

CRUDE MARKETS AT A GLANCE

\$/bl

Europe					
	Basis	Diff	Bid	Ask	Change
North Sea Dated	Jun Nsea	+1.14	86.12	86.18	+0.18 ▲
Ice Brent mth 1	Jun			85.61	+1.43 ▲
Argus Brent Sour	Dated	-0.83	85.29	85.35	-0.28 ▼
WTI cif R'dam period 2	Dated	+2.20	88.32	88.38	+0.18 ▲
Johan Sverdrup	Dated	-0.35	85.77	85.83	+0.18 ▲

North America					
	Basis	Diff	Outright	Change	
Nymex WTI mth 1	May		81.53	+1.79	▲
WTI Midland	May WTI	+0.59	82.12	+1.68	▲
WTI Houston	May WTI	+0.75	82.28	+1.58	▲
Mars	May WTI	-1.13	80.40	+1.72	▲
WCS Houston	May CMA Nymex	-6.80	74.59	+1.88	▲

Russia					
	Basis	Diff	Bid	Ask	Change
Urals fob Primorsk	Dated	-31.50	54.62	54.68	-0.57 ▼
ESPO fob	May Dubai swaps	-9.40	74.28	74.38	+0.21 ▲

Delivered China					
	Basis	Diff	Bid	Ask	Change
Tupi	Aug Ice Brent	+3.40	86.88	87.28	-0.22 ▼

Mideast Gulf					
	Basis	Diff	Bid	Ask	Change
Dubai	Jun		84.48	84.58	-0.34 ▼
Oman	Jun		84.49	84.59	-0.17 ▼
Murban	Jun		85.71	85.81	-0.33 ▼

West Africa					
	Basis	Diff	Bid	Ask	Change
Qua Iboe	Dated	+0.25	86.37	86.43	+0.18 ▲
Girassol	Dated	+2.00	88.12	88.18	+0.18 ▲
Doba	Dated	-1.00	85.12	85.18	+0.18 ▲

Prices up on prospects of tighter supply

May Nymex WTI rose by \$1.79/bl to \$81.53/bl while June Ice Brent rose by \$1.43/bl to \$85.61/bl. The June Brent-June WTI spread narrowed by 29¢/bl to \$4.12/bl.

TOP HEADLINES

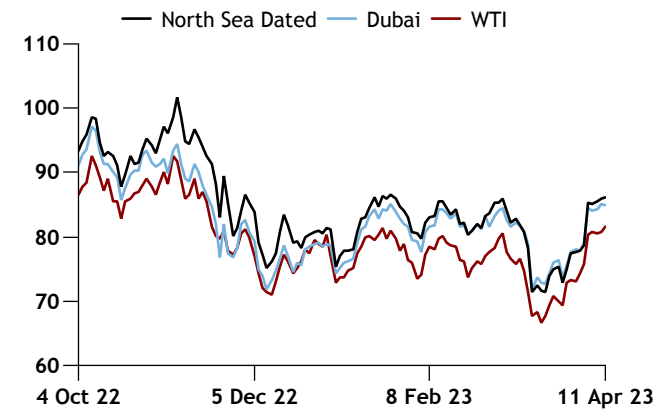
Global 2023 output forecast lower, prices up: EIA
French refinery, dock strikes end
Aramco gives Asian buyers full May term vols

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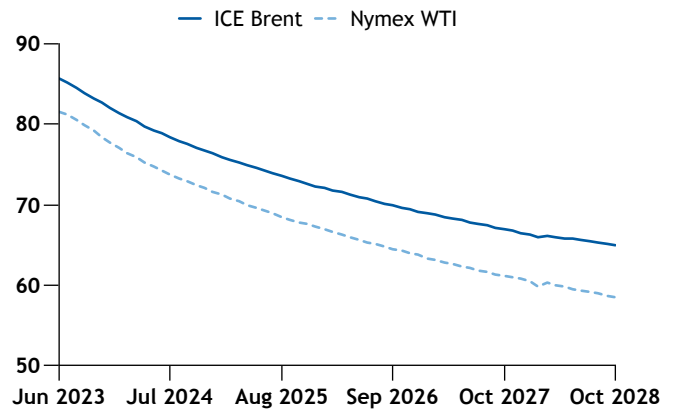
Key benchmarks

\$/bl



WTI vs Brent forward curve

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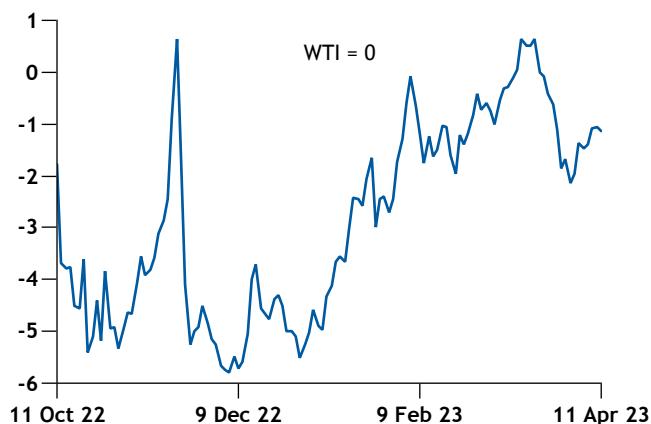
KEY SPREADS

\$/bl

	Spread	±
Interregional Spreads		
Transatlantic		
Ice Brent vs Nymex WTI mth 1	+4.40	0.03
North Sea Dated vs WTI fob Houston	+3.58	-1.27
Argus Brent Sour vs ASCI	+4.99	-2.08
Qua Iboe vs WTI Houston	+4.12	-1.40
Atlantic Basin to Asia		
Brent-Dubai EFS	+2.09	-0.03
Forties vs Murban	+1.44	1.06
Qua Iboe vs Kimanis	-7.55	-0.12
Americas to Asia		
WTI Houston vs Kimanis	-11.67	1.28
ANS USWC vs ESPO fob	+10.41	1.12
Mars vs Oman	-4.14	1.89
Regional Spreads		
Americas pipeline		
WTI Houston vs WTI Midland	+0.16	-0.10
WTI Houston vs Mars	+1.88	-0.14
WTL Midland vs WTI Midland	-0.69	0.01
WTS vs WTI Midland	-1.36	-0.24
WCS Hardisty vs WCS Houston	-9.08	-0.18
WCS Cushing vs WCS Houston	-1.07	-0.03
Americas waterborne		
WTI fob Houston vs Ekofisk	-5.88	1.05
WTI cif Rotterdam vs CPC cif Med	+4.40	-1.14
North Sea		
Dated vs Nsea Forward mth 2	+0.32	0.50
Nsea forwards mth 1 vs mth 3	+1.54	-0.05
Asia-Pacific		
Dubai mth 1 vs mth 3	+1.94	-0.05
Murban cfr China vs WTI del NE Asia	-0.08	0.36
Oman cfr China vs ESPO fob	+12.65	-0.38

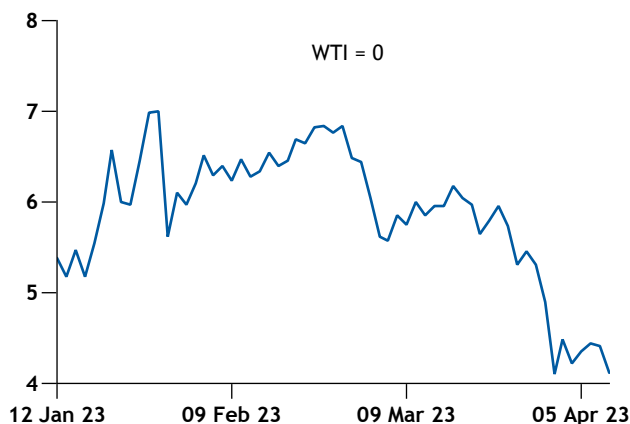
Mars vs WTI

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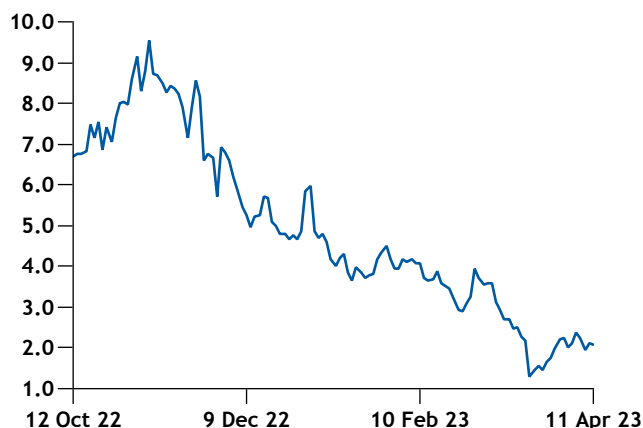
Ice Brent month 1 vs Nymex WTI

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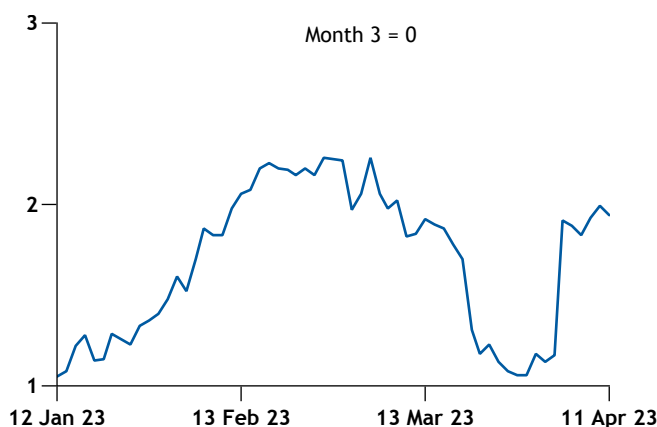
Brent-Dubai Exchange of Futures for Swaps (EFS) m1

\$/bl



Dubai month 1 vs month 3

\$/bl



ANNOUNCEMENT

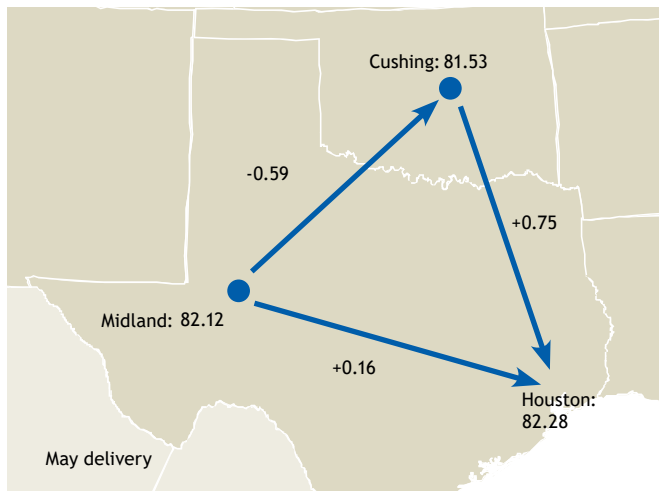
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ANNOUNCEMENT

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US GULF COAST AND MIDCONTINENT

WTI regional prices and spreads \$/bl



Argus Sour Crude Index (ASCI™)				\$/bl
	Month	Basis	Diff	Price
ASCI	May	May WTI	-1.20	80.33
ASCI 2	May	CMA Nymex + Argus WTI diff to CMA	-1.20	80.36

WTS last traded a week ago at May WTI Midland -1.75 on 4 April. Three trades totaling 3,400 b/d were reported that day, the only ones reported for the May trade month to date. Lighter-quality WTL Midland was exchanged for WTI Midland at a 70¢/bl discount, steady from the prior day.

Permian crude production is expected to rise by about 26,000 b/d to 5.62mn b/d in May from April, according to US Energy Information Administration data (EIA). This would be over 380,000 b/d more than the Permian produced a year ago when April 2022 production was 5.24mn b/d.

In other news, The US EIA cut its outlook for global crude output this year by 170,000 b/d from last month's expectation, mostly on surprise cuts announced by Opec+ earlier this month. Global production will average 101.3mn b/d in 2023, down from last month's forecast of 101.47mn b/d, the EIA said on Tuesday in its monthly Short-Term Energy Outlook (STEO), after Saudi Arabia and seven other Opec+ members agreed to cut production by a collective 1.16mn b/d until the end of 2023. But the EIA noted that Opec production had already been below prior production targets, so it scaled its own forecast down by 500,000 b/d for the balance of the year.

The EIA's global crude consumption forecast was largely unchanged at 100.87mn b/d for 2023.

Assessment rationale

The minimum volume was met and volume-weighted average calculated according to the methodology for Bakken Cushing month, Mars, Poseidon, Southern Green Canyon, WCS Cushing, WCS Houston, WTI Diff to CMA Nymex, WTI Houston, WTI Midland Enterprise, WTI Midland and WTL Midland. The Bakken at Clearbrook assessment was set on the basis of fresh trade. Bakken at Clearbrook sold at a premium of \$1.30-\$1.45/bl.

In the absence of sufficient transaction information for LLS and WTS, market value was assessed using intelligent judgement according to the methodology.

In North Dakota, Bakken DAPL fell further from the record low premium seen last session, following WTI Houston and other sweet crude assessments lower.

May Bakken DAPL traded at premiums to the CMA Nymex WTI between 30¢-35¢/bl, extending losses from the weakest weighted-average premium against the basis since the assessment was launched.

Bakken Patoka also fell against the CMA Nymex, with trades done at a \$1.35/bl premium. On Monday, Bakken Patoka traded at a \$1.50/bl premium.

At the US Gulf coast, WTI Houston fell against the Cushing physical benchmark by roughly 20¢/bl, with trade reported at premiums between 70¢-85¢/bl. Prompt-month WTI Houston was assessed this session at about 20¢/bl beneath front-month WTI Houston on an outright basis, showing a market in contango, as forward prices are above current ones. Contango can indicate that the market is well supplied.

In Midland, Texas, the WTI Midland premium to the Cushing benchmark fell by about 10¢/bl to around 60¢/bl. Light sour West Texas Sour (WTS) was heard bid at a \$1.75/bl to WTI Midland, with the offer level heard at a \$1/bl discount. The grade was assessed at the midpoint of discussion, putting it at around an 80¢/bl discount to the Cushing benchmark. Discussion for WTS in the prior session at WTI Midland -1.50/-0.75.

US GULF COAST AND MIDCONTINENT

WTI							\$/bl			
	Timing	Low	High	WTI formula basis price	WTI formula basis MTD	Roll to next month				
WTI Cushing	May	81.51	81.55	81.53	77.52	-0.04				
WTI Cushing	Jun	81.47	81.51	81.49		-0.35				
WTI Cushing	Jul	81.12	81.16			-0.57				
WTI Cushing	Aug	80.55	80.59							
	Timing	Price	WTI Nymex spread							
CMA Nymex	May	81.39	+0.14							
CMA Nymex	Jun	80.92	+0.57							
CMA Nymex	Jul	80.33								
CMA Nymex	Aug	79.66								
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	MTD weighted average
Argus AGS Marker	May						82.16	82.31	82.20	78.39
Argus AGS	May	May WTI	+0.63	+0.78	+0.67	+0.91	82.16	82.31	82.20	
WTI Houston	May	May WTI	+0.70	+0.85	+0.75	+0.98	82.23	82.38	82.28	
WTI Houston	Jun	Jun WTI	+0.95	+1.05	+1.00	+1.18	82.44	82.54	82.49	
WTI Midland	May	May WTI	+0.55	+0.65	+0.59	+0.78	82.08	82.18	82.12	
WTI Midland	Jun	Jun WTI	+0.80	+0.85	+0.83	+0.94	82.29	82.34	82.32	
WTI Midland Enterprise	May	May WTI	+0.55	+0.65	+0.59	+0.78	82.08	82.18	82.12	
WTI diff to CMA Nymex	May	CMA	+0.16	+0.20	+0.17	+0.08				
WTI postings-plus	May	Postings	+3.54	+3.58	+3.55	+3.46				

Midcontinent											\$/bl
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	Cumulative MTD VWA	
Bakken DAPL	May	CMA Nymex	+0.30	+0.35	+0.33	+0.74	81.69	81.74	81.72	+0.69	
Bakken Patoka	May	CMA Nymex	+1.30	+1.40	+1.35	+1.35	82.69	82.79	82.74	+1.37	
Bakken Clearbrook	May	CMA Nymex	+1.30	+1.45							
Bakken Cushing	May	May WTI	+0.55	+0.65	+0.60	+0.64	82.08	82.18	82.13		
Light Sweet Guernsey	May	CMA Nymex	-0.20	-0.10	-0.15	-0.10	81.19	81.29	81.24	-0.14	
DJ Light	May	May WTI	-0.45	-0.15	-0.30	-0.20	81.08	81.38	81.23		
White Cliffs	May	May WTI	-0.45	-0.15	-0.30	-0.21	81.08	81.38	81.23		
Niobrara	May	May WTI	+0.70	+0.90	+0.80	+0.83	82.23	82.43	82.33		
WCS Cushing	May	CMA Nymex	-7.95	-7.80	-7.87	-8.26	73.44	73.59	73.52		
Canadian High TAN Cushing	May	CMA Nymex	-8.65	-8.50	-8.58	-8.81	72.74	72.89	72.81		

Texas											\$/bl
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average		
WTL Midland	May	May WTI	-0.15	-0.05	-0.11	+0.04	81.38	81.48	81.42		
Bakken Beaumont/ Nederland	May	CMA Nymex + Argus WTI diff to CMA	+0.95	+1.25	+1.10	+1.29	82.51	82.81	82.66		
WTS	May	May WTI	-1.15	-0.40	-0.78	-0.84	80.38	81.13	80.75		
WTS	Jun	Jun WTI	-1.20	-0.60	-0.90	-0.88	80.29	80.89	80.59		
Southern Green Canyon	May	May WTI	-1.05	-0.85	-0.95	-1.19	80.48	80.68	80.58		
WCS Houston	May	CMA Nymex	-6.95	-6.80	-6.80	-7.21	74.44	74.59	74.59		
Canadian High TAN Houston	May	CMA Nymex	-7.65	-7.45	-7.55	-7.99	73.74	73.94	73.84		

Louisiana											\$/bl
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average		
LLS	May	May WTI	+1.75	+2.00	+1.88	+1.99	83.28	83.53	83.41		
LLS	Jun	Jun WTI	+1.90	+2.00	+1.95	+2.03	83.39	83.49	83.44		
HLS	May	May WTI	+2.45	+2.50	+2.49	+2.16	83.98	84.03	84.02		
Thunder Horse	May	May WTI	+1.50	+1.85	+1.71	+1.60	83.03	83.38	83.24		
Poseidon	May	May WTI	-1.83	-1.80	-1.81	-2.43	79.70	79.73	79.72		
Mars	May	May WTI	-1.25	-1.00	-1.13	-1.48	80.28	80.53	80.40		
Mars	Jun	Jun WTI	-1.40	-1.30	-1.35	-1.58	80.09	80.19	80.14		

ARGUS AGS

A tightening spread between WTI and month-two Ice Brent – the prompt contract used to price waterborne cargoes – is pressuring spot crude differentials lower for Midland-quality WTI at the US Gulf coast, and supporting liquidity.

The AGS index differential to Nymex fell by 23¢/bl this session to a 67¢/bl premium, while the AGS Marker rose with crude futures to a volume-weighted average of \$82.20/bl, up by \$1.56/bl, amid expectations of tighter supplies.

The US Energy Information Administration (EIA) this session cut its outlook for global crude output in 2023 by 170,000 b/d from last month’s forecast, based on the recently announced Opec+ supply curtailment. Global oil production is expected to average 101.3mn b/d in 2023, the agency said in its monthly *Short-Term Energy Outlook (STEO)*.

The prompt Nymex light sweet crude contract narrowed its discount to July Ice Brent by roughly 40¢/bl over the trade session to \$3.64/bl at settle, helping prompt a sell-off of light sweet crude in the US Gulf coast physical pipeline market this session amid deteriorating arbitrage economics to export crude.

AGS liquidity was based at the Magellan East Houston (MEH) terminal, where 35 deals totaling 83,000 b/d were transacted at premiums to the Nymex light sweet crude futures contract between 70¢/bl and 85¢/bl. Another 2,000 b/d of WTI for May delivery to MEH sold at an 85¢/bl premium to CMA Nymex WTI.

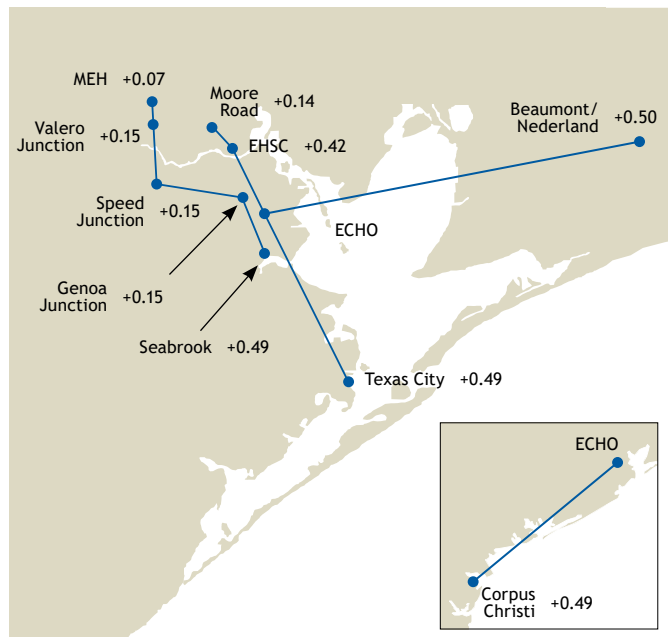
WTI deals at MEH transacted against prompt Nymex also comprise the basis for the secondary coastal crude benchmark WTI Houston, which often fluctuates with export economics. A narrower spread between the Cushing, Oklahoma, basis and international prices can generally indicate a more difficult-to-work export arbitrage for WTI, which has to compete internationally with grades pricing against Ice Brent.

