to Europe represented 37.5pc of market share at roughly 1.5mn b/d. The Netherlands and the UK were the top European buyers, taking roughly 410,000 b/d and 292,000 b/d, respectively.

The remaining 620,000 b/d of US crude exports were destined for other locations within the Americas.

By Amanda Hilow

Bulgaria eyes oil import route from Greece

Bulgaria is seeking to work with Greece to examine the possibility of developing a pipeline route that would allow its only oil refinery to more easily import non-Russian crude from 2025.

The pipeline would link the Aegean Sea port of Alexandroupolis to the Burgas region, home to the 115,000 b/d Burgas refinery owned by Russian independent Lukoil.

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Sofia said a bilateral working group would be set up to carry out preliminary studies for the link and draw up a plan for completing the project by the end of 2024. No details were released about the potential development, but Bulgaria's caretaker government said it expects a resultant pipeline to have sufficient capacity to "at least" fully replace Russian seaborne crude imports to Bulgaria. The Burgas refinery will need to [phase out Russian crude by the end of 2024](#), with Sofia having won a temporary exemption from the EU's ban on Russia imports that entered into effect on 5 December.

A new pipeline from Greece could help avoid the closure of "a key enterprise for the Bulgarian economy", the country's President Rumen Radev said on 16 December, without naming the refinery or Lukoil.

The proposed pipeline could also reduce Bulgaria's reliance on crude supplies from the wider Black Sea region and avoid potential bottlenecks or delays in importing crude through the Turkish straits. Crude tankers [arrived late at Black Sea ports last November](#) because of long hold-ups to passage through the Bosphorus strait and Dardanelles that connect the Mediterranean and Black seas.

The pipeline project would effectively be a revival and adaptation of a long-abandoned Russian-led plan to build a Turkish straits bypass that would have allowed Russian crude exports from Burgas to Alexandroupolis. Under a 2007 agreement between Russia, Bulgaria and Greece, the 280km link was envisioned to have an initial capacity of 700,000 b/d. The development fell through after Bulgaria pulled out in 2011 because of environmental concerns.

Bulgaria's crude imports were 5.98mn t in the first 10 months of 2022, from 3.67mn t a year earlier, according to the most recent data from the country's statistics office. Demand was lower in 2021 partially because of scheduled repairs at Burgas in October and November.

By Bela Fincziczki

Capricorn Energy pushes for NewMed merger

UK-listed upstream firm Capricorn Energy is urging its investors to back the company's [proposed merger](#) with Israeli firm NewMed Energy ahead of a February meeting that could see Capricorn's board replaced.

The company's directors today urged shareholders to consider the merits of their proposed NewMed merger while seeking to address what they call "incorrect assertions" made by Palliser Capital – one of Capricorn's biggest investors.

The tie-up with NewMed, previously known as Delek Drilling, would bring the Israeli company's 45.3pc interest in the Leviathan gas field in the eastern Mediterranean to the

enlarged group. Capricorn says that this would allow it to provide gas to growing regional energy markets and potentially LNG to European and international markets, while the merged business would also be competitively positioned to facilitate and further accelerate gas trade and decarbonisation in the Middle East and North Africa region.

But since last summer, when Capricorn was then recommending to its shareholders a potential merger with [Tullow Oil](#), Palliser has been [arguing](#) that the company should conduct a strategic review that has "the best interest of Capricorn shareholders firmly in mind".

Palliser wants to see Capricorn sell its Egyptian assets as well as immediately return to shareholders some \$620mn of the cash the company recovered from the Indian government after an arbitration dispute over taxes.

On 19 December, Palliser said it had formally requisitioned the board of Capricorn to convene a general meeting of shareholders at the start of next month that would enable a vote to replace the company directors. Palliser has come up with its own list of six candidates that it would like to see on Capricorn's board. These include Hesham Mekawi, most recently BP's regional president for North Africa, and Christopher Cox, a veteran of BG Group, Amerada Hess and Chevron. Cox was the chief executive of North Sea-focused independent Spirit Energy.