Pricing volatility seen thus far in the May US trade month has helped spark higher liquidity, with 548,581 b/d reported into AGS to-date. That volume is roughly steady to the 550,000 b/d reported over the same period of the April trade month, when full-month trade volumes reached a record high of 1.01mn b/d.

Argus AGS		\$/bl			
	Timing	Low/high	VWA	VWA MTD	
Argus AGS Marker	May	82.16/82.31	82.20	78.39	
Argus AGS	May	82.16/82.31	82.20		
	Timing	Basis	Diff low/high	VWA	VWA MTD
Argus AGS	May	May WTI	+0.63/+0.78	+0.67	+0.91

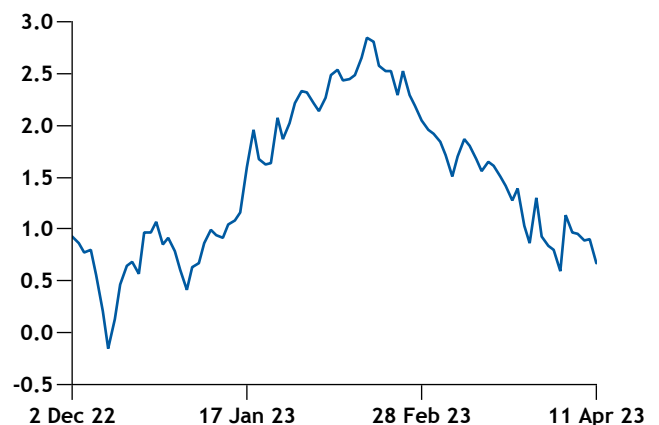
AGS locational differentials vs Echo

\$/bl



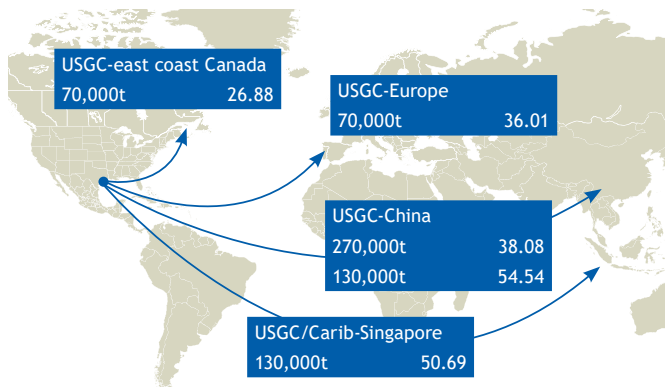
AGS index diff to Nymex WTI

\$/bl



US WATERBORNE

Freight snapshot (full view in Argus Tanker Freight) \$/t



Freight rates are five-day rolling averages. The full range of tanker freight rates, including Crude-specific USD/bl freight is available in Argus Tanker Freight.

Freight rate	\$ lumpsum
	Five-day rolling average
USGC Aframax reverse lightering	460,000

WTI fob the US Gulf coast strengthened marginally against July Ice Brent as Saudi Aramco held May loadings for some European customers stable and strikes at refineries in France ended, while US crude futures also narrowed against international prices.

WTI loading 15-45 days forward at the US Gulf coast rose by 8¢/bl to discounts between \$2.75/bl and \$2.45/bl to July Ice Brent, circling a roughly 30¢/bl premium to the secondary coastal benchmark WTI Houston.

Nymex light sweet crude strengthened by 41¢/bl against July Ice Brent to a discount of \$3.64/bl, while WTI Houston's premium to the Nymex benchmark declined by 21¢/bl to 75¢/bl.

Saudi Arabia's state-controlled Saudi Aramco will supply at least three of its term crude buyers in northwest Europe and the Mediterranean region with their requested volumes for May to the surprise of some refiners, despite Aramco's plan to cut production by 500,000 b/d from next month

US Gulf coast waterborne				\$/bl
	Timing	Basis	Diff low/high	Low/High
WTI fob USGC	Prompt	May CMA Nymex	+1.03/+1.33	82.42-82.72
	Prompt	May WTI Houston	+0.14/+0.44	
	Prompt	Jul Ice	-2.75/-2.45	
Bakken fob Beaumont/ Nederland	Prompt	May CMA Nymex	+1.18/+1.63	82.57-83.02
	Prompt	May WTI Houston	+0.29/+0.74	
	Prompt	Jul Ice	-2.60/-2.15	

WTI intramonth spreads				\$/bl
Load window (dates)	Timing	Basis	Diff low/high	Diff midpoint
1-10 M1	May	May WTI Houston	+0.25/+0.45	+0.35
	May	Jul Ice	-2.64/-2.44	-2.54
11-20 M1	May	May WTI Houston	+0.15/+0.40	+0.28
	May	Jul Ice	-2.74/-2.49	-2.62
21-31 M1	May	May WTI Houston	+0.15/+0.40	+0.28
	May	Jul Ice	-2.74/-2.49	-2.62

Workspaces:

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- Crude + Freight - Atlantic Basin
- Crude Exports + Freight - US
- Crude Imports + Freight - India
- WTI Arbitrages + Freight - Global

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until the end of the year. The Saudi plan was one piece of a larger 1.16mn b/d production cut by OPEC+ starting in May.

French refinery and port workers meanwhile called off a month-long strike over changes to pension rights. TotalEnergies' three refineries in France and UK-Chinese refiner Petroineos' refinery are restarting following news that ExxonMobil's two refineries began restarting operation late last week.

Anticipated US crude export cargoes — 15-45 days forward							
Tanker name	Approximate volume '000 bl	Estimated grade	Load window	Load port	Chartered destination	ETA	
Front Tyne	2,100	WTI and/or Mars	26 Apr	tbd	Western India	10 Jun	
Blue Nova	2,100	WTI	27 Apr	Corpus Christi, Texas	Europe	tbd	
Great Lady	2,100	WTI	6-11 May	tbd	Europe	tbd	
Serendipity	2,100	WTI and/or Mars	6 May	tbd	China	8 Jul	

US WATERBORNE

At the peak of the strikes 80pc of France’s 1.15mn b/d refining capacity was offline with the remainder operating at minimal capacity as the flow of feedstock to the facilities dried up and refined product storage reached its limits.

Values for North Sea grades Brent, Forties, Ekofisk and Troll strengthened this session as buying interest from TotalEnergies emerged.

The restart of French refineries could also lend support to WTI fob values by increasing demand for loadings at the US Gulf coast. However, European demand may not return in full until the June trade cycle. French ports are still working through the backlog of crude tankers queued off their coasts, including four vessels carrying US grades.

One trader estimated only 10 VLCCs have been fixed to load at the US Gulf coast in May so far, most of which have been to east Asia. Only two weeks of the May trade cycle remain.

WTI delivered to China was pegged lower again this session by traders at a \$5.40/bl premium to June Dubai.

Separately, Chinese refiner Shenghong has received initial approval from the Ministry of Commerce (MoC) for a non-state crude import qualification, which could support demand for US crude exports in the long term.

The petrochemical-focused refiner received the official approval to refine imported crude in September 2021 from China’s National Development and Reform Commission (NDRC) and was allocated its first batch of crude import quotas the following month, but the lack of import qualification meant it still had to rely on trading companies to complete customs clearance procedures when importing crude.

Shenghong, which opened its 320,000 b/d Lianyungang refinery in November 2022, received a 160,000 b/d quota in the latest 2023 allocation process and is expected to receive another 160,000 b/d of quotas for the remainder of the year.

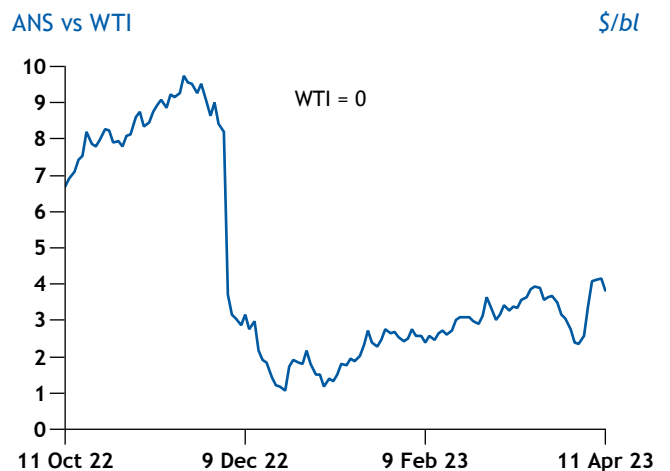
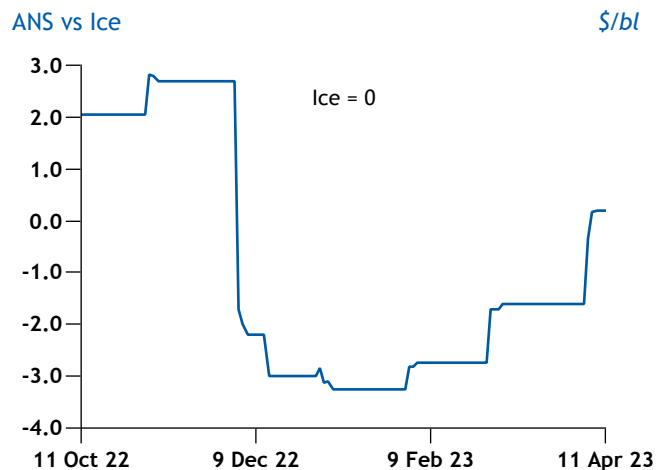
Assessment rationale

The ANS assessment against CMA Nymex WTI was adjusted to maintain the spread to CMA Ice Brent established when the grade last traded.

US west coast pipeline, 10 Apr				\$/bl
	Basis	Diff to Ice Brent		Outright
Light postings avg	Jun	-1.61		82.57
Heavy postings avg	Jun	-5.44		78.74

US west coast waterborne					\$/bl
	Timing	Basis	Diff low/high		Low/High
ANS del	Jun	CMA Nym	+3.77/+3.87		84.69-84.79
	Jun	CMA Ice	+0.15/+0.25		
ANS del concurrent	Jun	Jun WTI	+3.77/+3.87		85.26-85.36

ANS del USWC monthly volume-weighted average				\$/bl
		Basis		Diff
Mar		Ice CMA		-3.10
Apr		Ice CMA		-2.80
May MTD		Ice CMA		-1.62
Jun MTD		Ice CMA		+0.03



LATIN AMERICA

A 1mn bl cargo of Argentina's heavy sweet Escalante was heard entering the market for loading between 20-30 May. No further details emerged this session.

Argus assessed the heavy sweet grade between a \$3.25/bl and \$2.25/bl discount against July Ice Brent, 50¢/bl higher day-over-day after market participants continued to reveal more bullish price indications.

The pricing basis for Ecuadorean spot crude assessments rolled to July WTI this session amid muted market activity for April cargoes. Medium sour Oriente was higher at discounts to July WTI between \$4.95/bl and \$3.95/bl to reflect a 35¢/bl backwardation between the June and July contracts. Heavy sour Napo was assessed at a discount of \$11.45/bl to the light sweet WTI basis.

Meanwhile market participants suggest the grades may be purchased in state-owned PetroPeru's latest buy tender seeking more than 1mn bl of crude for delivery in May, if the cargoes are destined for the Talara refinery which is expected to be fully operational in May or June this year.

Once the refinery is fully operational, Peru's demand for Napo crude is expected to increase.

PetroPeru has purchased the heavy sour Ecuadorean crude before. Last year, it placed a winning bid at a 72¢/bl premium over the spot price for 3.96mn bl of Napo crude in a PetroEcuador tender.

And ship tracking firm Vortexa shows 20 vessels loaded with Ecuadorean crude arrived in several ports across Peru in 2022. So far this year, four tankers have made the journey from Ecuador to Peru.

Vortexa data shows Peru did not receive any crude-laden tankers from Colombia even though several of its grades have been previously short-listed in PetroPeru's buy tender. In the PetroPeru tender set to close this week, Colombia's Vasconia, Castilla, Chaza, and Magdalena crudes were also listed.

Interested participants must submit offers by 12 April on an FOB or delivered basis relative to Ice Brent or Nymex WTI. Offers will remain valid until 14 April.

South America				\$/bl
	Timing	Basis	Diff low/high	Low/High
Colombia				
Vasconia	Prompt	Jul WTI	-2.72/-2.22	78.42-78.92
		Jul Ice	-6.75/-6.25	
Castilla	Prompt	Aug WTI	-6.73/-5.73	73.84-74.84
		Aug Ice	-10.70/-9.70	
Argentina				
Escalante	Prompt	Jul WTI	+0.78/+1.78	81.92-82.92
		Jul Ice	-3.25/-2.25	
Medanito	Prompt	Jul WTI	-2.17/-1.57	78.97-79.57
		Jul Ice	-6.20/-5.60	
Ecuador				
Oriente	Prompt	Jul WTI	-4.95/-3.95	76.19-77.19
		Jul Ice	-8.98/-7.98	
Napo	Prompt	Jul WTI	-11.95/-10.95	69.19-70.19
		Jul Ice	-15.98/-14.98	
Mexico				\$/bl
	Timing	Basis	Diff	Price
Maya				
Excluding USWC	Apr	May Nymex	-12.62	68.91
USWC	Apr	May Nymex	-8.27	73.26
Europe	Apr	Jun Dated Brent	-15.34	70.81
India	Apr	Jun Dated Brent	-15.34	70.81
Asia-Pacific	Apr	Jun Dubai	-8.64	75.89
Isthmus				
Excluding USWC	Apr	May Nymex	-6.57	74.96
USWC	Apr	May Nymex	-9.37	72.16
Europe	Apr	Jun Dated Brent	-12.99	73.16
India	Apr	Jun Dated Brent	-18.29	67.86
Asia-Pacific	Apr	Jun Dubai	-6.29	78.24
Olmecca				
Americas	Apr	May Nymex	-5.77	75.76
Europe	Apr	Jun Dated Brent	-8.44	77.71
India	Apr	Jun Dated Brent	-14.14	72.01
Mexico K-factors				\$/bl
	Timing	K-factor		
Maya USGC	Apr	-14.55		
Maya USWC	Apr	-10.20		
Maya Europe	Apr	-14.80		
Maya India	Apr	-14.80		
Maya Asia	Apr	-8.65		
Isthmus USGC	Apr	-8.50		
Isthmus USWC	Apr	-11.30		
Isthmus Europe	Apr	-12.45		
Isthmus India	Apr	-17.75		
Isthmus Asia	Apr	-6.30		
Olmecca USGC	Apr	-7.70		
Olmecca Europe	Apr	-7.90		
Olmecca India	Apr	-13.60		

CANADA

Canada domestic							\$/bl		
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average
Syncrude (SSP)	May	CMA Nym	+3.25	+3.75	+3.50	+5.48	84.64	85.14	84.89
WCS	May	CMA Nym	-16.15	-15.60	-15.88	-15.32	65.24	65.79	65.51
WCS Cushing	May	CMA Nym	-7.95	-7.80	-7.87	-8.26	73.44	73.59	73.52

Canada domestic				\$/bl	
	Timing	Basis	Diff low/high	Low/High	
AWB	May	CMA Nym	-18.55/-18.00	62.84-63.39	
CDB	May	CMA Nym	-17.30/-16.75	64.09-64.64	
Cold Lake	May	CMA Nym	-16.40/-15.85	64.99-65.54	
Condensate	May	CMA Nym	-4.50/-4.00	76.89-77.39	
MSW	May	CMA Nym	-5.25/-4.75	76.14-76.64	
LSB	May	CMA Nym	-3.95/-3.45	77.44-77.94	
LLB	May	CMA Nym	-15.90/-13.95	65.49-67.44	

Canada waterborne prices				\$/bl	
	Timing	Basis	Diff low/high	Low/High	
Hibernia	Dated	North Sea	+1.65/+1.85	87.80-88.00	

The discount for MSW widened while the premium for Bakken in the US edged lower with less than a week remaining in the May trade window.

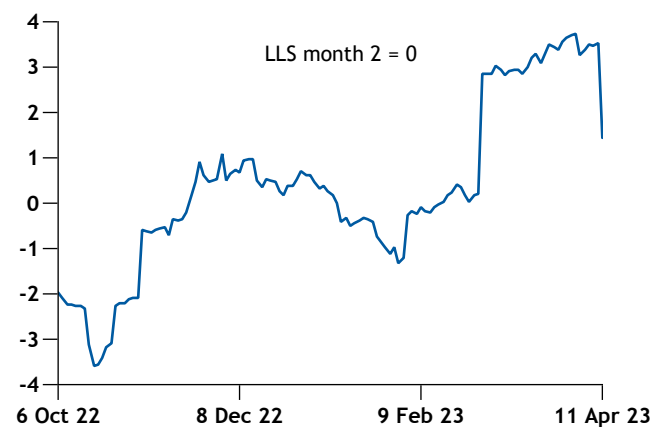
Mixed Sweet Blend (MSW) at Edmonton, Alberta, is assessed at a discount of between \$5.25/bl to \$4.75/bl to the May Nymex WTI CMA. The implied outright price of MSW is now \$76.39/bl, down from an outright price of \$92.92/bl a year previous.

South of the border, Bakken at Clearbrook, Minnesota, is now assessed at a premium of between \$1.30/bl to \$1.45/bl to the May basis, with at least 5,000 b/d trading within that range. The implied outright price of the light grade is now \$82.77/bl, down from an outright price of \$96.09/bl a year prior.

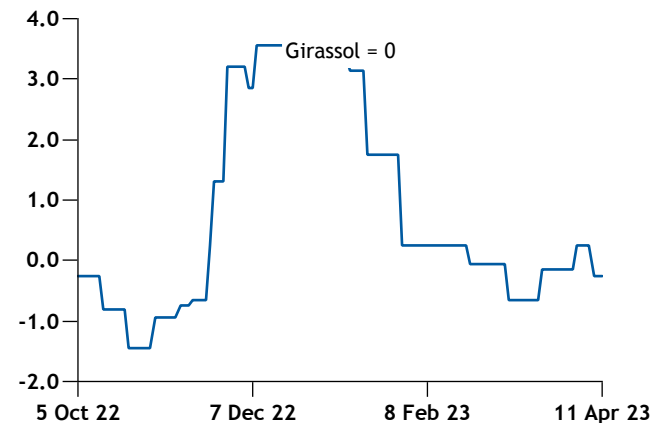
Syncrude Sweet Premium (SSP) at Edmonton, Alberta, is assessed between a \$3.25/bl to \$3.75/bl premium to the May basis. SSP's implied outright price is now \$84.89/bl, down from an outright price of \$99.69/bl a year prior.

The May trade cycle concludes on 14 April, with nominations to Enbridge's 3mn b/d Mainline due on 17 April. Enbridge will then apportion, or reject, a percentage of nominated heavy and light crude volumes. All nominations for May flow on the Mainline were accepted, the first time shippers were able to transport all nominated heavy and light crude since July 2022.

Canadian Synthetic vs LLS month 2 \$/bl



Hibernia vs Girassol \$/bl



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)	Jun	100,000	85.01	
CFD value against relevant basis month				
		Basis	Midpoint	
17 Apr-21 Apr		Jun	+0.93	
24 Apr-28 Apr		Jun	+0.85	
1 May-5 May		Jun	+0.65	
8 May-12 May		Jun	+0.32	
15 May-19 May		Jun	0.00	
22 May-26 May		Jun	-0.22	
CFD value for 21 Apr-11 May		Jun	+0.66	
North Sea Anticipated Dated calculation				
		Month	Price	
VWA of North Sea partial trade		Jun	85.01	
CFD value for 21 Apr-11 May		Jun	+0.66	
Anticipated Dated			85.67	
Physical differentials for 21 Apr-11 May				
Grade		Basis	Diff midpoint	
Brent		Dated	+1.05	
Forties		Dated	+1.05	
Oseberg		Dated	+2.85	
Ekofisk		Dated	+2.30	
Troll		Dated	+3.04	
North Sea quality premiums (QP) for 21 Apr-11 May				
Oseberg			+2.11	
Ekofisk			+1.49	
Troll			+2.33	
North Sea Dated calculation				
	Anticipated Dated	Add Diff midpoint	Subtract QP	Price
Brent component of Dated	85.67	+1.05		86.72
Forties component of Dated	85.67	+1.05		86.72
Oseberg component of Dated	85.67	+2.85	+2.11	86.41
Ekofisk component of Dated	85.67	+2.30	+1.49	86.48
Troll component of Dated	85.67	+3.04	+2.33	86.38
North Sea Dated is the lowest component on each day				86.15

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

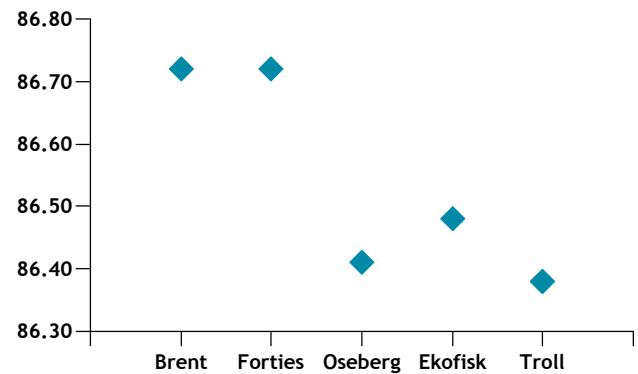
Argus assesses trade in physical cargoes of Brent, Forties, Oseberg, Ekofisk and Troll crude, assigning differentials to North Sea Dated to each grade for the 10-days to month-ahead range.

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.

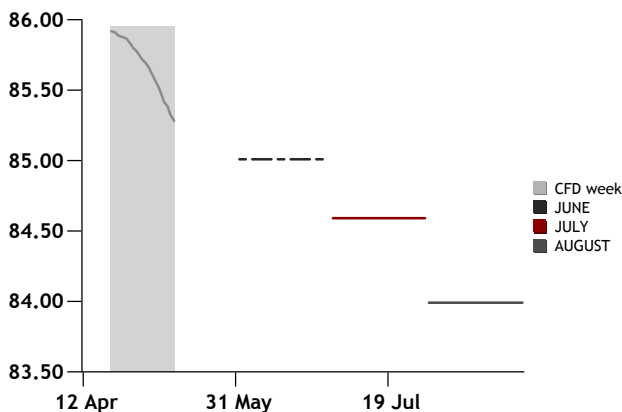
Components of North Sea Dated

\$/bl



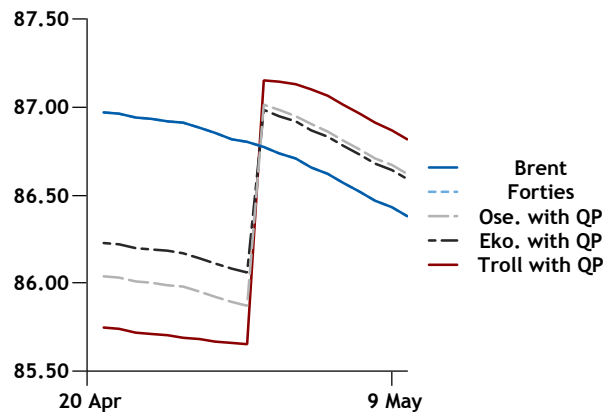
North Sea forward curve establishing Anticipated Dated

\$/bl



Dated components-establishing North Sea Dated

\$/bl



NORTH SEA

Values for North Sea grades Brent, Forties, Ekofisk and Troll strengthened on buying interest for shipments loading over the first half of next month.

TotalEnergies unsuccessfully sought cargoes of the four benchmark grades in the afternoon window. The firm bid North Sea Dated +1.00 fob Sullom Voe for a Brent cargo loading on 1-13 May. It also sought supplies of Forties loading on the same dates at Dated +1.00 on a fob Hound Point basis.

TotalEnergies was also looking to buy supplies of Ekofisk loading on 4-11 May at Dated +2.25 fob Teesside. It also bid Dated +3.05 fob Mongstad for a cargo of Troll loading on 4-13 May. The firm's bids did not result in any deals.

Glencore again sought buyers for Troll and Ekofisk in the afternoon window. The firm was looking to sell supplies of Troll loading on 24-26 April at Dated +3.00 fob Mongstad. This was 20-30¢/bl above Glencore's offers for Troll in the previous session.

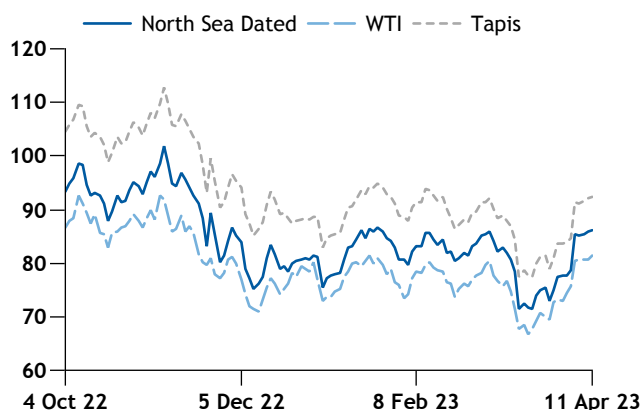
The firm was also looking to place supplies of Ekofisk on a one-cancels-the-other (OCO) basis. It offered a cargo of the grade loading on 21-23 April, or for loading on 22-24 April, both at Dated +2.50. The offers were 50-55¢/bl higher than Glencore's offers for Ekofisk in the previous session. But the firm did not receive buying interest for any of its offers. The window activity was not confirmed.

Demand for North Sea crude could edge higher as refining capacity in France returns online. French refinery and port workers have called off a month-long strike over changes to pension rights. Crude processing units at France's six refineries were restarting, putting back online 1.15mn b/d of nominal operational capacity.

Around 86,000 b/d of North Sea crude exports sailed for France in 2022, along with 143,000 b/d of US grade WTI, according to Vortexa data. But there is a large tanker backlog,

North Sea Dated, WTI, Tapis

\$/bl



North Sea					\$/bl
	Basis	Diff	Bid	Ask	±
Dated*	Jun	+1.14	86.12	86.18	+0.18
Dated (new)**	Jun	+0.83	85.81	85.87	-0.10
Argus Brent Sour	Dated	-0.83	85.29	85.35	-0.28
Brent†	Dated	+1.05	87.17	87.23	+0.51
Forties	Dated	+1.05	87.17	87.23	+0.73
Oseberg	Dated	+2.85	88.97	89.03	+0.18
Ekofisk	Dated	+2.30	88.42	88.48	+0.41
Troll	Dated	+3.04	89.16	89.22	+0.39
Statfjord cif Rotterdam	Dated	+2.30	88.42	88.48	+0.18
Statfjord fob platform	Dated	+0.58	86.70	86.76	+0.18
Gullfaks cif Rotterdam	Dated	+3.20	89.32	89.38	+0.18
Gullfaks fob platform	Dated	+1.48	87.60	87.66	+0.18
Flotta Gold	Dated	+0.60	86.72	86.78	+0.18
Grane	Dated	-0.20	85.92	85.98	+0.18
Johan Sverdrup	Dated	-0.35	85.77	85.83	+0.18

*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			
Jun	Ice	+0.02			
Jul	Ice	+0.02			
Ice minute markers					
			1-minute	±	
Jun			85.10	-0.02	
Jul			84.68	-0.05	
Aug			84.07	-0.08	
Dated CFDs, Singapore close					
	Basis	Bid	Ask	±	
17 Apr-21 Apr	Jun	+1.11	+1.19	+0.21	
24 Apr-28 Apr	Jun	+0.90	+0.98	+0.10	
1 May-5 May	Jun	+0.80	+0.88	+0.16	
8 May-12 May	Jun	+0.64	+0.72	+0.33	
Dated CFDs, London close					
	Basis	Bid	Ask	±	
17 Apr-21 Apr	Jun	+0.89	+0.97	-0.01	
24 Apr-28 Apr	Jun	+0.81	+0.89	+0.01	
1 May-5 May	Jun	+0.61	+0.69	-0.03	
8 May-12 May	Jun	+0.28	+0.36	-0.03	
15 May-19 May	Jun	-0.04	+0.04	-0.07	
22 May-26 May	Jun	-0.26	-0.18	-0.01	
Delivered northwest Europe assessments					
	Basis	Diff	Bid	Ask	±
WTI cif Rotterdam (period 1)*	Dated	+2.20	88.32	88.38	+0.44
WTI cif Rotterdam (period 2)*	Dated	+2.20	88.32	88.38	+0.18

*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

which at its peak contained more than 12mn bl, and this may slow down the return in French interest.

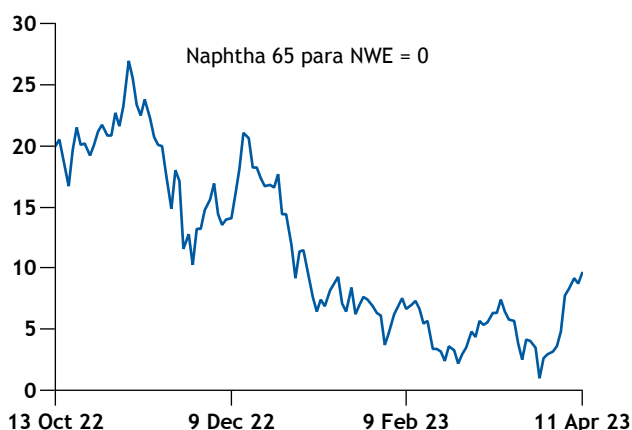
The Buzzard oil field's share of the North Sea Forties crude stream edged down by one percentage point to 24pc in the week ending 9 April, according to Forties Pipeline System (FPS) operator Ineos.

A 24pc contribution from Buzzard results in a Forties blend of around 40.44°API and 0.61pc sulphur content. Buzzard's share of Forties has averaged 24.2pc so far this month, higher than Ineos' forecast of 22.2pc for April. Buzzard's contribution affects Forties quality because the field's crude is slightly heavier and sourer than the rest of the stream.

Forward prices weakened. The Argus June North Sea price was \$85.01/bl, a drop of 19¢/bl from the previous session, based on 100,000 bl of trade in the minute leading up to the timestamp. CFDs were mixed. The front-week 17-21 April CFD lost 1¢/bl to June North Sea +93¢/bl, while the second-week 24-28 April CFD added 1¢/bl to June North Sea +85¢/bl.

Ekofisk vs naphtha 65 para NWE cif

\$/bl

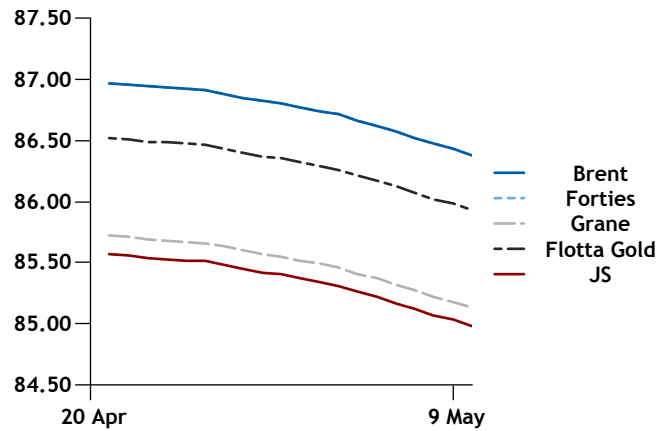


North Sea	\$/bl			
North Sea quality premiums (QP)				
	Apr	May		
Ekofisk	1.99	1.04		
Oseberg	2.73	1.56		
Troll	3.12	1.61		
De-escalators				
Sulphur		0.30		
North Sea calculations				
	Basis	Price		
Volume-weighted average of North Sea partial traded	Jun	85.01		
Ice Brent marker	Jun	85.10		
Exchange of futures for physical (EFP)	Jul	+0.02		
North Sea basis (flat price)	Jun	85.01		
Anticipated Dated based on 10 days-month ahead CFD strip:				
	Price	±		
21 Apr-11 May	85.67	-0.28		
Argus Brent component of Dated	86.72	+0.05		
Argus Forties component of Dated	86.72	+0.27		
Argus Oseberg component of Dated (QP applied)	86.41	-0.13		
Argus Oseberg component of Dated (no QP applied)	88.52	-0.28		
Argus Ekofisk component of Dated (QP applied)	86.48	+0.07		
Argus Ekofisk component of Dated (no QP applied)	87.97	-0.05		
Argus Troll component of Dated (QP applied)	86.38	+0.11		
<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	Jun	+2.72	87.730	-0.010
Dated to Ice Brent frontline, London close				
		Bid	Ask	±
Apr		+0.95	+1.03	-0.01
May		+0.50	+0.58	+0.04
Jun		+0.36	+0.44	nc
Jul		+0.47	+0.55	+0.01
1Qc"		+0.49	+0.57	+0.02
2Qc"		+0.44	+0.52	+0.01
2024		+0.32	+0.38	+0.01
Ice Bwave, 6 Apr 23				
Jun				84.88
Jul				84.51
Aug				83.95
Saudi formula base				84.86

ARGUS BRENT SOUR

Argus Brent Sour calculation		\$/bl	
Anticipated Dated		85.67	
Argus Brent Sour calculation			
Components of Argus Brent Sour	Anticipated Dated	Add Diff midpoint	Price
Brent	85.67	+1.05	86.72
Forties	85.67	+1.05	86.72
Grane	85.67	-0.20	85.47
Flotta Gold	85.67	+0.60	86.27
Johan Sverdrup fob Mongstad	85.67	-0.35	85.32
Argus Brent Sour is the lowest component on each day of the assessment period			85.32

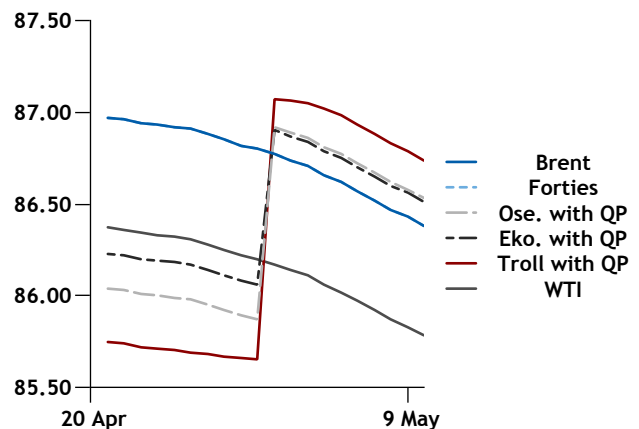
Components of Argus Brent Sour



ALTERNATIVE NORTH SEA DATED ILLUSTRATIONS

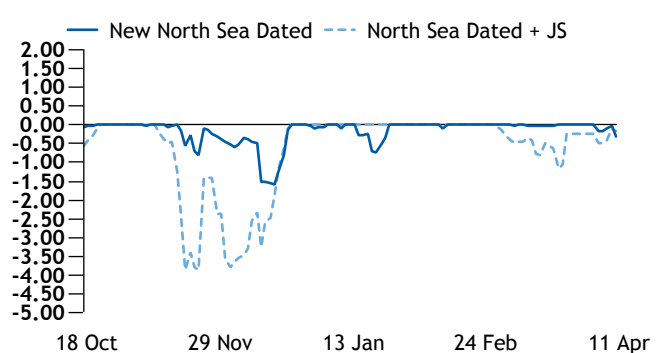
New North Sea Dated calculation		\$/bl		
Anticipated Dated		85.67		
Freight adjustment				
10-day average UK-UK continent rate 28 Mar-10 Apr		na		
10-day average UK-UK continent rate 29 Mar-11 Apr		1.74		
North Sea quality adjustments (QA) for 21 Apr-11 May				
Oseberg		+2.16		
Ekofisk		+1.53		
Troll		+2.38		
New North Sea Dated calculation				
Components of New North Sea Dated	Anticipated Dated	Add Diff midpoint	Subtract QA and freight	Price
Brent	85.67	+1.05		86.72
Forties	85.67	+1.05		86.72
Oseberg	85.67	+2.85	+2.16	86.36
Ekofisk	85.67	+2.30	+1.53	86.44
Troll	85.67	+3.04	+2.38	86.33
WTI	85.67	+2.20	+1.75	86.12
North Sea Dated is the lowest component on each day of the assessment period				85.84

Components establishing New North Sea Dated



North Sea Dated + JS calculation		\$/bl		
Anticipated Dated		85.67		
North Sea quality adjustments (QA) for 21 Apr-11 May				
Oseberg		+2.11		
Ekofisk		+1.49		
Troll		+2.33		
Johan Sverdrup fob Mongstad		-0.96		
North Sea Dated + JS calculation				
Components of North Sea Dated + JS	Anticipated Dated	Add Diff midpoint	Subtract QA	Price
Brent	85.67	+1.05		86.72
Forties	85.67	+1.05		86.72
Oseberg	85.67	+2.85	+2.11	86.41
Ekofisk	85.67	+2.30	+1.49	86.48
Troll	85.67	+3.04	+2.33	86.38
Johan Sverdrup fob Mongstad	85.67	-0.35	-0.96	86.28
North Sea Dated is the lowest component on each day of the assessment period				86.00

Dated illustrations vs North Sea Dated



RUSSIA-CASPIAN

Russian Urals prices were discussed lower in the Baltics but higher in the Black Sea, while Caspian CPC Blend gained ground

Some traders pegged medium sour Urals shipments out of Primorsk and Ust-Luga unchanged at around North Sea Dated -30.75 fob, but others indicated that April loading cargoes were changing hands weaker at Dated -32.00 on the same sale terms. Traders had indicated towards the end of last week that producers were already seeking to place May loaders, and that these deals were being concluded at levels approaching Dated -29.00 fob Baltics, but such trades were said to be few and far between and not representative of the bulk of liquidity.

In the Black Sea, traders discussed prices for 80,000t cargoes of Urals loading from Novorossiysk in a range of Dated -31.00/-30.00 on a fob basis, up marginally from assessments last week. Shipments of the Russian crude landing on India's west coast were pegged lower, however, at around Dated -14.00 on dap sale terms. Prices had been viewed closer to Dated -13.00/-12.00 dap last week on steadily rising Chinese demand and easing freight rates for shipments east of the Suez canal.

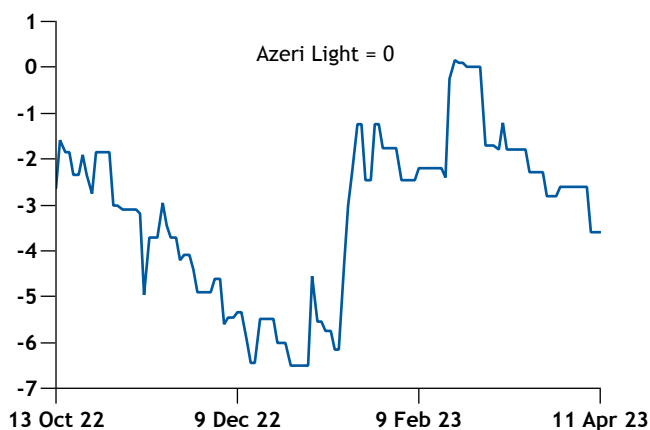
Hungarian foreign minister Peter Szijjarto said on 11 April that the country's refiner Mol will be able to pay transit fees to Ukrainian state-owned pipeline operator Ukrtransnafta for its Russian crude imports through the Ukrainian section of the Druzhba system to maintain its supply.

Hungary and Russia have agreed to allow Mol to settle transit fees directly with Ukrtransnafta, Szijjarto said in Moscow, following his meeting with Russian deputy prime minister Alexander Novak. "If [Russian pipeline operator Transneft] were to continue paying the transit fee to [Ukrtransnafta], it could create serious uncertainty in the

Russia-Caspian					\$/bl
	Basis	Diff	Bid	Ask	±
fob Russia					
Urals fob Primorsk	Dated	-31.50	54.62	54.68	-0.57
Urals fob Ust-Luga	Dated	-31.50	54.62	54.68	-0.57
Urals Aframax fob Novo	Dated	-30.50	55.62	55.68	+0.43
Urals Suezmax fob Novo	Dated	-30.70	55.42	55.48	+0.43
Siberian Light fob Novo	Dated	-24.75	61.37	61.43	+0.18
Urals dap West Coast India	Dated	-14.00	72.12	72.18	-1.32
Delivered					
Kebco cif Augusta	Dated	+0.50	86.62	86.68	+0.18
CPC Blend cif Augusta	Dated	-2.20	83.92	83.98	+1.58
BTC Blend cif Augusta	Dated	+3.30	89.42	89.48	+0.18
Azeri Light cif Augusta	Dated	+3.10	89.22	89.28	+0.18
Netforwards					
Urals NWE cif Rotterdam	Dated	-28.53	57.59	57.65	-0.57
Urals Med Aframax cif Augusta	Dated	-25.18	60.94	61.00	+0.57
Urals Med Suezmax cif Augusta	Dated	-28.13	57.99	58.05	+0.43
Siberian Light cif Augusta	Dated	-19.43	66.69	66.75	+0.31
Netbacks					
Urals cif Black Sea	Dated	-28.43	57.69	57.75	+0.39
CPC fob terminal	Dated	-5.91	80.21	80.27	+1.41
BTC fob Ceyhan	Dated	+0.82	86.94	87.00	+0.35
Azeri Light fob Supsa	Dated	-0.72	85.40	85.46	+0.05
Retrospective netbacks					
Urals fob Primorsk	Dated	-33.02	53.10	53.16	+0.35
Urals fob Ust-Luga	Dated	-33.02	53.10	53.16	+0.35
Urals fob Novo (Aframax)	Dated	-32.87	53.25	53.31	+0.75
CPC Blend fob	Dated	-6.68	79.44	79.50	-0.28
Turkish straits demurrage					
Delay days					6.00
Aframax demurrage rate \$/d					62,500
Suezmax demurrage rate \$/d					70,000

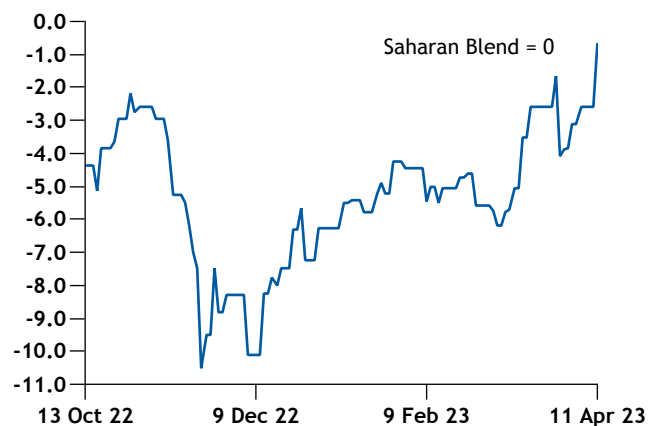
Bonny Light vs Azeri Light

\$/bl



CPC Blend vs Saharan Blend

\$/bl



RUSSIA-CASPIAN

current situation," he said.