Capricorn advised shareholders not to back Palliser's plan, because it "is likely to destroy value". The company also reiterated that the merger would enable a cash return of some \$620mn to shareholders – around \$120mn more than could be returned to shareholders on a standalone basis in the near term. Meanwhile, by creating "a world-class gas and energy champion", the enlarged group would generate approximately \$3bn of free cash flow between 2023 and 2027, with a shareholder distribution policy of "at least 30pc".

Capricorn believes that Palliser's alternative plan is based "on an overstated value of Capricorn on a standalone basis" and relies on "several outdated and incorrect facts and assumptions". This includes the assumption that Capricorn would be able to immediately return \$620mn of cash to shareholders, without merging with NewMed.

By Jon Mainwaring

Yemen objects to Zenith's deal for OMV stake

Yemen's oil ministry has objected to London-listed Zenith Energy's acquisition of Austrian integrated OMV's stake in the country's upstream sector, saying the buyer is inadequate for the country's needs.

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It expressed surprise [at the news](#) of the deal.

"The ministry has conditions regulated by production-sharing agreements, foremost of which adherence to the criteria of abandonment or sale [of production-share in the country], which requires the company be globally renowned and enjoys financial capabilities and technical competence," it said. "Zenith Energy does not have the competency nor the financial capabilities for such acquisition, while the regulations of relinquishing ownership of the shares owned by OMV Yemen do not apply to it."

Zenith on 3 January said that its Zenith Netherlands business has agreed to buy OMV Yemen for around \$21.6mn. Zenith Energy holds a 49pc stake in Zenith Netherlands, with the rest held by Hong Kong based Hingbo Industries. With the deal Zenith inherits Block S-2, Block 3 and Block 70 from OMV. The Austrian-based company holds a 44pc stake in Block S-2, where crude production was 7,400 b/d.

OMV and Zenith have been approached for comment.

OMV was the last sizeable international oil company operating in Yemen, but the country accounted for very little of the 1.1mn bl it produced in 2021.

Yemen's crude production collapsed soon after the start of the country's civil war, and is at around 50,000-60,000 b/d, according to latest figures from the BP Statistical Review of World Energy. It was around 170,000 b/d in 2011-13.
By Bachar Halabi

Europe slate heavier, then lighter, in 2022

The crude slate passing through European refineries grew significantly heavier in the middle of 2022, but then lighter again by the end of the year. That pushed down light-end product yields while boosting middle and heavy distillates – an effect that is probably unwinding now.

West Texas Intermediate (WTI) crude gradually captured the largest share of the European seaborne import market from Russian Urals, which tended to make slates lighter. But unexpected disruption to CPC Blend crude loadings in the Black Sea made slates abruptly heavier, before the restoration of those loadings reversed that.

A storm [damaged two of the three mooring points at the CPC loading terminal](#) at Novorossiysk in the Black Sea in late March. Loadings resumed by the summer, but [two mooring points were taken offline again in June after a safety inspection](#). The port operated far below its normal capacity for much of the year.

CPC Blend has an API density of more than 46°, making it one of the lightest grades in the international market and by far the lightest of those comprising more than 2pc

of Europe's slate. Mostly Kazakh-origin CPC Blend is exempt from EU sanctions on Russian crude, even though it loads at a Russian port.

European refinery yields for light end products naphtha and gasoline fell significantly between the first and third quarters of 2022, to judge by data from Euroilstock covering 16 of the region's major countries. They lost a whole percentage point of yield between them. At the same time, middle distillate and fuel oil yields rose by 0.6 and 0.4 percentage points, respectively. These changes roughly track the properties of the crude being processed.

European refiners may have been content to let their light end yields fall, because margins for those products against crude were dropping at the same time on demand pressures. US demand for European gasoline was underwhelming in the summer, as was Asian demand for European naphtha.

Conversely, diesel and jet fuel were the highest priced major products for most of the year, so refiners would have been glad to run crudes richer in middle distillates.

Fuel oil was the sticking point. Refiners trying to capture middle distillate margins using these heavier crudes had no choice but to make more fuel oil. High-sulphur fuel oil (HSFO) averaged a discount of around \$32/bl against North Sea Dated crude in the third quarter, wider from around \$23/bl in the second quarter. This was despite EU sanctions blocking out Russian fuel oil supply in the third quarter.

In December, the overall API of seaborne crude arriving in Europe returned roughly to the levels of the first quarter. CPC Blend volumes were back at first-quarter levels, WTI volumes were higher than ever, and Urals had gone because EU sanctions came into force. But at the same time, Europe was getting more heavy Johan Sverdrup crude than almost ever before, which pulled the average density in the other direction.

In the data for the past four years, the strongest relationship between crude slates and product yield is that combined naphtha and gasoline yield tends to increase when crude slates get lighter.

More than three quarters of the crude that European refineries process arrives by sea, with the remainder delivered through pipelines such as the Druzhba pipeline from Russia. Over the past four years, the seaborne portion of Europe's crude intake has tended to grow lighter, partly reflecting how WTI began taking market share away from Urals long before Russia invaded Ukraine. With the CPC Blend disruption concluded, the exclusion of seaborne Urals by EU law since December could reinstate the trend's direction.

By Benedict George

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UK should set date to end new licensing: EAC

The UK should set “a clear date” that is “well before 2050” for ending new oil and gas licensing in the North Sea and it should also increase emissions reduction targets under the North Sea Transition Deal, according to a report from the government’s environmental audit committee (EAC).

The report, *Accelerating the transition from fossil fuels and securing energy supplies*, notes that “the fossil fuel industry should not be granted the headroom in the UK’s carbon budgets that other hard-to-decarbonise sectors may need”. The EAC expects its recommendations to inform the government’s [revised net zero strategy](#), which it must publish by the end of March.

Once the latest round is closed, the government should consult on the date for ending new licensing rounds based on planned oil and gas production from the UK and elsewhere and on the remaining Paris agreement-aligned global carbon budget, the committee said.

“Investing in new exploration is not going to achieve the kind of [energy] independence... that people hope for,” EAC chair Philip Dunne told *Argus*. “Fossil fuels need to be replaced,” he added.

The North Sea Transition Deal’s targets to cut emissions from upstream oil and gas production “are not stretching enough”, the committee said. UK oil and gas producers agreed to a voluntary emissions reduction goal of 50pc by 2030, from a 2018 baseline, but this should be increased to a “feasible and necessary” 68pc cut, in line with a recommendation from the government’s advisory Climate Change Committee, the report found.

The EAC flagged its concern about “weak” accountability arrangements in the North Sea Transition Deal, and the “few sanctions available to the North Sea Transition Authority” (NSTA) – the regulatory body which oversees the industry – if the targets are missed. Mandatory targets should be set if “insufficient progress” is made in 2023-2027, the EAC said.

The NSTA should “insist on” electrification of all new oil and gas projects that receive licences in the most recent round, the EAC said. And the government should place a total ban on flaring from all installations in UK jurisdiction by the end of 2025. The EAC also suggested that the NSTA publish a “league table of the best and worst performing companies”.

The Energy Profits Levy (EPL), a windfall tax imposed on UK oil and gas producers in May, is welcome, the EAC said. But the committee has “significant reservations about the extent of the financial support” provided via a new investment allowance built into the levy. The government should examine

how it could add a similar low-carbon investment allowance to its [electricity generator levy](#), the EAC recommended.

‘War effort’ on energy efficiency

Energy demand must be tackled too, the EAC report said. The committee praised the government’s energy security strategy, [released in April](#), for its goal of a largely-decarbonised electricity system by 2030. But “it is in essence an energy supply strategy”, which should have included a focus on energy savings measures and on the transport sector, the report found.

“A national ‘war effort’ on energy saving and efficiency is required,” the EAC said. It suggested using funds from the EPL for energy efficiency measures. The energy efficiency taskforce announced by finance minister Jeremy Hunt in his autumn budget last year should lay out a 10-year plan to “provide some certainty to industry”, Dunne said.

The government should consult on introducing measures laid out in the IEA’s plans to cut [oil](#) and [gas](#) demand, the EAC said. It also called for greater cross-government work on energy savings and energy security.

By Georgia Gratton

Alaska oil output, US west coast demand slip

Alaskan North Slope (ANS) crude production last week slipped by about 1,000 b/d, while US west coast refineries decreased throughputs.