Crude exports through the Druzhba pipeline system to central and eastern Europe could increase by almost 29pc on the month to 281,000 b/d (1.17mn t) in April, traders said. But the extent of the rise will depend on whether planned Kazakh crude deliveries to Germany materialise.

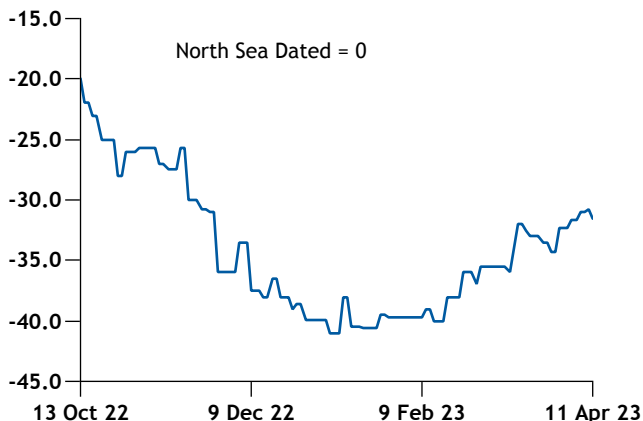
Kazakhstan hopes to boost crude shipments through Druzhba to the 223,000 b/d Schwedt refinery in eastern Germany to 100,000t this month, from just 20,000 t/month in February-March, according to state-owned pipeline operator Kaztransoil. But first-quarter Kazakh exports along this route fell far short of the 300,000t allocation granted by the Russian energy ministry. Germany stopped all imports of Russian oil at the start of this year, including Druzhba crude.

Prices for CPC Blend were discussed much higher, with traders indicating that several recent purchases from buyers including ExxonMobil, Petroineos and Total had been concluded at levels as firm as Dated -2.20 cif Augusta. The conclusion of refinery strikes across France that have crimped European demand in recent sessions was said to be lending support. As of 11 April, crude processing units were restarting and a backlog of seaborne deliveries was beginning to clear.

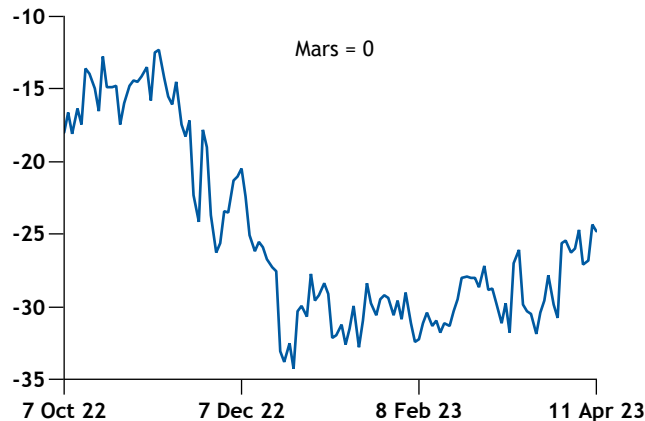
Druzhba pipeline – Urals (monthly prices)					\$/bl	
	Basis	Diff low	Diff high	Low	High	
Slovakia						
Mar	Monthly avg of Dated	-34.77	-34.73	43.52	43.56	
Feb	Monthly avg of Dated	-35.99	-35.92	46.51	46.58	
Jan	Monthly avg of Dated	-36.61	-36.55	46.25	46.31	
Hungary						
Mar	Monthly avg of Dated	-39.30	-34.73	38.99	43.56	
Feb	Monthly avg of Dated	-40.50	-35.92	42.00	46.58	
Jan	Monthly avg of Dated	-41.00	-36.55	41.86	46.31	
Poland						
Jan	Monthly avg of Dated	-38.23	-37.73	44.63	45.13	
Dec	Monthly avg of Dated	-33.69	-33.19	46.67	47.17	
Nov	Monthly avg of Dated	-26.89	-26.39	64.21	64.71	
Germany						
Dec	Monthly avg of Dated	-33.24	-33.09	47.12	47.27	
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	

North Sea Dated month average		\$/bl
Mar		78.291
Feb		82.501
Jan		82.863

Urals fob Primorsk vs North Sea Dated \$/bl



Urals fob Novo vs Mars \$/bl



MEDITERRANEAN

Kuwait's state-owned KPC issued its official May formula prices for Kuwait Export Crude (KEC) to northwest Europe and the Mediterranean, while Algeria's flagship Saharan Blend continued to weaken.

For its northwest European customers, KPC kept the price of May-loading medium sour KEC unchanged on the month. Rival state-owned Saudi Aramco has already made no changes month on month for its competing Arab Medium exports bound for the region.

KPC also kept its May price for KEC steady on the month for its Mediterranean-bound exports on both fob Kuwait and fob Sidi Kerir sale terms. Aramco also left unchanged the price of its equivalent Arab Medium grade for cargoes bound for the Mediterranean.

Traders said May-loading supplies of Saharan Blend changed hands at North Sea Dated -1.50 fob Algeria. The latest price discussions pushed Saharan Blend to its weakest differential to the Dated benchmark since April 2021, as sellers were said to be facing limited Mediterranean demand at a time of ample supply in the region.

Refinery strikes across France, which have shut down more than half of the country's nameplate capacity, have heavily impacted Saharan Blend. There is an increase in the availability of Saharan Blend and an abundance of rival crudes. This, combined with lower gasoline and naphtha margins, have pressured the price of Saharan Blend.

But this pressure could ease in the coming days as the French refinery system and port workers called off a month-long strike over changes to pension rights on 11 April, and a backlog of seaborne deliveries is beginning to clear at the port of Fos-Lavera. That caused a particularly large tanker backlog, containing more than 12mn bl of crude at its peak.

Elsewhere, Saudi Arabia will supply at least three of its term crude buyers in northwest Europe and the Mediterranean with their requested volumes for May, despite its plan to cut production by 500,000 b/d from next month until the end of the year.

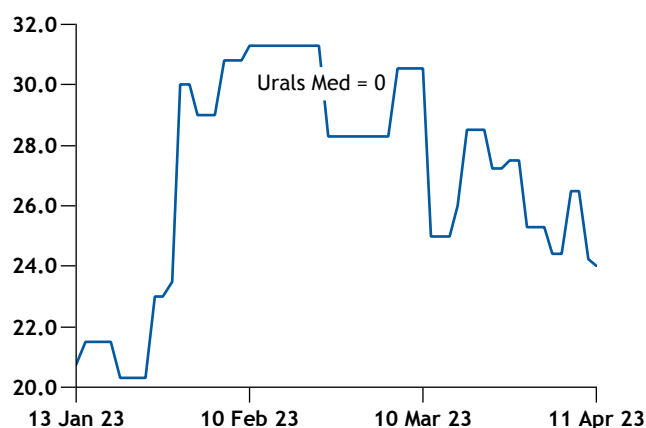
The three refiners said they nominated standard contractual amounts. Aramco left the official formula prices for its May-loading crude exports to northwest Europe and the Mediterranean unchanged compared with April. This was not widely expected. Some European refiners anticipated an increase of \$1/bl in the formula prices, given the voluntary output cuts announced by Saudi Arabia and seven other Opec+ members on 2 April.

Mediterranean					\$/bl
	Basis	Diff	Bid	Ask	±
Saharan Blend	Dated	-1.50	84.62	84.68	-0.32
Zarzitine	Dated	-1.60	84.52	84.58	-0.32
Es Sider	Dated	0.00	86.12	86.18	+0.18
Kirkuk	Dated	-6.50	79.62	79.68	+0.18
Basrah Medium fob (Med)	Dated	+0.80	81.37	81.43	+0.33
Basrah Heavy fob (Med)	Dated	+0.80	78.02	78.08	+0.78
Iranian Light fob Sidi Kerir	Dated	-2.52	83.60	83.66	+0.33
Iranian Heavy fob Sidi Kerir	Dated	-5.32	80.80	80.86	+0.33
Suez Blend	Dated	-2.65	83.47	83.53	+0.33

Official formula prices					\$/bl
Basis					
Algeria		Feb	Mar	Apr	
Saharan Blend	Dated	1.55	2	0.5	
Syria		Aug	Sep	Oct	
Syrian Light	Dated	na	na	na	
Souedie	Dated	na	na	na	
Libya		Feb	Mar	Apr	
Al-Jurf	Dated	-4.5	-4	-4	
Amna	Dated	0	0	-0.05	
Bouri	Dated	-6	-5.5	-5.5	
Brega	Dated	-0.85	-0.85	-1.15	
Bu Atiffel	Dated	-1.05	-0.55	-0.55	
Es Sider	Dated	-1.05	-0.9	-0.9	
Esharara	Dated	-0.05	0.2	-0.1	
Mellitah	Dated	-1.2	-1	-1.25	
Mesla	Dated	-1.25	-1.15	-1.25	
Mesla ex Ras Lanuf	Dated	na	na	na	
Sarir	Dated	-3.1	-3	-3	
Sirtica	Dated	-0.7	-0.65	-0.65	
Zueitina	Dated	-0.8	-0.6	-0.7	

Kirkuk vs Urals fob Novo

\$/bl



WEST AFRICA

Indonesia's state-owned Pertamina issued a new buy tender for its June-July requirements.

The refiner was seeking a 600,000 bl parcel delivered to Cilacap on 5-7 June, as well as 950,000-1.9mn bl cargoes loading between 25 May and 15 June. West African grades were competing with crude from a range of different regions in the tender, which closes on 12 April. Offers are to be kept valid until 14 April.

Separately, traders said that Pertamina had opted for one cargo each of Nigeria's light sweet Qua Iboe and medium sweet Escravos in a tender for June deliveries that closed last week. This was not confirmed, while further details such as sellers and loading dates were slow to surface.

Taiwan's state-owned refiner CPC closed a term tender to buy sweet crude for September-December arrival. Offers must remain valid until 19 April. CPC usually issues one spot tender every month to purchase sweet crude but did not circulate one in March. The refiner often takes US WTI or west African grades in its monthly tenders.

Meanwhile, traders said that China's Unipac purchased a May-loading cargo of Angolan heavy sweet Dalia, although this was not confirmed and the price was kept under wraps. Sources said that China's purchasing of west African crude had stepped up in recent days, with Angola's May loading programme clearing faster compared with the April schedule. About 10 cargoes – out of 33 – from the May programme had yet to find a home, according to traders, with June's loading dates expected to be released early next week.

Chinese buyers might be currently exploiting lower spot differentials for the Angola's crude and in particular Dalia – which had been pressured over the past month by planned maintenance as well as muted demand east of the Suez canal.

Elsewhere, trading firm Vitol offered a 500,000 bl cargo of Nigerian Agbami arriving on 14-20 April on board the VLCC *Nissos Kythnos* at North Sea Dated +0.55 cif Rotterdam. It then lowered its indication to Dated +0.30, without enticing a buyer. The window offer, which was not confirmed, equated to roughly Dated -3.55 on fob sale terms, according to traders. But the prompt nature of the cargo was unlikely to reflect Agbami's value in the current trading cycle.

West Africa					\$/bl
	Basis	Diff	Bid	Ask	±
Agbami	Dated	-3.50	82.62	82.68	+0.18
Amenam	Dated	-3.00	83.12	83.18	+0.18
Bonga	Dated	+0.55	86.67	86.73	+0.18
Bonny Light	Dated	-0.50	85.62	85.68	+0.18
Brass River	Dated	-1.25	84.87	84.93	+0.18
CJ Blend	Dated	+1.15	87.27	87.33	+0.18
EA Blend	Dated	+1.25	87.37	87.43	+0.18
Egina	Dated	+1.65	87.77	87.83	+0.18
Erha	Dated	+0.55	86.67	86.73	+0.18
Escravos	Dated	+0.70	86.82	86.88	+0.18
Forcados	Dated	+0.45	86.57	86.63	+0.18
Qua Iboe	Dated	+0.25	86.37	86.43	+0.18
Usan	Dated	-4.05	82.07	82.13	+0.18
Cabinda	Dated	+1.50	87.62	87.68	+0.18
Dalia	Dated	-3.75	82.37	82.43	+0.18
Girassol	Dated	+2.00	88.12	88.18	+0.18
Hungo	Dated	-1.90	84.22	84.28	+0.18
Kissanje	Dated	+0.40	86.52	86.58	+0.18
Mostarda	Dated	-2.70	83.42	83.48	+0.18
Nemba	Dated	-1.30	84.82	84.88	+0.18
Zafiro	Dated	+1.00	87.12	87.18	+0.18
Jubilee	Dated	-0.10	86.02	86.08	+0.18
Doba	Dated	-1.00	85.12	85.18	+0.18
Djeno	Dated	-3.15	82.97	83.03	+0.18

Nigerian official formula prices					\$/bl
	Basis	Feb	Mar	Apr	
Abo	Dated	-0.26	+0.65	+0.99	
Agbami	Dated	-2.88	-2.59	-2.71	
Ajapa	Dated	+1.50	+1.90	+1.86	
Aje	Dated	+0.38	+1.15	+1.19	
Akpo	Dated	-3.04	-2.69	-2.92	
Amenam	Dated	-2.20	-1.79	-1.80	
Antan	Dated	-1.56	-1.20	-0.37	
Asaramatoru	Dated	+1.59	+1.59	+1.64	
Bonga	Dated	+1.70	+2.23	+2.05	
Bonny Light	Dated	+0.38	+0.95	+1.04	
Brass River	Dated	-0.60	-0.21	-0.31	
CJ Blend	Dated	+2.01	+2.46	+2.40	
EA	Dated	+2.11	+2.56	+2.45	
Ebok	Dated	-6.22	-4.26	-1.84	
Egina	Dated	+2.82	+2.95	+2.80	
Eremor	Dated	-23.66	-19.01	-12.51	
Erha	Dated	+1.56	+1.87	+1.86	
Escravos	Dated	+1.45	+1.85	+1.81	
Forcados	Dated	+1.25	+1.86	+1.73	
Ima	Dated	-2.51	-1.41	-0.71	
Jones Creek	Dated	+1.30	+1.86	+1.73	
Obe	Dated	-1.18	-0.58	-0.02	
Okono	Dated	+1.66	+2.12	+1.94	
Okoro	Dated	+4.13	+4.55	+5.13	
Okwori	Dated	+3.62	+2.95	+2.89	
Okwibome formula	Dated	+0.95	+1.27	+1.34	
Otakikpo	Dated	+0.38	+1.15	+1.19	
Oyo	Dated	+5.19	+4.37	+4.10	
Pennington	Dated	+2.81	+2.70	+2.51	
Qua Iboe	Dated	+0.95	+1.27	+1.34	
Ukpokiti	Dated	+2.02	+2.07	+2.09	
Usan	Dated	-3.55	-3.31	-3.37	
Yoho	Dated	+0.90	+1.22	+1.24	
Zafiro*	Dated	-0.73	-1.66	+1.00	
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

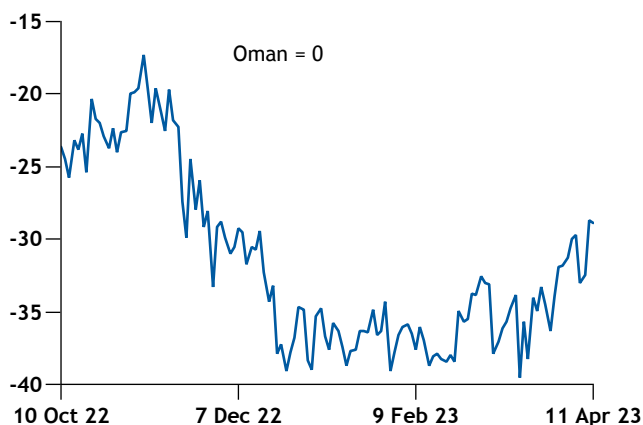
State-owned Saudi Aramco will provide Asia-Pacific customers with their requested volumes of May-loading term crude.

Several refiners in northeast Asia and south Asia said they will receive their full nominated volumes of Saudi crude loading in May, adding that other refiners in the region would also receive all of the crude they requested. But it was unclear if Asia-Pacific refiners had nominated their usual contract volumes for May, or if some had nominated lower volumes.

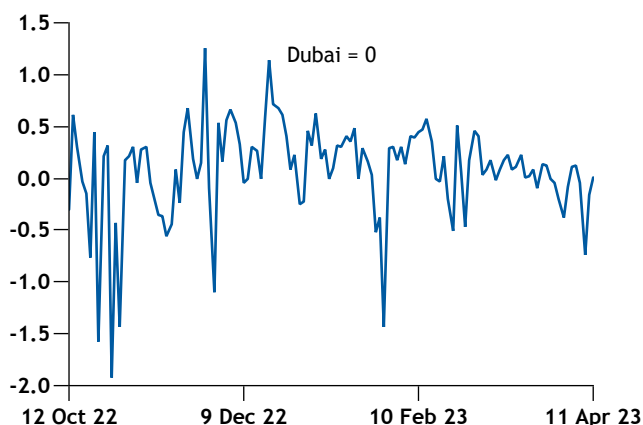
Traders said some Chinese buyers have requested lower Saudi volumes for May compared with April, as they had purchased alternative sour crude including US Mars, or had taken sweet cargoes from the Atlantic basin following a narrower Brent premium to Dubai towards the end of last month.

The June Brent-Dubai EFS, or the premium of June Ice Brent futures to June Dubai swaps, was \$2.09/bl, compared with \$2.12/bl in the previous session.

Urals vs Oman \$/bl



Oman vs Dubai \$/bl



Mideast Gulf					\$/bl	
	Month	Basis	Diff	Bid	Ask	±
Dubai	Jun			84.48	84.58	-0.34
Oman	Jun	Dubai swaps	+1.95	84.49	84.59	-0.17
Murban	Jun	Dubai swaps	+3.17	85.71	85.81	-0.33
Das	Jun	Dubai swaps	+2.22	84.76	84.86	-0.33
Upper Zakum	Jun	Dubai swaps	+2.01	84.55	84.65	-0.15
Umm Lulu	Jun	Dubai swaps	+3.22	85.76	85.86	-0.33
Qatar Land	Jun	QP	0.00	83.94	84.04	-0.29
Qatar Marine	Jun	QP	0.00	83.54	83.64	-0.29
Qatar Al-Shaheen	Jun	Dubai swaps	+1.05	83.59	83.69	-0.29
Banoco Arab Medium	Jun	Aramco	0.00	86.32	86.42	-0.23
Basrah Medium fob Iraq†	May	Somo	+0.80	84.25	84.35	-0.24
Basrah Heavy fob Iraq†	May	Somo	+0.80	81.00	81.10	-0.24
DFC fob Qatar	Jun	Dubai swaps	+0.45	82.99	83.09	-0.29
LSC fob Qatar	Jun	Dubai swaps	0.00	82.54	82.64	-0.29

†Asia-Pacific destination-restricted cargoes

RGV differentials to Murban		\$/bl	
	Diff		±
Das	-0.36		-0.02
Upper Zakum	-2.00		-0.02
Umm Lulu	-0.27		+0.02
Qatar Land	-0.93		nc
Qatar Marine	-2.28		-0.01

Differentials to Murban, 4:30pm Singapore				\$/bl	
	Month	Basis	Diff		±
Mideast Gulf					
Dubai	Jun	Jun Murban	-1.23		-0.01
Oman	Jun	Jun Murban	-1.22		+0.16
Qatar Al-Shaheen	Jun	Jun Murban	-2.12		+0.04
Banoco Arab Medium	Jun	Jun Murban	+0.61		+0.10
Basrah Medium fob Iraq	May	Jun Murban	-1.46		+0.09
Basrah Heavy fob Iraq	May	Jun Murban	-4.71		+0.09
DFC fob Qatar	Jun	Jun Murban	-2.72		+0.04
LSC fob Qatar	Jun	Jun Murban	-3.17		+0.04
Russia Asia-Pacific					
ESPO Blend		Jun Murban	-11.43		+0.54
Sokol		Jun Murban	-13.17		+0.04
Sakhalin Blend		Jun Murban	-16.17		+0.04
Substitute North Sea Dated		Jun Murban	-0.23		+0.01

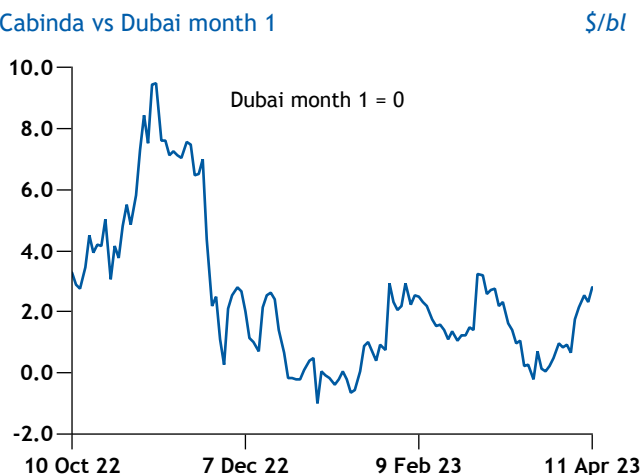
MIDEAST GULF

The front-month June Murban futures contract on IFAD was at a \$3.17/bl premium to June Dubai swaps, down from \$3.21/bl in the previous session.

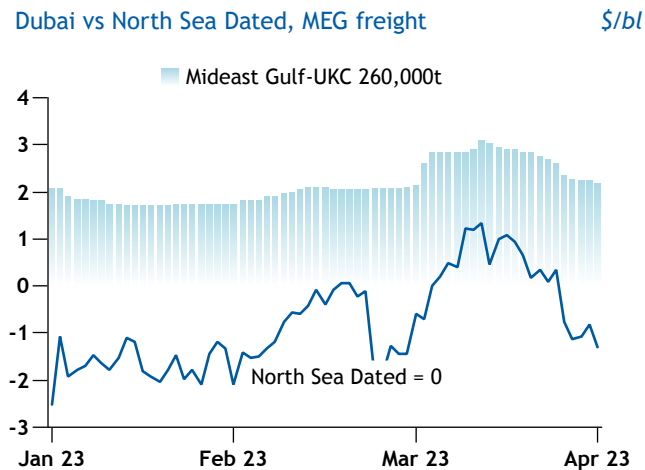
But the front-month June Oman futures contract on the DME strengthened, trading at a \$1.95/bl premium to June Dubai swaps, up from the previous session's \$1.83/bl.

June Dubai partials were heard to have traded at \$84.45-84.60/bl.

Cabinda vs Dubai month 1



Dubai vs North Sea Dated, MEG freight



Mideast Gulf		\$/bl				
		Bid	Ask	±		
Dubai forward, 4:30pm Singapore						
Jun		84.48	84.58	-0.34		
Jul		83.68	83.78	-0.29		
Aug		82.54	82.64	-0.29		
Sep		81.57	81.67	-0.27		
Dubai forward, 4:30pm London						
Jun		84.80	84.88	-0.31		
Jul		83.99	84.09	-0.26		
Aug		82.85	82.95	-0.32		
Sep		81.88	81.98	-0.33		
Dubai intermonths, 4:30pm Singapore						
Jun/Jul			0.80	-0.05		
Jul/Aug			1.14	nc		
Aug/Sep			0.97	-0.02		
Dubai swaps, 4:30pm Singapore						
May		83.68	83.78	-0.29		
Jun		82.54	82.64	-0.29		
Jul		81.57	81.67	-0.27		
Aug		80.70	80.80	-0.23		
<i>Dubai swaps months are pricing months</i>						
Dubai EFS, 4:30pm Singapore						
Jun			+2.09	-0.03		
Jul			+2.65	nc		
Aug			+2.93	+0.01		
Ice Brent, 4:30pm Singapore						
Jun			84.68	-0.32		
Jul			84.27	-0.27		
Aug			83.68	-0.22		
Sep			83.07	-0.20		
Oman forward, 4:30pm Singapore						
		Diff	Dubai swaps	Bid	Ask	±
Jun		+1.95	Jun	84.49	84.59	-0.17
Jul		+1.95	Jul	83.52	83.62	-0.19
Aug		+2.22	Aug	82.92	83.02	-0.17

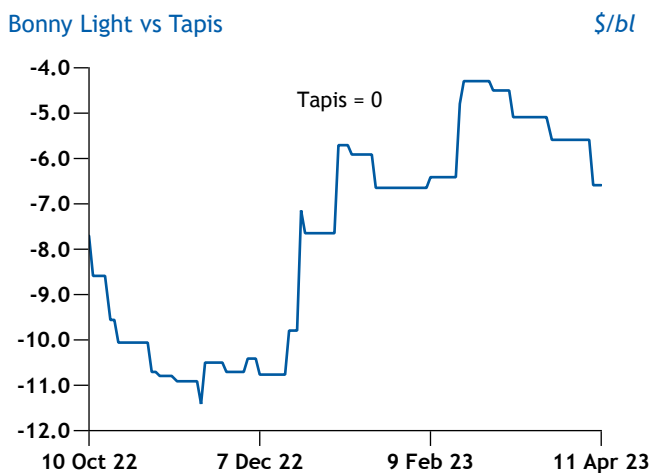
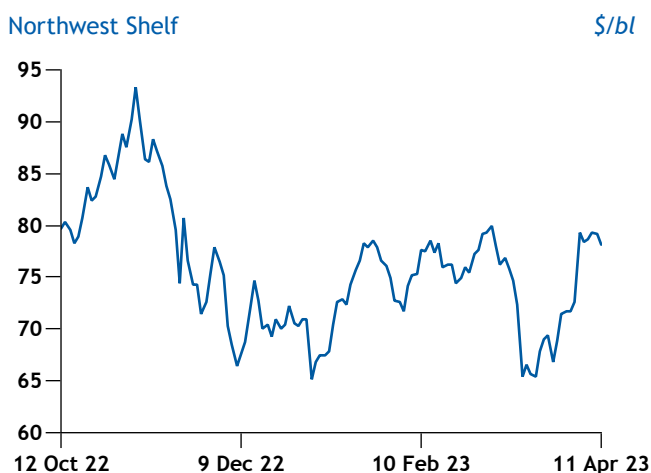
Methodology		\$/bl			
Dubai forward month calculator					
Ice Brent month 1	Jun				84.68
Dubai EFS month 1	Jun			-	+2.09
Dubai swap month 2*	Jun			=	82.59
Dubai forward month 3*	Aug			=	82.59
Dubai intermonth	Jul/Aug			+	1.14
Dubai forward month 2	Jul			=	83.73
Dubai intermonth	Jun/Jul			+	0.80
Dubai forward month 1	Jun			=	84.53
<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
Jun	0.00	+1.95	+1.95	82.59	84.54
Jul	0.00	+1.95	+1.95	81.62	83.57
Aug	0.00	+2.22	+2.22	80.75	82.97

ASIA-PACIFIC

Weak naphtha margins have dampened June-loading Australian North West Shelf (NWS) condensate values.

BP sold a 650,000 bl cargo of NWS loading on 2-6 June at a discount of about \$8/bl to North Sea Dated, although this could not be confirmed. May-loading NWS was sold in March at discounts in the range of about \$5.50-7.00/bl to Dated.

Two 650,000 bl cargoes of Australian Ichthys condensate will load in June, down from three in May, traders said. The first Ichthys cargo is scheduled to load on 10-14 June while the other cargo will load over 22-26 June, but the lifters have yet to be identified. May-loading Ichthys traded in March at 20¢-\$1/bl premiums to Dated.



Asia-Pacific					\$/bl
	Basis	Diff	Bid	Ask	±
Minas	ICP	+1.00	82.43	82.53	-0.32
Duri	ICP	+1.00	83.43	83.53	-0.32
Cinta	ICP	+0.30	80.03	80.13	-0.32
Widuri	ICP	+0.30	80.53	80.63	-0.32
Senipah	ICP	0.00	74.43	74.53	-0.32
Attaka	ICP	+1.50	81.93	82.03	-0.32
Ardjuna	ICP	0.00	81.43	81.53	-0.32
Belida	ICP	+1.00	83.43	83.53	-0.32
Sutu Den	Dated*	+4.00	90.10	90.20	+0.30
Bach Ho	Dated*	+4.00	90.10	90.20	+0.30
Tapis	Dated*	+6.10	92.20	92.30	+0.30
Kikeh	Dated*	+7.60	93.70	93.80	+0.30
Kimanis	Dated*	+7.80	93.90	94.00	+0.30
Labuan	Dated*	+8.50	94.60	94.70	+0.30
Miri Light	Dated*	+6.20	92.30	92.40	+0.30
Kutubu Light	Dated*	-4.00	82.10	82.20	+0.30
Cossack	Dated*	-4.00	82.10	82.20	+0.30
North West Shelf	Dated*	-8.00	78.10	78.20	-1.00
Ichthys	Dated*	+0.25	86.35	86.45	+0.30
Vincent	Dated*	+7.00	93.10	93.20	+0.30
Pyrenees	Dated*	+11.00	97.10	97.20	+0.30
Van Gogh	Dated*	+6.60	92.70	92.80	+0.30
Sudan					
	Basis	Diff	Bid	Ask	±
Nile Blend	Dated*	-2.00	84.10	84.20	+0.30
Dar Blend	Dated*	-1.10	85.00	85.10	+0.30
<i>*when North Sea Dated is unavailable owing to a UK holiday, Substitute Dated will be used</i>					
Benchmarks					
North Sea Dated					86.15
Substitute Dated					85.53
Tapis Singapore close					91.63

Argus Condensate Index (ACI)		\$/bl
ACI, Qatar DFC		79.36
Qatar DFC cfr Singapore		84.37
Australia North West Shelf (NWS) cfr Singapore		79.36
DFC cfr differential to NWS cfr		5
		\$/t
VLCC Qatar-Singapore freight		11.19
Aframax northwest Australia-Singapore freight		18.88

Argus Japanese Crude Cocktail Index					\$/bl
	Oct	Nov	Dec	Jan	Feb
Argus JCC (fixed)	106.0289	100.4646	94.9921	88.2598	-
Argus JCC (preliminary)					87.7118

ASIA-PACIFIC

Delivered China

Offers for June-delivery ESPO Blend were starting to emerge at around \$5.00-5.50/bl discounts to August Ice Brent on a delivered ex-ship (des) Shandong basis, traders said, but no deals have yet concluded.

The sour indicator in Shandong market, Oman, was at a \$10.50/bl discount to July Ice Brent for May-delivery, while July-delivery Oman Export Blend on a net forward basis eased to around a \$4.30/bl premium over September Ice Brent, down by 50¢/bl from previous session, mainly because of lower freight costs.

Market activity remained muted for the Atlantic basin grades in the Shandong market, as the trading cycle for June-delivery cargoes was nearing its end while trade for July had yet to start. The eastbound arbitrage was still uneconomic despite falling freight rates, as the Dated-to-front-line (DFL) and the Ice Brent backwardation remained wide.

Delivered Northeast Asia						\$/bl
	Month	Basis	Diff	Bid	Ask	±
WTI del NE Asia	Jul	Jun Dubai	+5.60	88.14	88.24	-0.69

Delivered ex-ship Shandong prices							\$/bl
Grade	Timing	Basis	Diff Mid	Low	High	Price	±
ESPO Blend	May	Jul Ice Brent	-6.10	77.57	78.77	78.17	-0.27
Djeno	Jun	Aug Ice Brent	+2.30	85.28	86.68	85.98	-0.22
Tupi	Jun	Aug Ice Brent	+3.40	86.88	87.28	87.08	-0.22
	Jun	May North	+2.50	na	na	na	nc
Johan Sverdrup	Jun	Aug Ice Brent	+4.80	87.78	89.18	88.48	-0.22
Oman	May	Jul Ice Brent	-10.50	73.27	74.27	73.77	-0.27

Mideast Gulf and Atlantic basin crude cfr Asia (fob plus freight)					
	Month	Singapore \$/bl	±	China \$/bl	±
Mideast Gulf					
Dubai	Jun	86.19	-0.34	87.00	-0.34
Oman	Jun	86.17	-0.17	86.98	-0.17
Murban	Jun	87.33	-0.33	88.11	-0.33
Upper Zakum	Jun	86.23	-0.15	87.03	-0.15
Umm Zulu	Jun	87.36	-0.33	88.13	-0.33
Qatar Marine	Jun	85.20	-0.29	85.99	-0.29
Al-Shaheen	Jun	85.30	-0.29	86.11	-0.29
Basrah Medium	May	85.98	-0.24	86.81	-0.24
Basrah Heavy	May	82.79	-0.24	83.64	-0.24
West Africa					
Cabinda	Dtd	90.12	-0.32	90.88	-0.32
Girassol	Dtd	90.64	-0.32	91.41	-0.32
Bonny Light	Dtd	88.08	-0.32	88.83	-0.32
Qua Iboe	Dtd	88.79	-0.32	89.53	-0.32
Escravos	Dtd	89.29	-0.32	90.05	-0.32
North Sea					
Forties	Dtd			90.51	-0.32
US Gulf coast					
WTI	Prompt	86.66	-0.20	87.14	-0.20
Mars	May	85.24	-0.33	85.76	-0.33
WCS	May	78.77	-0.15	79.32	-0.15



RUSSIA ASIA-PACIFIC

The ESPO Blend discount to Dubai narrowed slightly on firmer bids.

Trade for June-loading cargoes from Kozmino had yet to kick off, with sellers still marketing May-loading cargoes. But May availabilities could be dwindling as steady demand from China and India has helped absorb a significant volume from the May programme.

Assessment rationale

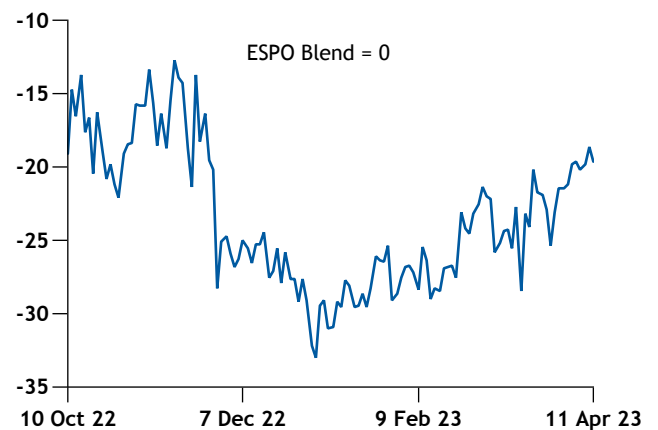
ESPO Blend fob Kozmino (PA0007196) is assessed on the basis of transactions, as and when these are identified in the market commentary, in accordance with the methodology.

Russia Asia-Pacific						\$/bl
	Basis		Diff	Bid	Ask	±
ESPO Blend	May	Dubai swaps	-9.40	74.28	74.38	+0.21
ESPO Blend*	Jun	Ice Brent	-9.21	74.28	74.38	+0.21
Sokol	Jun	Dubai swaps	-10.00	72.54	72.64	-0.29
Sakhalin Blend	Jun	Dubai swaps	-13.00	69.54	69.64	-0.29
*May-loading cargoes						
Russia-Caspian crude cif basis Singapore						
				Bid	Ask	±
BTC Blend				92.66	92.72	+0.25
Urals (Black Sea)				62.23	62.29	+0.38

Dirty freight rates from Kozmino (ESPO) 100,000t		\$/bl
		Rate
To Yeosu		2.63
To north China		3.24
To Chiba		3.24
To Singapore		3.89

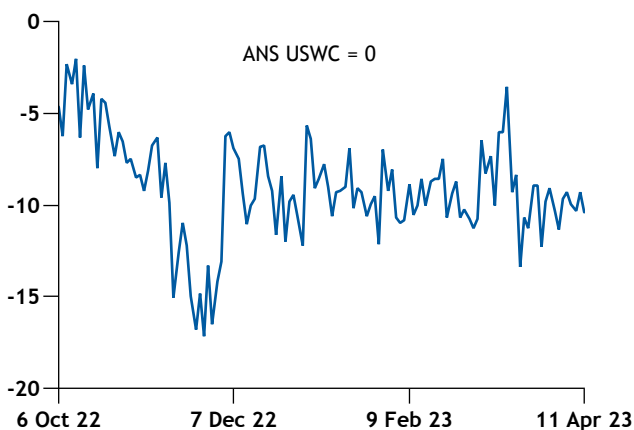
Urals fob Primorsk vs ESPO Blend

\$/bl



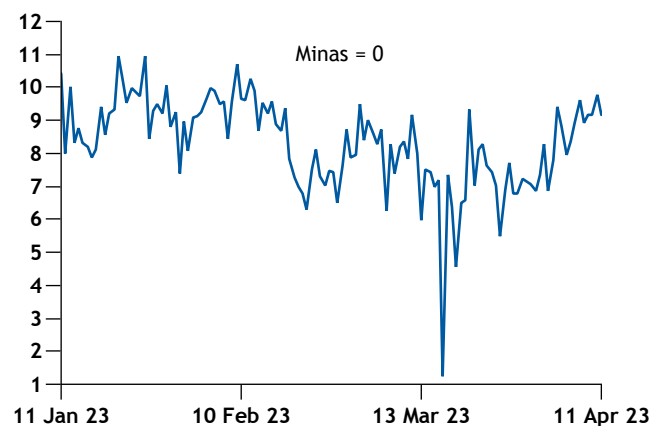
ESPO Blend vs ANS USWC

\$/bl



Tapis vs Minas

\$/bl



OFFICIAL PRICES

Official formula prices		\$/bl		
Basis				
Saudi Arabia		Mar	Apr	May
Saudi Arabia to US: fob Ras Tanura				
Arab Extra Light	ASCI	+8.20	+8.20	+8.40
Arab Light	ASCI	+6.65	+6.65	+6.75
Arab Medium	ASCI	+6.45	+6.45	+6.95
Arab Heavy	ASCI	+6.00	+6.00	+6.50
Saudi Arabia to US: delivered US Gulf				
Arab Extra Light	ASCI	+9.50	+9.50	+9.70
Arab Light	ASCI	+7.95	+7.95	+8.05
Arab Medium	ASCI	+7.75	+7.75	+8.25
Arab Heavy	ASCI	+7.30	+7.30	+7.80
Saudi Arabia to NW Europe: fob Ras Tanura*				
Arab Extra Light	Ice Brent Settlement	+1.60	+1.60	+1.60
Arab Light	Ice Brent Settlement	+0.50	+1.00	+1.00
Arab Medium	Ice Brent Settlement	-0.80	+0.50	+0.50
Arab Heavy	Ice Brent Settlement	-3.90	-2.60	-2.60
Saudi Arabia to Mediterranean: fob Sidi Kerir*				
Arab Extra Light	Ice Brent Settlement	+2.00	+2.10	+2.10
Arab Light	Ice Brent Settlement	+0.50	+0.80	+0.80
Arab Medium	Ice Brent Settlement	-0.50	+0.50	+0.50
Arab Heavy	Ice Brent Settlement	-4.40	-3.10	-3.10
Saudi Arabia to Mediterranean: fob Ras Tanura*				
Arab Extra Light	Ice Brent Settlement	+2.00	+2.10	+2.10
Arab Light	Ice Brent Settlement	+0.50	+0.80	+0.80
Arab Medium	Ice Brent Settlement	-0.50	+0.50	+0.50
Arab Heavy	Ice Brent Settlement	-4.40	-3.10	-3.10
Saudi Arabia to Asia-Pacific: fob Ras Tanura				
Arab Super Light	Oman/Dubai avg	+5.95	+4.95	+5.00
Arab Extra Light	Oman/Dubai avg	+2.25	+2.70	+2.80
Arab Light	Oman/Dubai avg	+2.00	+2.50	+2.80
Arab Medium	Oman/Dubai avg	+1.60	+2.50	+2.80
Arab Heavy	Oman/Dubai avg	-1.75	+0.75	+1.25
Iran		Feb	Mar	Apr
Iran to Mediterranean: fob Kharg Island				
Iranian Light	Ice Brent Settlement	-3.55	-1.60	-1.20
Iranian Heavy	Ice Brent Settlement	-5.85	-3.90	-2.80
Foroozan Blend	Ice Brent Settlement	-6.00	-3.80	-2.90
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	-3.40	-1.35	-0.75
Iranian Heavy	Ice Brent Settlement	-5.80	-3.70	-2.30
Foroozan Blend	Ice Brent Settlement	-5.90	-3.65	-2.40
Iran to Asia-Pacific: fob Kharg Island				
Iranian Light	Oman/Dubai avg	+1.80	+2.00	+2.50
Iranian Heavy	Oman/Dubai avg	-0.25	+0.35	+1.25
Foroozan Blend	Oman/Dubai avg	-0.25	+0.40	+1.15
Soroush	Oman/Dubai avg	-5.70	-5.00	-2.45
Nowruz	Oman/Dubai avg	-5.70	-5.00	-2.45
Kuwait		Feb	Mar	Apr
Kuwait to Asia-Pacific				
Kuwait	Oman/Dubai avg	+1.05	+1.40	+2.15
Kuwait to US				
Kuwait	ASCI	+6.15	+6.45	+6.45
Kuwait	Arab Medium	0.00	0.00	0.00
Kuwait to Mediterranean				
fob Kuwait	Dated	-4.30	-1.30	-0.30
fob Sidi Kerir	Dated	-4.00	-1.00	0.00
Kuwait to northwest Europe				
fob Kuwait	Dated	-4.55	-1.55	-0.25

*months prior to July were priced against Ice Bwave

Official formula prices (continued)		\$/bl		
Basis				
Dubai		Apr	May	Jun
Dubai fob	Oman MOG OSP	-0.20	-0.20	-0.10
Yemen fob Salif/Ash Shihir				
Marib Light	Dated	na	na	na
Masila	Dated	na	na	na
Iraq		Mar*	Apr*	May†
Iraq to Europe				
Kirkuk (fob Ceyhan)	Dated	-1.45	-1.45	-1.45
Basrah Medium	Dated	-6.95	-5.70	-5.55
Basrah Heavy	Dated	-11.25	-9.50	-8.90
Iraq to US				
Kirkuk (fob Ceyhan)	ASCI	1.00	1.00	1.10
Basrah Medium	ASCI	-1.50	-1.20	-1.00
Basrah Heavy	ASCI	-6.15	-6.15	-5.75
Iraq to Asia-Pacific				
Basrah Medium	Oman/Dubai avg	-1.10	-0.15	-0.15
Basrah Heavy	Oman/Dubai avg	-6	-3.90	-3.40

Official selling prices		\$/bl		
Abu Dhabi		Mar	Apr	May
Murban		82.63	83.36	79.55
Das premium to Murban		-1.45	-1.30	-0.95
Umm Lulu premium to Murban		+0.05	+0.05	+0.05
Upper Zakum premium to Murban		-1.95	-1.20	-1.10
Qatar		Mar	Apr	May
Dukhan/Land premium to Oman/Dubai avg		+1.10		
Marine premium to Oman/Dubai avg		+0.40		
Dukhan/Land premium to Dubai avg			+1.35	+1.40
Marine premium to Dubai avg			+1.00	+1.00
Oman		Mar	Apr	May
Oman		80.92	82.23	78.49
Indonesia		Dec	Jan	Feb
Minas		78.74	79.71	80.76
Duri		85.13	86.72	87.78
Widuri		77.58	78.55	79.60
Belida		78.91	80.88	81.11
Attaka		78.82	80.69	81.04
Ardjuna		77.87	79.84	80.07
Cinta		77.03	78.00	79.05
Senipah		70.25	72.95	74.87
Malaysia		Jan	Feb	Mar
Tapis		88.30	86.45	83.24
MCO Alpha Premium		+10.80	+9.00	+9.30
Labuan		93.58	91.49	87.86
Miri		93.58	91.49	87.86
Kikeh		93.58	91.49	87.86
Bintulu		90.34	88.31	84.89
Dulang		94.58	93.29	89.27
Brunei		Oct	Nov	Dec
Seria Light		100.38	99.19	88.00
Champion		100.48	99.29	88.10

Reference prices		\$/bl		
Opec reference basket monthly avg		Feb	Mar	Apr
Opec		81.62	81.88	78.45
Argus Japanese Crude Cocktail Index		Nov	Dec	Jan
Argus JCC		100.46	94.99	88.26

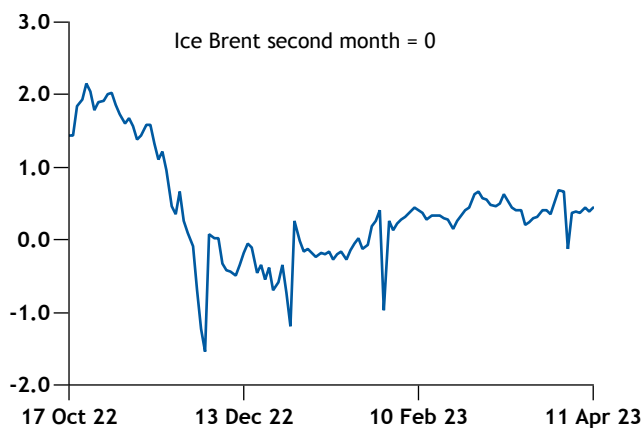
The Argus Japanese Crude Cocktail Index is created by Argus based on data published by the Customs and Tariff Bureau of Japan's Ministry of Finance.