ANS output ticked down to around 500,500 b/d in the week ended 31 December, according to the Alaska Department of Revenue. The Port of Valdez ended the week holding roughly 4.2mn bl of crude inventories, up by about 700,000 bl from the prior week.

US west coast refinery runs last week fell by 25,000 b/d to around 2.15mn b/d, while the region’s refinery utilization rates decreased by about 1.4 percentage points to 86pc, according to Energy Information Administration data.

The volume of ANS in transit to the US west coast declined to 3.1mn bl, down by 1mn bl from the week prior.

ANS for March delivery to the US west coast has sold at discounts to CMA Ice Brent of between \$2.85-3.25/bl since the start of the trade cycle this week. ANS deals for February delivery ranged higher at discounts between \$1.70-3/bl. By *Giovann Rosales*

Canadian throughputs down in all regions

Canadian refinery throughputs decreased in the week ended 27 December, with losses in all regions, according to data from the Canada Energy Regulator (CER).

Total Canadian refinery throughputs fell by 2.6pc week-

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over-week to 1.66mn b/d, a seven-week low. In the same week a year prior, throughputs totalled 1.62mn b/d.

Throughputs in Quebec and eastern Canada slipped by 0.8pc to 658,000 b/d. Utilization in the region fell by 0.8 percentage points to 93.8pc.

In Ontario, throughputs decreased by 4.6pc to 379,000 b/d, the lowest level since the week ended 26 July. Ontario's refinery utilization declined by 4.5 percentage points to 92.1pc.

Refiners in western Canada decreased throughputs by 3.2pc to 625,000 b/d on the week. Utilization in western Canada fell by 0.1 percentage points to 93.8pc.

Nationwide utilization slipped by 1.4pc to a six-week low of 93.4pc. This compares to nationwide utilization of 90.5pc in the same week a year prior.

By Sam Duffy

Alberta AWB bitumen extraction rose in Nov

Producers of Access Western Blend (AWB) increased bitumen extraction in November on gains from CNRL's Jackfish project, according to data from the Alberta Energy Regulator (AER).

MEG Energy and Canadian Natural Resources (CNRL) extracted 232,000 b/d of bitumen in November, up from 229,000 b/d in the prior month and up from 217,000 b/d a year earlier. The bitumen extracted at MEG Energy's Christina Lake project and CNRL's Jackfish project is destined to become AWB.

MEG Energy's Christina Lake project decreased bitumen extraction to 108,000 b/d from 109,000 b/d in the month previous. In November 2021, the project extracted 97,000 b/d of bitumen.

CNRL's Jackfish project increased output to 123,000 b/d of bitumen, up from 120,000 b/d in the month prior. In November 2021, the Jackfish project extracted 120,000 b/d of bitumen.

Once combined with diluent, the bitumen extracted from the projects will create about 347,000 b/d of marketable "dilbit," called AWB, at either Hardisty or Edmonton, Alberta. AWB output was 344,000 b/d in October and 326,000 b/d in November 2021.

AWB typically trades at a discount to Western Canadian Select (WCS) and has an API of approximately 22°.

CNRL and MEG's projects are about 100 miles (161 km) south of Fort McMurray, Alberta.

By Sam Duffy

Enbridge, band await crude pipeline ruling

Enbridge and a Native American tribal group in Wisconsin await a court's decision after filing two separate proposals to mitigate spill risk on the 540,000 b/d Line 5 crude and natural gas liquids (NGL) pipeline.

Pipeline operator Enbridge and the Bad River Band were

unable to agree to mitigation plans despite two lengthy meetings in December, so each filed separate "last, best offers" to the court on 23 December.

The two sides were directed in November by the US district judge William Conley to either [submit a joint proposal](#) regarding an "appropriate shutoff" plan relating to a specific river crossing in Wisconsin, or file independently.

Conley said a rupture could be "catastrophic" for the Bad River basin and potentially even Lake Superior – the world's largest freshwater lake astride the US-Canada border.

Counsel for the Bad River Band told *Argus* today it did not have an indication from the court for when to expect a decision on the proposals.

Discussions had progressed on the installation of emergency flow restriction devices (EFRD) on the reservation along with erosion control measures at a specific site where Line 5 crosses the Bad River, and talks are expected to continue even after the separate submissions. The Bad River Band had rejected opportunities to collaborate with Enbridge before, the judge said in November when he ordered the two parties to work together.

The band had argued for the line to be shut since filing a lawsuit against Enbridge in 2019, but the judge disagreed in September last year saying that a shutdown would be a "draconian" measure. Other options, even if imperfect, must be considered as areas of the US and Canada "depend upon" Line 5's operation, according to the judge.

The judge did [side with the band over claims of trespassing and unjust enrichment](#), ruling the tribal group was entitled to a "profits-based remedy." The court will also make a ruling on that, but no timeline for that decision has been indicated either.

Enbridge has already made plans to reroute the pipeline around the territory if it were successful in obtaining permits, but construction would take about five years. The proposed 41-mile Line 5 Segment relocation project would bypass the Bad River Reservation.

About 12 miles of pipe crosses the reservation.

The pipeline, which runs from Superior, Wisconsin, through Michigan and on to Sarnia, Ontario, is a vital source of hydrocarbons to the US upper midcontinent. Enbridge and Michigan also [have an ongoing battle in the courts](#), with the state government seeking the line's closure over a risk of a spill in the Strait of Mackinac.

About 10 days after the judge's order to expedite mitigation plans, the 622,000 b/d Keystone crude pipeline operated by competitor TC Energy [spilled 14,000 bl of heavy crude in Kansas](#) on 7 December.

By Brett Holmes

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Adnoc earmarks \$15bn for decarbonisation

Abu Dhabi's state-owned energy firm Adnoc today said it plans to allocate \$15bn towards decarbonisation projects, including carbon capture and storage, in pursuit of its 2030 emission reduction targets.

Adnoc, like several of its global peers, has set a target to slash carbon emissions. It expects to reduce carbon intensity by a fourth by 2030 and to achieve net zero by 2050.

The decarbonisation projects, which will be announced throughout 2023, will include investments in clean power, carbon capture, utilization and storage (CCUS), electrification and new measures for zero gas flaring, the company said. Adnoc also expects to expand its carbon capture capacity to 5mn t/yr by 2030.

The company's new low-carbon energy portfolio would be expanded through its stake in clean energy firm Masdar, which has a target to double its renewable energy capacity by 2030.

Adnoc said it is also preparing to invest heavily in carbon capture technologies at its Habshan gas processing facility, similar to those employed at its Al-Reyadah CCUS facility that has the capacity to capture up to 800,000 t/yr of CO₂.

Adnoc delivered test cargoes of low-carbon ammonia to Europe and Asia last year. It is also developing a 1mn t/yr blue ammonia production facility at Ta'ziz, its joint venture with Abu Dhabi holding company ADQ.

By Rithika Krishna

Milazzo's crude receipts remained low in Dec

Crude imports to the 241,000 b/d Milazzo refinery on Sicily remained low last month, but deliveries are picking up pace in January.

Milazzo – which is operated by a joint venture between Italy's Eni and Kuwait's KPC – imported 140,000 b/d in December, up from 135,000 b/d in November, according to Argus tracking. The refinery has two crude distillation units, but there has been no notice of any maintenance on either.

Imports averaged a little under 170,000 b/d in 2022, compared with 155,000 b/d in 2021.

Milazzo took a brace of deliveries of Kazakh Urals, now known as Kebco, in December. The refinery is now a leading destination for Kebco in the Mediterranean, taking six cargoes in five months. Two more shipments are on route, one from the Baltic and one from the Black Sea port of Novorossiysk. Kebco was renamed last year to differentiate it from Russian Urals. The EU's ban on seaborne imports of Russian crude came into effect on 5 December.

Milazzo's December crude slate narrowed to just three

suppliers. As well over 45,000 b/d of Kebco, the refinery also received 80,000 b/d of Azeri BTC Blend and over 10,000 b/d of Libyan grade Amna. Milazzo was previously a buyer of Urals, taking around 20,000 b/d of the Russian grade in 2021. But it replaced Urals with close to 15,000 b/d of Kebco and a similar volume of Saudi Arabian Arab Light last year. Arab Light deliveries rose from just 2,000 b/d in 2021. BTC Blend had the biggest share of Milazzo's crude slate in 2022, accounting for 50,000 b/d of imports, followed by US WTI on 30,000 b/d.