FUTURES AND FORWARD MARKETS

Futures markets							\$/bl
	Open	High	Low	S'pore*	London†	Settle	±
Ice Brent							
Jun	84.24	85.67	83.75	84.68	85.10	85.61	+1.43
Jul	83.87	85.23	83.37	84.27	84.68	85.17	+1.38
Aug	83.31	84.59	82.79	83.68	84.07	84.54	+1.33
*4:30pm Singapore minute marker, †4:30pm London minute marker							
Nymex Light Sweet							
May	79.88	81.59	79.37	80.28	80.99	81.53	+1.79
Jun	79.87	81.55	79.40	80.30	80.97	81.49	+1.72
Jul	79.57	81.20	79.10	80.00	80.63	81.14	+1.68
Aug	79.03	80.62	78.57	79.46	80.08	80.57	+1.65
Dec 23						77.73	+1.46
Dec 24						71.65	+1.01
Dec 25						67.24	+0.73
Dec 26						63.70	+0.53
Dec 27						60.73	+0.36
DME Oman							
Jun				84.54			-0.17
Jul				83.57			-0.19
Aug				82.97			-0.17
Sep				82.41			-0.17
Volume bl				3,732,000			
IFAD Murban							
Jun				85.76			-0.33
Jul				84.97			-0.29
Aug				84.17			-0.22
Sep				83.53			-0.20
Volume bl				2,464,000			
Tocom Mideast Gulf (day session)							
Jun						83.03	+0.32
Jul						81.90	+0.40
Aug						80.67	+0.48
Sep						79.64	+0.54
Volume bl						3,782,385	

INE crude futures				
Timing	Settle Yuan/bl	±	Settle \$/bl	±
May	586.10	-3.00	85.09	-0.58
Jun	581.00	-2.80	84.35	-0.55
Jul	578.80	-3.10	84.03	-0.59
Aug	577.30	-2.00	83.81	-0.43
Volume bl			64,171,500	

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



Forward markets				\$/bl
	Bid	Ask		±
North Sea, Singapore close				
May	85.79	85.87		-0.32
Jun	84.67	84.73		-0.32
Jul	84.25	84.33		-0.27
Aug	83.66	83.74		-0.22
North Sea, London close				
Dated	86.12	86.18		+0.18
May	85.91	85.99		-0.38
Jun	84.98	85.04		-0.19
Jul	84.55	84.63		-0.22
Aug	83.95	84.03		-0.24
Dubai, Singapore close				
Jun	84.48	84.58		-0.34
Jul	83.68	83.78		-0.29
Aug	82.54	82.64		-0.29
Sep	81.57	81.67		-0.27
Dubai, London close				
Jun	84.80	84.88		-0.31
Jul	83.99	84.09		-0.26
Aug	82.85	82.95		-0.32
Sep	81.88	81.98		-0.33
WTI Cushing, 1:30pm Houston				
May	81.51	81.55		+1.79
Jun	81.47	81.51		+1.72
Jul	81.12	81.16		+1.68
Aug	80.55	80.59		+1.65

Intermonths		\$/bl
		Mid
North Sea Singapore close		
May/Jun		1.130
Jun/Jul		0.410
Jul/Aug		0.590
North Sea London close		
May/Jun		0.940
Jun/Jul		0.420
Jul/Aug		0.600

Forward spreads 4:30pm London				\$/bl
	N Sea/Dubai	WTI/N Sea	WTI/Dubai	
May	-	-4.96		
Jun	-	-4.04	-3.87	
Jul	0.55	-3.96	-3.41	
Aug	1.09	-3.91	-2.82	

DAILY NETBACKS

Northwest Europe (11 Apr)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 6 Apr	Yield	Freight	Netback	± 6 Apr	
Arab Light	95.92	2.18	93.74	-1.35	93.14	2.18	90.96	-1.25	
Arab Heavy	91.03	2.26	88.77	-0.65	88.04	2.26	85.78	-0.56	
Azeri	101.28	4.31	96.97	-1.66	98.43	4.31	94.12	-1.55	
Bonny Light	102.33	3.19	99.14	-1.95	99.86	3.19	96.67	-1.95	
Brass River	102.52	3.09	99.43	-1.81	100.56	3.09	97.47	-1.81	
Brent	99.47	1.69	97.78	-1.62	97.07	1.69	95.38	-1.42	
Es Sider	97.78	4.28	93.50	-1.26	95.09	4.28	90.81	-1.12	
Forties	99.09	1.67	97.42	-1.45	96.43	1.67	94.76	-1.39	
Iranian Light	96.38	2.17	94.21	-1.18	93.27	2.17	91.10	-1.07	
Kirkuk	95.59	2.17	93.42	-1.14	92.88	2.17	90.71	-1.07	
Kuwait	92.59	2.22	90.37	-0.85	89.64	2.22	87.42	-0.91	
Murban	99.36	2.08	97.28	-1.55	96.65	2.08	94.57	-1.49	
Saharan Blend	100.31	4.07	96.24	-1.38	97.97	4.07	93.90	-1.27	
Urals	96.65	0.00	96.65	-1.30	93.42	0.00	93.42	-1.18	
Zueitina	98.30	4.26	94.04	-1.52	95.69	4.26	91.43	-1.41	

Singapore (11 Apr)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 10 Apr	Yield	Freight	Netback	± 10 Apr	
Arab Light	92.50	2.45	90.05	-0.68	84.64	2.45	82.19	-0.37	
Arab Heavy	89.45	2.54	86.91	-0.33	79.83	2.54	77.29	+0.13	
Dubai	93.09	2.49	90.60	-0.60	82.11	2.49	79.62	-2.05	
ESPO Blend	93.89	3.88	90.01	-0.70	83.29	3.88	79.41	-0.24	
Iranian Heavy	91.45	2.51	88.94	-0.42	81.04	2.51	78.53	+0.06	
Minas	93.23	4.21	89.02	-0.60	80.19	4.21	75.98	-0.23	
Murban	94.16	2.35	91.81	-0.77	86.06	2.35	83.71	-0.42	
Oman	91.44	2.50	88.94	-0.48	80.63	2.50	78.13	nc	

US Gulf coast (11 Apr)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 10 Apr	Yield	Freight	Netback	± 10 Apr	
Arab Light	101.78	2.63	99.15	-0.04	95.15	2.63	92.52	+0.18	
Arab Medium	100.41	2.66	97.75	+0.12	92.42	2.66	89.76	+0.27	
Bonny Light	108.48	3.90	104.58	-0.15	89.44	3.90	85.54	+0.30	
LLS	105.26	0.00	105.26	+0.12	100.08	0.00	100.08	+0.22	
Mars	100.52	0.00	100.52	nc	91.65	0.00	91.65	+0.25	
Maya	91.95	5.66	86.29	+0.22	79.20	5.66	73.54	+0.33	
WTI	105.74	0.00	105.74	-0.21	101.67	0.00	101.67	+0.42	

US west coast (11 Apr)									\$/bl
	Complex				Simple				
	Yield	Freight	Netback	± 10 Apr	Yield	Freight	Netback	± 10 Apr	
ANS	108.08	0.00	108.08	+3.76	89.42	0.00	89.42	-1.36	
Oriente	104.67	9.66	95.01	+3.97	90.59	9.66	80.93	+0.35	

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	May WTI	+0.80		+0.73	82.26	1,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	3,000	
Magellan East Houston	May WTI	+0.75		+0.68	82.21	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	1,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	2,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	1,000	
Magellan East Houston	May WTI	+0.85		+0.78	82.31	5,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	3,000	
Magellan East Houston	May WTI	+0.75		+0.68	82.21	1,000	
Magellan East Houston	May WTI	+0.75		+0.68	82.21	1,000	
Magellan East Houston	May WTI	+0.85		+0.78	82.31	1,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	1,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	3,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	1,000	
Magellan East Houston	May WTI	+0.75		+0.68	82.21	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	2,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	1,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	2,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	3,000	
Magellan East Houston	May WTI	+0.80		+0.73	82.26	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	5,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	1,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	2,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	8,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	5,000	
Magellan East Houston	May WTI	+0.70		+0.63	82.16	1,000	
Magellan East Houston	May CMA Nymex	+0.85		+0.64	82.17	2,000	

*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	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		2,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		5,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		5,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.16		6,400
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.18		5,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.20		1,000
WTI	Cushing Oklahoma	May	May	CMA Nymex trade days	+0.20		4,000

DEALS DONE (CONTINUED)

North America pipeline deals done							
Grade	Location	Trade month	Basis month	Differential basis	Differential	Price \$/bl	Volume b/d
Cold Lake Houston	Houston area	May	May	CMA Nymex trade days	-6.80		3,226
Cold Lake Houston	Houston area	May	May	CMA Nymex trade days	-6.80		3,226
Cold Lake Houston	Houston area	May	May	CMA Nymex trade days	-6.80		6,452
Cold Lake Houston	Houston area	May	May	CMA Nymex trade days	-6.80		6,452
HLS	Empire Louisiana	May	May	WTI	+2.45		2,000
HLS	Empire Louisiana	May	May	WTI	+2.50		1,000
HLS	Empire Louisiana	May	May	WTI	+2.50		1,000
HLS	Empire Louisiana	May	May	WTI	+2.50		2,000
HLS	Empire Louisiana	May	May	WTI	+2.50		3,000
Light Sweet Guernsey	Guernsey Wyoming	May	May	CMA Nymex trade days	-0.15		500
Light Sweet Guernsey	Guernsey Wyoming	May	May	CMA Nymex trade days	-0.15		500
Light Sweet Guernsey	Guernsey Wyoming	May	May	CMA Nymex trade days	-0.15		1,000
Light Sweet Guernsey	Guernsey Wyoming	May	May	CMA Nymex trade days	-0.15		1,000
Light Sweet Guernsey	Guernsey Wyoming	May	May	CMA Nymex trade days	-0.15		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.25		4,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		1,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		3,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		5,000
Mars	Clovelly Louisiana	May	May	WTI	-1.15		5,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		1,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		1,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		1,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		1,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		2,000
Mars	Clovelly Louisiana	May	May	WTI	-1.10		2,935
Mars	Clovelly Louisiana	May	May	WTI	-1.10		3,000
Mars	Clovelly Louisiana	May	May	WTI	-1.00		2,000
Poseidon	Houma Louisiana	May	May	Mars	-0.70		1,000
Poseidon	Houma Louisiana	May	May	Mars	-0.70		1,000
Poseidon	Houma Louisiana	May	May	WTI	-1.80		1,000
Poseidon	Houma Louisiana	May	May	WTI	-1.80		2,000
Southern Green Canyon	Nederland / Texas City	May	May	WTI	-0.95		1,000
Thunder Horse	Clovelly Louisiana	May	May	WTI	+1.50		1,000
Thunder Horse	Clovelly Louisiana	May	May	WTI	+1.70		2,000
Thunder Horse	Clovelly Louisiana	May	May	WTI	+1.70		3,000
Thunder Horse	Clovelly Louisiana	May	May	WTI	+1.85		2,000
WTL Midland	Midland Texas	May	May	WTI Midland	-0.70		5,000
WTL Midland	Midland Texas	May	May	WTI Midland	-0.70		5,000
WTL Midland	Midland Texas	May	May	WTI Midland	-0.70		5,000

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	11 Apr 23	Jun	100,000	85.01						
Northwest Europe	North Sea	11 Apr 23	Jul	100,000	84.66						
Northwest Europe	North Sea Dated CFD	11 Apr 23		200,000		Jun	North Sea	+1.00	11 Apr 23	17 Apr 23	
Northwest Europe	North Sea Dated CFD	11 Apr 23		100,000		Jun	North Sea	+0.85	24 Apr 23	28 Apr 23	
Northwest Europe	North Sea Dated CFD	11 Apr 23		100,000		Jun	North Sea	+0.85	24 Apr 23	28 Apr 23	
Northwest Europe	North Sea Dated CFD	11 Apr 23		570,000			CFD	+0.10	1 May 23	31 May 23	

INFRASTRUCTURE NEWS

Spain's Repsol finishing Coruna refinery work

Spain's integrated Repsol is completing maintenance at its 120,000 b/d La Coruna refinery in northwest Spain and is likely to bring affected units back online by the weekend.

Repsol confirmed maintenance at the refinery started on 8 March and is due to end mid-April, but it is waiting for the work to end before providing details of the affected units.

Chief executive Josu Jon Imaz in February flagged eight days of maintenance on La Coruna's 1.1mn t/yr coker before the end of March and said that the company would also be committing work on the 1.51mn t/yr mild hydrocracker from April.

Crude receipts at La Coruna dropped to 40,000 b/d in March from 110,000 b/d in February, according to Argus tracking.

La Coruna has not reported downtime since mid 2021, when about half of the refinery's units were idled for several

months and staff furloughed to adjust to sharply lower Spanish fuels demand.

By Jonathan Gleave

Naphtha leak halts Brazil port terminal

The Terin liquids terminal in Brazil's Parana state remained closed today after a naphtha leak on 9 April although overall liquid cargo operations at the Paranagua port have resumed after a two-day pause.

The accident happened during a naphtha discharge operation, according to the state's port authority. Other terminals and cargoes were not damaged as the terminal is isolated from other areas.

The leak occurred after an underground pipeline that connects the ship to the terminal ruptured, according to the state's fire department.

By Laura Guedes

ANNOUNCEMENT

Argus Sour Crude Index ("ASCI")

Proportional assessment

Following the end of the first trading quarter of 2023 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 27 February 2023 and ending 25 May 2023. Each grade has been assigned the following percentage values:

- Mars: 67pc
- Poseidon: 16pc
- SGC: 17pc

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.

ANNOUNCEMENTS

Change to Qatar Land and Qatar Marine prices

Argus has changed the way it calculates outright prices for Qatar Land and Qatar Marine crudes, following a change in QatarEnergy's (QE) formula for its official prices.

From January 2023, QE formula prices for Qatar Land and Qatar Marine are differentials to the monthly average of front-month Dubai prices. Argus continues to assess Qatar Land and Qatar Marine spot prices at differentials to the grades' anticipated official prices for the loading month. Outright prices for the grades have been republished for the period between 8 December 2022 and 25 January 2023. For any queries please contact Azlin Ahmad at azlin.ahmad@argusmedia.com.

INDUSTRY NEWS

US EIA cuts global 2023 oil output forecast

The US Energy Information Administration (EIA) cut its outlook for global crude output this year by 170,000 b/d from last month's expectation, mostly on surprise cuts announced by Opec+ earlier this month.

Global production will average 101.3mn b/d in 2023, down from last month's forecast of 101.47mn b/d, the EIA said today in its monthly *Short-Term Energy Outlook* (STEO). The outlook for 2024 output was raised to 103.25mn b/d from 103.2mn b/d.

Saudi Arabia and seven other Opec+ members [agreed to cut production](#) by a collective 1.16mn b/d until the end of 2023, but the EIA noted that Opec production had already been below prior production targets, so it scaled its own forecast down by 500,000 b/d for the balance of the year.

The reduced forecast for Opec+ production was partially offset by lower than expected declines from Russia. The EIA bumped up Russia's 2023 production to average 10.6mn b/d in 2023, or 300,000 b/d more than the previous forecast, citing the country's ability to find crude buyers beyond Europe.

The EIA's global crude consumption forecasts were largely unchanged at 100.87mn b/d for 2023 and 102.72mn b/d for 2024.

A steady demand outlook combined with the lower production forecast resulted in higher price forecasts.

The EIA raised its expectation for West Texas Intermediate (WTI) crude prices by several percentage points this year and next. The light sweet benchmark in Cushing, Oklahoma, will average \$79.24/bl across 2023, up by 2.8pc from last month's forecast. The EIA further increased its 2024 forecast by 5pc, going from \$71.57/bl to \$75.21/bl in today's report.

US production will average 12.54mn b/d in 2023, up from last month's forecast of 12.44mn b/d, the EIA said. Expected output for 2024 increased to 12.75mn b/d, up from the prior forecast of 12.63mn b/d.

Domestic consumption of petroleum and other liquid fuels in 2023 is expected to be 20.4mn b/d, unchanged from last month's forecast. The 2024 demand outlook was lowered to 20.7mn b/d, down from 20.8mn b/d.

By Brett Holmes

French strikes end, crude unloading

French refinery and port workers have called off a month-long strike over changes to pension rights. Crude processing units are restarting and a backlog of seaborne deliveries is beginning to clear.

Workers belonging to the CGT union voted to end the strikes at TotalEnergies' 219,000 b/d Donges, 109,000 b/d

Feyzin and 246,900 b/d Gonfreville refineries. The company told Argus today that none of its workers are on strike and that deliveries to customers have resumed at all its sites. Donges will begin restarting units today, said TotalEnergies. It was shut ahead of the strikes as a result of a second fire in a year. The pace of repair work is unclear, but it appears to be complete. Gonfreville is also restarting.

Workers voted to end industrial action at TotalEnergies' Flanders logistics depot last week, and staff have returned at the company's 500,000 t/yr La Mede hydrotreated vegetable oil (HVO) facility.

ExxonMobil workers voted to end strike action last week and the company's 236,000 b/d Port Jerome refinery and adjacent Gravenchon petrochemical unit are close to resuming full operations. Its 133,000 b/d Fos refinery and UK-Chinese refiner Petroineos' 207,100 b/d unit at the Mediterranean port of Lavera are beginning to receive crude after an absence of more than three weeks, the result of a dockers' strike at the port of Fos-Lavera.

That caused a particularly large tanker backlog, containing more than 12mn bl of crude at its peak, plus a string of oil products, biofuels and oxygenate cargoes.

A shipment of around 1.1mn bl of Angolan 35.2°API Olombendo crude, destined for Petroineos, was among the first to unload from very large crude carrier (VLCC) *Nave Electron*, one of three VLCCs caught up in the congestion. A 600,000 bl cargo of Libyan grades Amna and Sirtica has discharged for ExxonMobil, and a similar sized cargo of Algerian Saharan Blend has unloaded for Petroineos.

Cargoes of Caspian CPC Blend, Libyan Mellitah and 745,000 bl of 10ppm diesel are discharging. The former, on

Proposed early close for some crude prices, 21 Apr

Argus proposes to bring forward the timestamp of its Asia-Pacific, Russia Asia-Pacific and Mideast Gulf crude assessments to 12:30pm Singapore time on 21 April, the last publication day before a public holiday in Singapore, because of a potential lack of representative market liquidity.

Argus will accept comments on this proposed change until 17 April. To discuss comments on this proposal, please contact Azlin Ahmad at azlin.ahmad@argusmedia.com. Formal comments should be marked as such and may be submitted by email to crude@argusmedia.com and received by 17 April. Please note, formal comments will be published after the consultation period unless confidentiality is specifically requested.