Argus assessed Milazzo's December imports at a weighted average gravity of 35.2°API and 0.6pc sulphur content, compared with 35.6°API and 1pc sulphur in November. Imports averaged 35.6°API and 0.8pc sulphur last year, very close to 35.5°API and 0.6pc in 2021.

Crude deliveries to Milazzo are picking up pace this month. Around 1.3mn bl of Kebco, 600,000 bl of Amna, 1mn

ANNOUNCEMENT

Argus Sour Crude Index (“ASCI”)

Proportional assessment

Following the end of the fourth trading quarter of 2022 and in accordance with the ASCI price methodology, Argus has revised the proportionality assigned to Mars, Poseidon and SGC to be used in the event that the combined volume minimum of 6,000 b/d is not met in any given trade day. The latest proportional assessment values are based on the volume of trade over the last six trade months and will be applicable for the next three trade months starting 28 November 2022 and ending 24 February 2023. Each grade has been assigned the following percentage values:

- Mars: 70pc
- Poseidon: 15pc
- SGC: 15pc

A table containing a history of the proportional assessment values can be found in the ASCI price methodology, which is available at <http://www.argusmedia.com/asci>. If you have any questions or would like to comment on these changes, please contact Gustavo Vasquez at gustavo.vasquez@argusmedia.com and (713) 968-0014, or Amanda Smith at amanda.smith@argusmedia.com and (713) 968-0013.

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bl of BTC Blend, 735,000 bl of Arab Light and a similar volume of US WTI are on route. Some 550,000 bl of Iraqi Basrah Medium has already discharged.

By Adam Porter

Trecate refinery crude receipts strong in Dec

Crude deliveries to the Italian port of Savona remained close to the capacity of the 126,500 b/d Trecate refinery, which is served by terminal.

According to *Argus* tracking, deliveries reached 120,000 b/d last month down slightly from 125,000 b/d in November, suggesting the refinery has been running close to capacity since September.

The unit is operated by ExxonMobil alongside domestic refiner API. But API has agreed to purchase ExxonMobil's 74.84pc share, alongside all the company's downstream and logistics assets in Italy. These include storage and pipeline operation at Savona. The deal should close within six months.

API also owns the 83,000 b/d Falconara refinery, on Italy's north eastern coast.

Imports last year were 115,000 b/d, tempered only by a lower rate of receipts in the first quarter. This was up from 105,000 b/d in 2021.

Last month's imports comprised 30,000 b/d of Nigerian

Erha, as well as a little under 20,000 b/d each of Azeri BTC Blend, Libyan Sider, US WTI and Angolan Saxi. There was a further 15,000 b/d of Algerian Sharman.

Trecate has the most stable slate in the Mediterranean, maintaining a medium sweet gravity and sulphur content, although it altered its crude intake last year. It took 25,000 b/d each of BTC Blend and Libyan crude in 2022, down from 30,000 b/d and 35,000 b/d respectively in 2021.

It took 25,000 b/d of Nigerian crude in 2022 – made up of Erha, Okwibome, Qua Iboe and Escravos – up from 10,000 b/d on the year. It also received 7,500 b/d of Angolan Saxi and 5,000 b/d of Algerian Saharan, which were not present in the 2021 slate. A delivery of Saxi in June was the first Angolan crude at Trecate since May 2019. Angolan grades discharged in the Mediterranean at greater volumes last year, largely as regular Chinese buyers cut purchases.

The unit cut purchases of Azeri Light from around 10,000 b/d to 3,000 b/d, on the year, with no deliveries after March.

Argus assessed the December imports at a weighted average gravity of 36.9°API and 0.2pc sulphur content, compared with 34.7°API and 0.2pc sulphur in November. The average for last year was 37.3°API and 0.2pc sulphur, very close to 37.6°API and 0.2pc sulphur in 2021.

By Adam Porter

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For prices used in financial benchmarks, Argus publishes daily explanations of the assessment rationale with supporting data. This information is available to permitted subscribers and other stakeholders.

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Other subscribers may request access [here](#) or contact us by email at sales@argusmedia.com.

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www.argusmedia.com/methodology.

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