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Suezmax *Euro*, has been waiting at the port since 14 March.

The strikes started on 6-7 March and are likely to have prompted significant draws from oil products stocks to sate domestic consumption. Seaborne crude and products imports were all but halted at Fos-Lavera and at the northern port of Le Havre. Workers were requisitioned, at Gonfreville and storage firm DPF's Fos terminal, to draw on storage. Trading firms said French national stocks at Sagess were being drawn.

Strikes over wages and inflation at the end of 2022 prompted a 4.9mn bl draw on diesel stocks in September, and then a 10mn bl build in November-December, according to Eurostat. A rebuild of French diesel stocks following this year's strikes is likely to support European diesel demand and imports.

Unions said today there will be another round of stoppages on 13 and 14 April, but these are planned for 48 hours only.

By Adam Porter

Aramco gives Asian buyers full May volumes

Saudi Arabia's state-controlled Saudi Aramco will provide Asia-Pacific customers with their requested volumes of May-loading term crude, even as the country intends to cut crude production by 500,000 b/d from May.

Several refiners in northeast Asia and south Asia said they will receive their full nominated volumes of Saudi crude loading in May. Other refiners in the region were likely also receiving all of the May-loading Saudi crude that they had requested for, they added. But it was unclear if Asia-Pacific refiners had nominated their usual contract volumes for May loading, or if some had nominated lower volumes.

Some Chinese buyers have requested lower Saudi crude term volumes for May loading, as they had purchased alternative sour crude including US Mars, or had taken sweet arbitrage cargoes from the Atlantic basin following a narrower Brent premium to Dubai towards the end of last month.

Some refiners could have also decided to nominate lower volumes after [Aramco raised its May formula prices](#) for Asia-Pacific bound exports by 5-50¢/bl compared with April. The Aramco price increases were not unexpected, in light of [the Opec+ voluntary output cuts](#) that were announced on 2 April and will take effect from May to the end of the year.

But many Asia-Pacific refiners had hoped that Aramco would at least keep the May formula price for medium sour Arab Light to the region steady, because of the overall [weaker demand for May-loading spot Mideast Gulf crude](#) in March and the narrower backwardation for Mideast Gulf benchmark

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

Dubai crude.

Aramco had also given buyers their [full nominated volumes of crude for April-loading](#).

By YouLiang Chay

Aramco gives 3 European buyers full volumes

Saudi Arabia's state-controlled Saudi Aramco will supply at least three of its term crude buyers in northwest Europe and the Mediterranean region with their requested volumes for May, despite its plan to cut production by 500,000 b/d from next month until the end of the year.

The three refiners said they nominated standard contractual amounts. Aramco left the official [formula prices for its May-loading](#) crude exports to northwest Europe and the Mediterranean unchanged compared with April. This was not widely expected. Some European refiners anticipated an increase of \$1/bl in the formula prices, given the [voluntary output cuts](#) announced by Saudi Arabia and seven other Opec+ members on 2 April.

Prices for sour crude grades in Europe have strengthened considerably in recent weeks. The *Argus Brent Sour Index* – which prices heavy sour crude in northwest Europe – has averaged a 58¢/bl premium to the North Sea Dated benchmark so far in April, compared with a discount of \$1.59/bl in March.

Meanwhile, several refiners in northeast and southern Asia said they [will also receive their full nominated volumes](#) of May-loading Saudi crude. They added that other refiners in the region were likely to receive the full amounts they requested too, although it is unclear if buyers in Asia-Pacific nominated their usual contractual volumes for May or if some nominated lower amounts.

By Edmundo Alfaro

IMF flags financial crisis risk for growth

The IMF has lowered slightly growth projections for the global economy and warned of potential further downgrades that could result from the fragility of the financial sector.

The IMF's latest *World Economic Outlook* also noted that economic growth will [remain low](#) by historical standards, with the slowdown more pronounced in the advanced economies.

The IMF outlook, released today, forecasts global growth of 2.8pc this year and 3pc in 2024, both down by 0.1 percentage points from the previous forecast [issued](#) in January. The world economy grew by 3.4pc in 2022. IMF forecasts are used by many economists, including at the IEA, to model oil demand projections.

The baseline forecast assumes that recent instability in the global banking sector following the collapse of California's Silicon Valley Bank and the ensuing rescue of Switzerland's Credit Suisse remains contained. An alternative scenario, which would involve moderately tighter bank lending, would shave an additional 0.3pc off the baseline 2023 growth rate.

An even sharper tightening in global financial conditions would slow world economic growth to just 1pc this year. The IMF pegs the probability of such an outcome at 15pc, IMF director of research Pierre-Olivier Gourinchas said.

Financial stability concerns overlay risks to economic growth already identified by the IMF, such as commodity price spikes, global trade fragmentation and Russia's war in Ukraine. "A hard landing – particularly for advanced economies – has become a much larger risk," the IMF said.

The IMF has left China's forecast unchanged at 5.2pc this year and 4.5pc in 2024. The growth forecast for the US is slightly higher in the latest IMF outlook, at 1.6pc in 2023. The baseline forecast does not account for the recent decision by nine Opec+ members to cut crude output by around 1.66mn b/d from May until the end of this year.

By Haik Gugrats

Lula heads to China to talk infrastructure

Brazilian president Luiz Inacio Lula da Silva departed for China today in search of new infrastructure project investments.

He is accompanied by roughly 40 other officials, including economy minister Fernando Haddad, environment minister Marina Silva, mines and energy minister Alexandre Silveira and agriculture minister Carlos Favaro.

Lula is scheduled to meet Chinese president Xi Jinping on 14 April.

The visit was previously scheduled for late March but was rescheduled after Lula was diagnosed with pneumonia. The Brazilian government said at least 20 commercial deals had been negotiated between the two countries ahead of the planned trip.

China is Brazil's largest commercial partner, receiving 27pc of all Brazilian exports in 2022, a decrease from the 31pc in 2021, according to Brazil's development, industry, commerce and services ministry. Soybeans, iron ore and crude represented 74pc of all Brazilian exports to the Asian country in 2022.

Brazil exported 53.7mn metric tonnes (t) of soybeans and 228mn t of iron ore to China in 2022, according to the economy ministry. It also exported roughly 640,800 b/d of

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oil to China in March 2022-March 2023, according to government data.

Brazil has sharply increased its corn exports to China in recent months, thanks to a [sanitary agreement](#) signed between the two countries in May 2022, going from zero corn in January 2022 to [983,000t in January 2023](#).

The Brazilian delegation is also expected to discuss opportunities between the two countries for beef trading – China is the top destination for Brazil's beef exports, at 31.9pc – and the creation of a carbon credit commerce between the nations.

By Lucas Parolin

Nigeria crude output 1.27mn b/d in March

Nigeria's crude production was 1.27mn b/d in March, according to the country's upstream regulator NUPRC, down by 3pc from its February reading and still some way below its production ceiling under the Opec+ agreement.

NUPRC said output fell in March for 15 of Nigeria's 24 producing crude streams.

The largest drop was seen at the Eni-operated Brass terminal, where receipts fell by 33pc on the month to 22,000 b/d. Receipts at Brass were below 20,000 b/d in the 19-27 March period. Brass has been under force majeure since June 2022, and Eni's local subsidiary NAOC told *Argus* that crude theft in swamp areas continues to depress production. Pipeline repairs are ongoing, and NAOC is relying on barges to move crude from producing fields.

Production arriving at the Shell-operated Forcados terminal fell by 25pc to 185,000 b/d in March, from 248,000 b/d in February. A source told *Argus* today the drop was partly because of a production shutdown at the OML 34 licence. That led to output also being shut at OML 65, which flows through OML 34 to reach the Forcados pipeline system.

But the Shell-operated Bonny export terminal saw a 32pc rise in production to 104,000 b/d, from February's 78,000 b/d, largely because of the factors leading to the [lifting of force majeure](#) on 15 March.

Production of the light-sweet Agbami grade, which *Argus* categorises as a crude but which NUPRC categorises as condensate, fell to 102,000 b/d from 103,000 b/d in February. This partly explains the discrepancy between NUPRC's output figure for Nigeria and that of *Argus*, which put [the country's production](#) at 1.47mn b/d for March.

Senior officials at state-owned NNPC have said Nigeria aims to raise production to a level above the country's current Opec+ quota of 1.74mn b/d.

By Adebiji Olusolape

Azeri crude output down 3pc in March: Socar

Azerbaijan's crude production fell by 3pc on the month to 515,000 b/d in March, according to preliminary data from state-owned Socar.

The decline was driven by a fourth consecutive monthly drop in output from the BP-led Azeri-Chirag-Guneshli (ACG) complex in the Caspian Sea. ACG production fell by 15,000 b/d compared with February to 374,000 b/d last month, the lowest since at least January 2021 when Socar started providing regular crude output figures in b/d. Output from fields operated by Socar fell by 1,000 b/d on the month to 141,000 b/d in March.

Azerbaijan was around 170,000 b/d below its Opec+ target last month. P

roduction should get a boost next year when a seventh ACG platform – the 100,000 b/d Azeri Central East – comes on stream in the first quarter. ACG production has been in decline since peaking at 820,000 b/d in 2010.

Azerbaijan's energy ministry has yet to release its estimate of March crude output.

By Anastasia Krasinskaya

Buzzard's share of Forties crude falls

The Buzzard oil field's share of the North Sea Forties crude stream edged down by one percentage point to 24pc in the week ending 9 April, according to Forties Pipeline System (FPS) operator Ineos.

A 24pc contribution from Buzzard results in a Forties blend of around 40.44°API and 0.61pc sulphur content. Buzzard's share of Forties has averaged 24.2pc so far this month, higher than Ineos' forecast of 22.2pc for April.

Buzzard's contribution affects Forties quality because the field's crude is slightly heavier and sourer than the rest of the stream.

By Kuganiga Kuganeswaran

Shenghong gets first import qualification OK

Chinese petrochemical-focused refiner Shenghong has received initial approval for non-state crude import qualification from the country's Ministry of Commerce (MOC) on April 10.

The crude import qualification will give Shenghong more autonomous rights to buy and import crude. Shenghong previously had to rely on trading companies to complete customs clearance procedures when importing crude, but the company will be able to import crude and complete customs clearance procedures on its own once it receives the final approval.

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Shenghong received the official approval to refine imported crude in September 2021 from China's top economic planning body the National Development and Reform Commission (NDRC). It was also [allocated the first batch of crude import quotas](#) in October 2021, but the lack of import qualification meant it had to rely on trading companies then for customs clearances and other import procedures.

The mega-refiner, which opened the 320,000 b/d Li-anyungang refinery in November 2022, [received a 160,000 b/d quota in the latest allocation of 2023](#). The company is expected to get another 160,000 b/d of quotas for the rest of the year as it has reached its nameplate capacity at the end of February, according to market sources.

Kuwait's KPC lifts May Asia-Pacific prices

Kuwait's state-owned oil firm KPC has raised its official formula prices of May-loading cargoes of medium sour Kuwait Export Crude (KEC) for customers in its core Asia-Pacific market.

It has increased the May price for buyers in Asia-Pacific by 25¢/bl compared with April to a \$2.40/bl premium over the monthly average of Oman-Dubai assessments.

KPC has also hiked the formula price for US buyers, up by 50¢/bl on the month to a \$6.95/bl premium over the ASCI benchmark – a volume weighted average of US deepwater sour crude deals. But it

has left unchanged the formula prices for buyers in northwest Europe and the Mediterranean.

The adjustments are broadly in line with [those made by state-controlled Saudi Aramco](#), which lifted the May formula price of its comparable Arab Medium grade for Asian customers by 30¢/bl and by 50¢/bl for US buyers, while making no changes to the formula price of Arab Medium exports to northwest Europe and the Mediterranean.

KPC typically follows Aramco's month-on-month formula price adjustments, although there can be variations because of the benchmarks employed. Aramco uses Ice Brent to price its exports to northwest Europe and the Mediterranean, while KPC prices its Europe-bound exports against the North Sea Dated benchmark.

By Edmundo Alfaro

Turkey waits on Iraq to restart crude exports

Turkey will not allow exports of crude from northern Iraq to resume from its Ceyhan port until it gets a response from Baghdad about having a meeting on an outstanding arbitration, a source with knowledge of the matter told *Argus*.

Around 400,000 b/d of crude produced in northern Iraq's

semiautonomous Kurdistan region has been kept out of export markets since 25 March – Ceyhan being the only viable outlet – and producers in the region have shut oil fields with storage filling.

The pipeline was stopped after the International Court of Arbitration of the International Chamber of Commerce (ICAI-ICC) ruled that Turkey had breached a 1973 agreement by allowing oil marketed by the Kurdistan Regional Government (KRG) to be exported, without Baghdad's consent, between 2014 and 2018. The court ordered Turkey to pay Iraq \$1.47bn in compensation.

Although a [deal was signed](#) between the KRG and Baghdad on 4 April, which was meant to lead to the resumption of crude exports, Ankara is holding off pending assurances about a second arbitration case, again brought by Baghdad on the same issue and relating to the period since 2018.

"Talks should be held soon, but Ankara needs some guarantees from Baghdad especially in regards the arbitration case for 2018 onwards," the source said.

The KRG, and the producers operating in its territory, are now spectators in a dispute over which they have no control or leverage. The deal the KRG signed with Baghdad gave away much of the marketing rights it had to its crude, on the understanding that exports would resume.

The most recent cargo of KRG crude to load from Ceyhan was on the *Mareta* on 24 March.

By Bachar Halabi and Aydin Calik

Repsol benefits from upstream growth in 1Q

Spanish integrated energy firm Repsol benefited from resilient refining margins and an increase in upstream oil and gas production in the first quarter.

A trading statement – released today ahead of first-quarter financial results on 27 April – estimates that the company's refining margin indicator in Spain slipped to \$15.60/bl in January-March from \$18.90/bl in the previous three months on the back of narrower middle distillate margins. But it was well above the \$6.80/bl reported a year earlier.

The indicator is a benchmark based on regional margins weighted to Repsol's refinery yield. The firm's actual margin was probably higher given that it processed 1mn bl more heavy sour Mexican Maya blend in January than it did a year earlier, as well as cheaper Colombian and Canadian heavy crudes in February.

The company is forecasting that its refining margin indicator will ease over the course of the year to average about \$9/bl in 2023, compared with \$15.60/bl in 2022. Repsol's refinery utilisation rate in Spain was 82.9pc in January-March,

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weighed down by the shutdown of a 90,000 b/d crude unit at the firm's 220,000 b/d Bilbao refinery and maintenance at the 120,000 b/d La Coruna refinery. Repsol is targeting an average utilisation rate of 89pc in 2023.

In the upstream sector, Repsol estimates that its production rose by 10pc on the quarter and by 9pc on the year to 608,000 b/d of oil equivalent (boe/d) in January-March, the highest quarterly level since January-March 2021 and close to the firm's full-year target of 611,000 boe/d.

Output from North America climbed to 221,000 boe/d in the first quarter, up by 26pc from the previous three months and 40pc higher on the year, driven by new rigs being deployed in its Eagle Ford and Marcellus shale acreage in the US. Elsewhere, production in Latin America and the Caribbean recovered to 263,000 boe/d in January-March from 251,000 boe/d in October-December, thanks to new output coming on stream in Trinidad in December, but it was 4pc lower than a year earlier on field maintenance. Production in the rest of the world fell by 2pc on the quarter and on the year to 123,000 boe/d, crimped by the sale of assets in southeast Asia last year.

The company will confirm its provisional operational data when it releases financial results later this month.

By Jonathan Gleave

First oil at Gabon's Hibiscus-Ruche fields

Oil production from the Hibiscus and Ruche discoveries in the Dussafu oil block, offshore Gabon has started [as planned](#), Oslo-listed upstream firm Panoro Energy said today, with the first of six wells flowing at a 6,000 b/d rate.

The six-well Hibiscus-Ruche drilling campaign began in January. It will see four wells drilled in the Hibiscus field and two in the Ruche field. The first well was drilled at Hibiscus and the drilling of a second one has already started at the field.

Norwegian independent BW Energy, which operates Dussafu with a 73.5pc majority stake, eyes 30,000 b/d from the planned Hibiscus-Ruche wells once completed in early 2024. Panoro has a 17.5pc stake in Dussafu, while Gabon's national oil company Gabon Oil Company holds the remaining 9pc stake.

BW Energy has hinged its Dussafu production forecast of 8mn to 10mn bl for 2023 on first oil from the Hibiscus-Ruche development.

By Adebiji Olusolape

Algeria makes 6 oil and gas discoveries

Algeria's state-owned Sonatrach said today that it has made six oil and gas discoveries in the first quarter of this year, as the country looks to speed up efforts to revitalise its upstream sector.

The two biggest discoveries were made in the up-and-coming Touggourt region where Sonatrach [plans five new oil projects](#) with a combined capacity of nearly 200,000 b/d.

Sonatrach said well BRM-1 flowed at 5,699 b/d of oil and 170,000 m³/d of gas, while well BMD-1 tested at 4,856 b/d and 255,912 m³/d.

New projects and tie-ins to existing facilities are crucial to Sonatrach's efforts to counter natural decline which has driven the country's liquids production down by 15pc over the past decade to 1.5mn b/d.

A further two discoveries were made in the Berkine basin, one was made in the Ohanet region and another was made in the Oued Mya basin, located southeast of the prolific Hassi R'Mel gas field (see table).

"These discoveries assert the relevance of the efforts made by Sonatrach in exploration and renewal of hydrocarbon reserves and prove the attractiveness of Algeria's mining domain," said the firm.

The latest exploration campaign comes on the back of a recent rise in upstream activity which last year led to 16 discoveries, many of which are located to existing facilities which should lower barriers to development.

Algeria is hoping to sign several new upstream exploration and production contracts with international oil companies this year in its bid to increase oil and gas output.

Algeria plans to hold its first licensing round since 2014 in the coming months, while US major Chevron is in talks to enter the country with an eye on its potentially huge shale gas reserves.

By Aydin Calik

Eni sees Baleine start-up by June

Italian oil and gas firm Eni expects production from the first phase of its major [Baleine prospect](#) offshore Ivory Coast to start by June.

The floating production, storage and offloading (FPSO) vessel that will facilitate this, the *Firenze*, set sail from Dubai on 6 April.

The FPSO has been refurbished and upgraded to allow it to treat up to 15,000 b/d of oil and around 25,000 ft³/d of associated gas. The *Firenze* will be renamed *Baleine* after its arrival in Ivory Coast.

The entire gas offtake will be delivered onshore via a newly built export pipeline. The installation of a subsea production system and well completion campaign are underway.

Eni said it is "already progressing swiftly" on the second phase of the project and forecasts a start-up of production by December 2024.

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The firm only took a final investment decision (FID) in December 2022.

The Baleine field was initially estimated to hold reserves of over 2bn bl of oil and around 2.4 trillion ft³ (67.9bn m³) of associated gas. Eni subsequently **revised up** its estimates to 2.5bn bl following a second discovery in the area.

Eni holds 90pc of the exploration phase at CI-101, with Ivory Coast's state-owned Petroci holding the remainder. The Baleine field extends over blocks CI-101 and CI-802.

The two firms also own interests in four other blocks in the Ivorian deepwater – CI-205, CI-501, CI-401, and CI-801.

By Elaine Mills

Sanctions delay Lukoil's Baltic project

Lukoil is delaying the start of commercial production at its Baltic offshore 150mn bl D33 field by at least a year until 2025, it says. The Russian firm has run into sanctions-related problems with a European subcontractor.

Russia's second-largest oil firm had planned to begin development drilling at the end of last year at D33, 57km off the coast of Russia's Kaliningrad exclave. Earlier Lukoil guidance was for production start-up in 2024, with output rising to a 1.8mn t/yr (32,000 b/d) peak in 2025-28.

Lukoil contracted Italian engineering company Rosetti Marino to build an ice-resistant platform for D33 in 2021. But "to mitigate risks related to the geopolitical situation", Lukoil is adapting its development plan to reflect "available technologies, equipment and materials", under new deals with Russian subcontractors, local suppliers and those from so-called "friendly" countries, it says.

Lukoil is the sole upstream operator in Russian Baltic waters. It launched production at block D6 offshore Kaliningrad in 2004 – light sweet crude from the 68mn bl Kravtsovskoye field is loaded for export at the Baltic port of Svetly.

The proximity of Baltic operations to export markets in northwest Europe drove Lukoil's interest in regional expansion – it is still seeking the licence for nearby Nadezhda block. Until December, Lukoil's Baltic crude went mainly to the Netherlands – where the Russian firm and TotalEnergies own the 153,000 b/d Flushing refinery. But the EU ban on Russian seaborne crude imports since early December has ended supplies on this route.

Lukoil is now shipping crude produced on and offshore Kaliningrad to its *Kola* floating storage tanker, moored near the far north port of Murmansk, which handles exports of arctic light sweet Varandey Blend crude. Around two-thirds of Lukoil's 100,000 b/d Varandey Blend exports in March went to India and the rest to China. All exports from the *Kola* were shipped to China in February.

Druzhba pipeline supplies may rise in April

Crude exports through the Druzhba pipeline system to central and eastern Europe could increase by almost 29pc on the month to 281,000 b/d (1.17mn t) in April, traders say. But the extent of the rise will depend on whether planned Kazakh crude deliveries to Germany materialise.

Kazakhstan hopes to boost crude shipments through Druzhba to the 223,000 b/d Schwedt refinery in eastern Germany to 100,000t this month, from just 20,000 t/month in February-March, according to state-owned pipeline operator Kaztransoil. But first-quarter Kazakh exports along this route fell far short of the 300,000t allocation granted by the Russian energy ministry. Germany stopped all imports of Russian oil at the start of this year, including Druzhba crude.

Hungarian oil firm Mol is increasing imports for its refineries in Hungary and Slovakia in April. Lukoil trading arm Litasco supplies up to 300,000 t/month to each destination, trading firm Normeston supplies crude to Hungary and Slovakia from Tatneft and small Russian producers, as well as 100,000 t/month to Hungary from medium-sized producers Russneft and Neftisa, according to traders.

Rosneft is the only Druzhba supplier to the Czech Republic and is scheduled to boost supplies significantly in April – Poland's state-controlled PKN Orlen owns the country's two refineries.

There are no Druzhba deliveries scheduled for Poland in April – the country last received Russian crude in January. PKN has terminated its 200,000 t/month Druzhba term deal with Tatneft because of non-delivery, the Polish firm's president, Daniel Obajtek, said at the start of this month.

Discounts for Druzhba crude relative to Atlantic basin benchmark North Sea Dated narrowed slightly on the month in March, in line with values for seaborne Urals. Formulas for Druzhba sales are still based on notional cif Rotterdam and Augusta prices, derived by adding freight costs to fob prices at Russian ports.

Kazakhstan keen to raise Azerbaijan transit

Kazakhstan wants to establish higher, regular crude exports through Azerbaijan, according to President Kassym-Jomart Tokayev.

"The first batch of Kazakh crude was shipped through Azerbaijan this year. The next step is to increase supplies" on a long-term basis, he said after meeting his Azeri counterpart, Ilham Aliyev, in Astana on 10 April. A joint statement says that "Kazakhstan and Azerbaijan agree on the need for further work to agree conditions for increasing deliveries of Kazakh oil through Azerbaijan."

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Kazakh state-owned pipeline operator Kaztransoil (KTO) planned to ship almost 17,000t (4,000 b/d) of crude to Baku from Kazakhstan's Caspian port of Aktau last month – about 10,000t from the 9bn bl Tengiz field and 6,900t from the 13bn bl Kashagan project. KTO aims to load 125,000t at Aktau for delivery to Azerbaijan in April and export through the 1.2mn b/d BTC pipeline.

State-controlled Kazmunaigaz (KMG) and Azerbaijan's state-owned Socar reached a five-year ship-or-pay agreement on the transport of up to 1.5mn t/yr (31,000 b/d) of Kazakh crude through BTC in November.

And there have been discussions about shipping up to 5mn t/yr of Kazakh crude through the 150,000 b/d Baku-Supsa pipeline, market participants say. Baku-Supsa has been largely out of use since spring 2022, when Azeri Light crude exports were redirected to BTC from Georgia's Black Sea coast.

"We can ship 5.5mn-7.5mn t/yr of crude through Aktau," then Kazakh energy minister Bolat Akchulakov said in October. Kazakhstan hopes to increase crude transit through Azerbaijan to 15mn t/yr by 2026, the then deputy energy minister, Asset Magauov, said in February.

Kazakhstan's ability to move crude across the Caspian Sea to Azerbaijan is constrained by the regional tanker fleet's limited capacity. But KMG and state-owned Abu Dhabi Ports established a joint venture in February, Caspian Integrated Maritime Solutions, to increase Kazakhstan's Caspian tanker fleet.

Around 80pc of Kazakhstan's crude and condensate exports flow through the Caspian Pipeline Consortium system, to Yuzhnaya Ozereyevka on Russia's Black Sea coast. But repeated disruptions to CPC Blend loadings from March last year prompted Kazakhstan to seek alternative oil export routes.

Transneft pipeline exports hold steady

Crude exports to non-CIS destinations through the Transneft pipeline system were stable in March, despite Russian plans to cut output by 500,000 b/d. But shipments last month were supported by the roll-over from February of some delayed seaborne cargoes – around 270,000 b/d.

Transneft crude supplies for export, including transit shipments from Kazakhstan, were marginally higher than in February but down by 3.4pc on the year at 3.96mn b/d (16.84mn t) in March. First-quarter pipeline exports from Russia rose by 1pc compared with a year earlier to 4.09mn b/d (50.56mn t).

March shipments included 11 cargoes, of a combined

1.16mn t, carried over from the February export programmes at the Black Seaport of Novorossiysk, Primorsk on the Baltic Sea and Russia's far east Kozmino terminal.

Some loading delays continued last month, with two March cargoes of Kazakh Kebco rolled over to the April schedule – 100,000t at the Baltic port of Ust-Luga and 140,000t at Novorossiysk. Kebco loads alongside Urals. A 100,000t Rosneft crude shipment from Novorossiysk this month was originally scheduled for export in February, according to shipping agents.

Westbound supplies through the Transneft system increased by 6pc on the month to 2.39mn b/d (10.28mn t) in March. The rise was driven mainly by a two-thirds jump in Novorossiysk loadings to 655,000 b/d (2.81mn t), including nine cargoes originally scheduled to load in February – six Urals and Kebco shipments totalling 720,000t and 240,000t of Siberian Light in three cargoes. Urals and Kebco supplies from Novorossiysk were up by 50pc at 525,000 b/d last month, while Siberian Light loadings almost tripled to 130,000 b/d (540,000t). First-quarter Novorossiysk exports rose by more than a third on the year to 536,000 b/d.

Crude shipments from Russian Baltic ports fell by over 5pc on the month in March, mainly reflecting a 7pc decline in Primorsk Urals exports to 835,000 b/d (3.6mn t) because of terminal maintenance on 15-17 March. Ust-Luga supplies fell by 3pc to 680,000 b/d (2.93mn t), although Kebco exports increased to 500,000t, from 200,000t in February – because of planned maintenance at Kazakhstan's 120,000 b/d Chimkent refinery on 15 March-8 April. Baltic crude exports were up by 18pc on the year at 1.59mn b/d (19.96mn t) in the first quarter.

Flows through the Druzhba pipeline system fell by 13pc on the month to 220,000 b/d (940,000t) – the lowest since May 2019 – mainly because of a sharp reduction in Rosneft crude deliveries to the Czech Republic. Pipeline supplies to Hungarian firm Mol's refineries in Hungary and Slovakia rose. And 5,000 b/d (20,000t) of Kazakh crude was shipped through Druzhba to the 226,000 b/d Schwedt refinery in eastern Germany. First-quarter exports through the Druzhba system dropped by 63.5pc on the year, as Germany halted imports of Russian crude, while Transneft suspended supplies to Poland.

Eastbound crude shipments through the Transneft system were down by 8pc on the month. Loadings of ESPO Blend at Kozmino declined by 7pc against February to 815,000 b/d (3.4mn t), because of terminal maintenance on 22-24 March, market participants say. Rosneft pipeline supplies to China also fell – with deliveries lower through the East Siberia-

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Pacific Ocean system and across Kazakhstan. First-quarter Kozmino exports increased by 20pc on the year to 864,000 b/d (10.49mn t), with Rosneft pipeline shipments to China little changed.

Refinery supplies rise

Pipeline crude supplies to Russian refineries rose by 1.4pc on the month to 4.95mn b/d (21mn t) in March, according to market participants – the highest since December.

Rosneft increased domestic crude deliveries by 2pc against February on a daily average basis to 7.39mn t, Surgutneftegaz upped supplies by 1.5pc to 2.37mn t and Tatneft by 6.3pc to 1.6mn t. Lukoil and Gazpromneft reduced deliveries by 0.6pc to 3.5mn t and by 2.6pc to 3.31mn t, respectively.

Russian rail supplies to CPC rising

Rail shipments of crude for export from Russia increased by 47pc on the month to 38,700 b/d (165,400t) in March – the highest since December. But first-quarter supplies were down by a quarter compared with a year earlier at 26,950 b/d (334,500t), according to rail freight forwarding companies.

Russian crude deliveries by rail to the Caspian Pipeline Consortium (CPC) system more than doubled against February on a daily average basis to 73,900t last month. Small producer Centergeco increased supplies significantly to 70,100t in March from 27,900t. Gazpromneft rail shipments of crude to CPC were little changed against February at 3,700t.

Direct Russian crude exports by rail to Belarus increased by 18pc on the month to 90,000t in March, as medium-sized producer Neftisa boosted deliveries to the 323,000 b/d Mozyr refinery. But exports for Mozyr may be suspended this month because of planned maintenance in April-May, traders say.

Rail supplies of condensate for export from Russia, including transit shipments, rose by 42pc on the month to 35,600 b/d (136,100t) in March – the highest since July 2021 – driven mainly by higher deliveries to the CPC system, according to freight forwarding companies.

Small, independent producers loaded 14,700t of condensate for CPC at Surgut station in Khanty-Mansiysk, western Siberia, last month – the first shipments since March 2016. And trading company Intex supplied 14,500t to CPC from Khanty-Mansiysk's Ostrovnoy siding – the first ever shipment from there.

Novatek supplied 8,500t by rail to CPC from its 12mn t/yr Purovsky condensate processing plant through Limbei

station in Yamal-Nenets – the first shipment on this route. And Rosneft subsidiary Purneftegaz supplied 1,700t to the CPC system from Purpe station in Yamal-Nenets – the first condensate supply along this route since August.

Gazprom delivered condensate by rail to Russia's far east port of Vanino for the first time – 5,400t from Okunaisky in eastern Siberia's Irkutsk region. And the company resumed condensate exports by rail to Georgia after a six-month interval, shipping 2,000t from Surgut station in March.

Mol can pay Ukraine for Russian oil transit

Hungarian refiner Mol will be able to pay transit fees to Ukrainian state-owned pipeline operator Ukrtransnafta for its Russian crude imports through the Ukrainian section of the Druzhba system to maintain its supply, Hungarian foreign minister Peter Szijjarto said.

Hungary and Russia have agreed to allow Mol to settle transit fees directly with Ukrtransnafta, Szijjarto said today in Moscow, following his meeting with Russian deputy prime minister Alexander Novak. "If [Russian pipeline operator Transneft] were to continue paying the transit fee to [Ukrtransnafta], it could create serious uncertainty in the current situation," he said.

Ukrtransnafta planned to [increase tariffs](#) for Russian crude flowing through Druzhba across Ukraine to central Europe from 1 April, traders said in late March. The tariff was increased by €2.10/t to €13.60/t at the beginning of 2023, following a €2.50/t increase from 1 April 2022.

Szijjarto did not say when Mol could start paying transit tariffs to Ukrtransnafta. Mol [temporarily covered](#) Transneft's transit fees in August 2022 to restart deliveries through Druzhba's southern leg. Ukrtransnafta suspended transit shipments of Russian crude to Hungary, Slovakia and the Czech Republic on 4 August because of a problem with the payment of Transneft's transit fees.

Budapest and Moscow have also agreed that Transneft will continue delivering crude to Mol at the Ukrainian-Hungarian border, Szijjarto said. "Previously, riskier solutions were proposed by the Russian side, according to which transport through Ukraine would have effectively been the responsibility of Mol, or Hungary. It is better to avoid this in the current situation," he said, without elaborating.

Szijjarto said the agreements with Russia on crude transit were "good news" for Hungary, which met about 80pc of its crude demand with Druzhba imports in 2022. Druzhba deliveries are exempt from the EU's Russian crude ban, but were briefly suspended several times last year, partly because of damage caused by Russian military attacks in Ukraine and

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Transneft's payment issue.

Mol is the main buyer of crude on Druzhba's southern leg for its 161,000 b/d Szazhalombatta refinery in Hungary and 115,000 b/d Bratislava plant in Slovakia. But it is developing "technical capabilities" that could [hike the share](#) of non-Russian feedstock in the combined slate of its two landlocked plants to 50-55pc from December 2023, up from 20-25pc under a "business as usual" scenario.

By *Bela Fincziczki*

Saudis, Yemen Houthis hold talks in Sana'a

A Saudi Arabian delegation met with the Houthi movement in Yemen's capital Sana'a, part of an effort to end a war that recently entered its ninth year. The move comes after a Chinese-brokered fledgling detente between Riyadh and Iran, which backs the Houthis.

The [Saudi delegation](#), headed by ambassador to Yemen Mohammed bin Saeed Al-Jaber, met with the head of the Houthi supreme political council Mahdi al-Mashat, according to the Houthi-run Saba news agency. An Omani delegation joined the talks, Saba said.

"The Omani and Saudi delegations will discuss with [al-Mashat] lifting the siege with all its repercussions, stopping the aggression, and restoring all the rightful rights of the Yemeni people, including the payment of salaries of all state employees from oil and gas revenues," Saba reported, citing a source in the Houthi supreme political council.

Saudi's Al-Jaber said the talks "are meant to stabilise the truce and cease-fire, support the prisoner exchange process and explore venues of dialogue between Yemeni components to reach a sustainable, comprehensive political solution."

The UN brokered a two-month truce in April 2022 – the first since 2016. This was extended twice, but in October it hit a wall with the Houthi's demanding salaries for civilian, military and security employees in the territories they control be paid using government revenues.

Yemen's minister of foreign affairs for the internationally-recognised government, Ahmed Awad Bin Mubarak, said last week there were "positive signals" that a cease-fire deal would be announced, along with addressing other humanitarian and economic issues.

"The [regional] circumstances are different," he told Egyptian news channel Al-Qahera in an interview aired on 7 April. "It pushed towards achieving a solution." But he said there are "many fundamental issues" that the warring sides need to address before reaching a settlement.

The war has been raging since late 2014, when the Houthis seized Sana'a and surrounding areas, forcing the gov-

ernment to flee the country. Since then, a Saudi-led military coalition has been fighting the Houthis on the government's behalf and providing support in the shape of economic grants and shipments of oil products.

Saudi products arrive in Yemen

Yemen received a [fourth batch of petroleum products](#) from Saudi Arabia, consisting of 150,000t of diesel and 100,000t of fuel oil, at its port of Aden, the Saudi state-owned SPA news agency said on 9 April.

This batch will be used to operate around 70 power generation plants in Yemen, which is battling severe fuel shortages. The deliveries are part of Riyadh's \$4.2bn grant for Yemen, announced in 2021. A third batch of products, consisting of 5,500t of diesel and 13,000t of fuel oil, arrived in Yemen in March.

By *Bachar Halabi and Rithika Krishna*

Russia's energy revenue slumps in 1Q

Budget revenue from Russia's oil and gas sector dropped by 45pc on the year to Rbs1.6 trillion (\$19.6bn) in January-March, reflecting lower prices for Russian oil.

Oil and gas revenue of Rbs688bn in March recovered slightly compared with the first two months of 2023, but this was still 75pc lower than in March 2022. And a first-quarter federal budget deficit of Rbs2.4 trillion was almost 83pc of the finance ministry's full-year Rbs2.9 trillion deficit forecast.

The ministry expects oil sector tax payments to recover in the second half of this year, as discounts for Russian crude gradually narrow relative to international benchmarks, it said last week. Russian oil and gas revenue comprises mineral extraction tax on oil and gas production, profit-based tax on oil companies, excise taxes and export duties.

A dramatic weakening of the rouble against the dollar in recent weeks can be attributed to lower export revenue, deputy central bank chairman Alexei Zabolotkin said this week. The rouble has dropped by 13pc against the dollar since the beginning of 2023. Oil and gas account for more than half of Russian exports and around 20pc of GDP. Declining federal budget returns could also reflect reduced oil company revenue in the first quarter, against the background of export restrictions on Russian oil and refined products.

Even before the EU banned Russian crude and product imports – simultaneous with the introduction of G7-led price caps – from 5 December and 5 February, respectively, Russian oil was trading at substantial discounts to regional benchmarks. A 54pc month-on-month drop in federal oil and

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gas revenue in January prompted the finance ministry to devise artificial, fixed discounts for Russian crude exports for tax assessment purposes to protect state revenue – the measure comes into effect this month.

The energy ministry began monitoring realised prices for Russian crude exports in March to ensure that exporters are not complying with the terms of the price cap mechanism for Russian crude exports – introduced at an initial \$60/bl. In December, President Vladimir Putin ordered a ban on exports of Russian crude and products under price cap terms – his order was enforced from February.

Texas March drilling permits fall 11pc: RRC

Drilling permits for oil and natural gas in Texas fell by 11pc in March compared to the same time last year as cost pressures and labor shortages limit producers in the field.

Permitting in the Midland area was down from the same period 2022 while drillers increasingly sought out permits in areas to the southeast, according to data from the Texas Railroad Commission (RRC) this week. Most of the 1,052 permits issued in March were for targeting hydrocarbons with a small number granted for injection and service-related purposes.

There were 999 permits issued in March for drilling oil, drilling gas, or drilling for both oil and gas, according to the regulator, down from 1,035 in the same month 2022. This is up from 620 in February.

Adding pressure to drilling plans has been the notable fall in commodity prices over the past year for both oil and gas. The average settled price of West Texas Intermediate (WTI) crude futures across March this year was \$73.37/bl, down from \$108.26/bl in March 2022, while the spot price for natural gas has fallen to a monthly average of \$2.33/mmBtu from \$4.86/mmBtu across the same period last year.

Permits intended for wells targeting only crude came in at 272 in March, up by 16 from the same period last year. Natural gas permits bounced off a recent low with 55 permits in March, up from 44 in February, but still below the 76 permits recorded in March last year.

Operators in the Midland area, or District 8, were issued 461 permits for oil and/or gas wells in March. This is down by 139 permits in the same period in 2022.

Bordering the Midland area to the south and east is the San Angelo region, or District 7C, which saw permits nearly double to 99 in March this year from 55 a year earlier.

Drillers in the San Antonio region, or District 1, which includes the northern part of the Eagle Ford basin, were issued 166 permits for oil and/or gas wells in March. This is up

by 45 compared to March 2022.

Further [evidence of a slowdown in the US shale patch](#) emerged last week after a closely watched survey from the Federal Reserve Bank of Dallas showed growth stalled in the first quarter as industry optimism waned.

"Oil field inflation has to be the number one problem," an exploration and production company executive said, also highlighting difficulties obtaining materials, parts, pumps, pipe and tubing for projects in west Texas.

By Brett Holmes

Brazil's Prio oil reserves rise to 548mn bl

Brazilian independent Prio's reserves increased by 26pc in January from a year earlier, after drilling campaigns off the country's southeastern coast yielded better-than-expected results.

Total proven reserves rose to 548mn bl in January from the 434mn bl recorded in the same month a year prior, Prio said. The company added nearly 68mn bl in the Frade field and other 63mn bl in the Albacora Leste field, both in the Campos basin off Rio de Janeiro state's coast.

Prio finalized its [acquisition of Albacora Leste](#) from state-controlled Petrobras in January.

Frade's fourth well came online on 5 April, producing 11,000 b/d. As a result, the field's output is now over 50,000 b/d. Prio currently produces over 90,000 b/d, a 90pc increase from the full-year average of 40,470 b/d in 2022.

Prio's production dropped by 5.3pc to 65,000 b/d of oil equivalent (boe/d) in March from 68,000 boe/d the prior month. But that is an 84pc increase from March 2022, when

ANNOUNCEMENT

Argus successfully completes annual losco 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 losco's Principles for Oil Price Reporting Agencies, and losco 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>

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output was 35,000 boe/d.

Prio, which specializes in the recovery of mature fields, ended 2022 with a record \$1.2bn revenue, a 54pc increase from 2021, which the company attributed to increased production.

By Eléonore Hughes

Lula to expand Petrobras marine fleet

Brazil's president Luiz Inacio Lula da Silva vowed to expand the marine fleet of state-controlled Petrobras' logistics arm Transpetro, and restated that the firm will focus on renewable fuels.

"Petrobras will finance research into new renewable fuels and will resume its leading role in investments, expanding Transpetro's fleet," he said during a ministerial meeting marking the 100th day of his third four-year administration. He did not give details on the fleet expansion.

The statement reinforces Lula's plan to reposition Petrobras as "more than an oil company."

Lula's energy ministry and Petrobras have recently clashed over the company's price policy, which the president has criticized since his campaign days.

On 5 April, energy minister Alexandre Silveira indicated that Petrobras' so-called import parity pricing model (PPI), which is based on international factors such as global oil prices and foreign exchange rates, would be replaced by a measure dubbed Internal Competitive Price (PCI). The company quickly responded to the comments, saying the government had yet to formally propose the change. Lula later said that Silveira's comments "came as a surprise" and that Petrobras' pricing policy will be changed in "due time."

Lula also vowed to accelerate Brazil's energy transition, saying Brazil will launch tenders for solar and wind energy, which will combine to generate as much power as "the largest hydroelectric plants."

He also said Brazil will not miss the opportunity to become "a green hydrogen powerhouse."

By Lucas Parolin

ANNOUNCEMENTS

WCS Hardisty label standardization

Argus will change its labeling and data code descriptions for WCS to WCS Hardisty, ensuring that all references to the grade at that location are the same with effect from 17 April 2023.

To discuss this change, please contact Gus Vasquez at gustavo.vasquez@argusmedia.com or Amanda Smith at amanda.smith@argusmedia.com.

Argus Assessment Rationale Database

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

Subscribers to this report via *Argus Direct* or *MyArgus* may access the database [here](#).

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

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Argus uses a precise and transparent methodology to assess prices in all the markets it covers. The latest version of the Argus Crude Methodology can be found at:

www.argusmedia.com/methodology.

For a hard copy, please email info@argusmedia.com, but please note that methodologies are updated frequently and for the latest version, you should visit the internet site.



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