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Argus *Crude*

Crude market prices and analysis

Issue 23-215 | Tuesday 31 October 2023

CRUDE MARKETS AT A GLANCE

$/bl

Europe	Basis	Diff	Bid	Ask	Change
North Sea Dated	Jan Nsea	+2.18	88.83	88.89	-0.42 ▼
Ice Brent mth 1	Dec			87.41	-0.04 ▼
Argus Brent Sour	Dated	-0.03	88.80	88.86	-0.36 ▼
WTI cif R'dam period 1	Dated	+2.95	91.78	91.84	-0.42 ▼
Johan Sverdrup	Dated	+1.50	90.33	90.39	-0.42 ▼

North America	Basis	Diff	Outright	Change
Nymex WTI mth 1	Dec		81.02	-1.29 ▼
WTI Midland	Dec WTI	+0.65	81.67	-1.29 ▼
WTI Houston	Dec WTI	+0.81	81.83	-1.38 ▼
Mars	Dec WTI	-0.53	80.49	-1.33 ▼
WCS Houston	Dec CMA Nymex	-7.95	72.36	-1.08 ▼

Russia	Basis	Diff	Bid	Ask	Change
Urals fob Primorsk	Dated	-14.50	74.33	74.39	-0.17 ▼
ESPO fob	Dec Dubai swaps	-4.00	82.38	82.48	-1.02 ▼

Delivered China	Basis	Diff	Bid	Ask	Change
Tupi	Mar Ice Brent	+4.90	89.88	90.88	-1.12 ▼

Mideast Gulf	Basis	Diff	Bid	Ask	Change
Dubai	Dec		88.44	88.54	-1.11 ▼
Oman	Dec		88.47	88.57	-1.16 ▼
Murban	Dec		88.42	88.52	-1.96 ▼

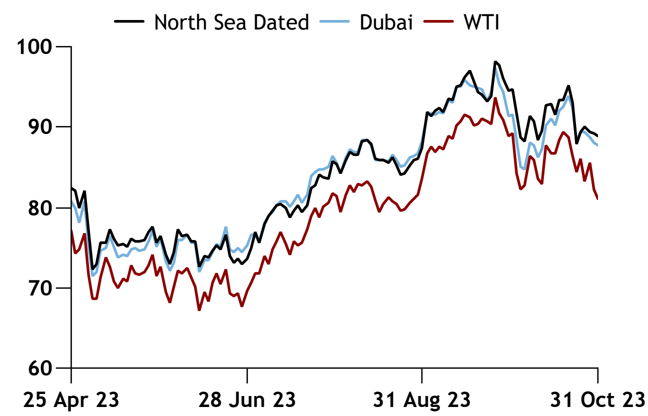
Latin America	Basis	Diff	Bid	Ask	Change
Vasconia	Feb WTI	+1.04	80.75	81.25	-1.32 ▼
Castilla	Feb WTI	-4.99	74.50	75.45	-2.05 ▼

West Africa	Basis	Diff	Bid	Ask	Change
Qua Iboe	Dated	+2.75	91.58	91.64	-0.42 ▼
Girassol	Dated	+4.50	93.33	93.39	-0.42 ▼
Doba	Dated	-2.10	86.73	86.79	-0.42 ▼

Oil down on stronger dollar, weak China data

December Nymex WTI fell by $1.29/bl to $81.02/bl while December Ice Brent fell by 4¢/bl to $87.41/bl. The Brent-WTI spread widened by $1.25/bl to $6.39/bl.

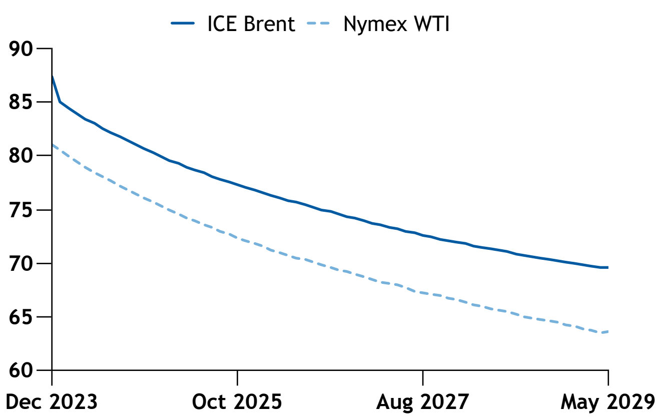
Key benchmarks $/bl



TOP HEADLINES

Europe hesitant to increase Mideast term supply
Russian CPC Blend exports rise
US crude output at record high in August: EIA

WTI vs Brent forward curve $/bl

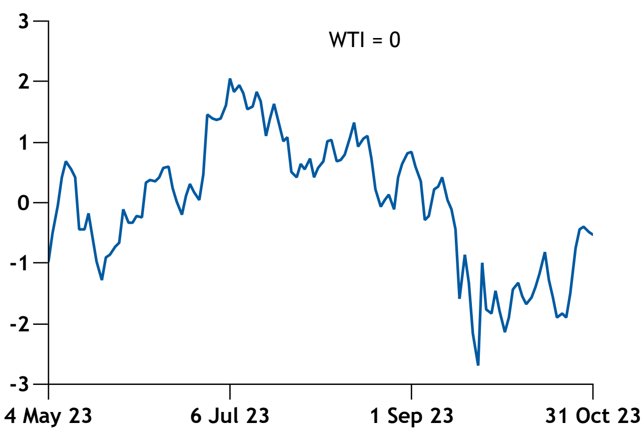


CONTENTS

KEY SPREADS   *$/bl*

	Spread	±
Interregional Spreads		
Transatlantic		
Ice Brent vs Nymex WTI (Dec)	+6.39	+0.62
North Sea Dated vs WTI fob Houston	+6.31	+0.95
Argus Brent Sour vs ASCI	+8.50	+0.95
Qua Iboe vs WTI Houston	+9.78	+0.96
Atlantic Basin to Asia		
Brent-Dubai EFS	+1.83	-0.30
Forties vs Murban	+2.19	1.54
Qua Iboe vs Kimanis	-8.25	1.50
Americas to Asia		
WTI Houston vs Kimanis	-18.03	0.54
ANS USWC vs ESPO fob	+6.32	-0.15
Mars vs Oman	-8.03	-0.17
Regional Spreads		
Americas pipeline		
WTI Houston vs WTI Midland	+0.16	-0.09
WTI Houston vs Mars	+1.34	-0.05
WTL Midland vs WTI Midland	-0.83	+0.02
WTS vs WTI Midland	-1.88	+0.37
WCS Hardisty vs WCS Houston	-16.90	+0.25
WCS Cushing vs WCS Houston	-1.04	-0.04
Americas waterborne		
WTI fob Houston vs Ekofisk	-11.01	-0.95
WTI cif Rotterdam vs CPC cif Med	+4.30	+0.00
North Sea		
Dated vs Nsea Forward mth 2	+0.64	2.49
Nsea forwards mth 1 vs mth 3	+2.07	-0.84
Asia-Pacific		
Dubai mth 1 vs mth 3	+2.06	-0.09
Murban cfr China vs WTI del NE Asia	-2.31	-0.60
Oman cfr China vs ESPO fob	+8.53	0.22

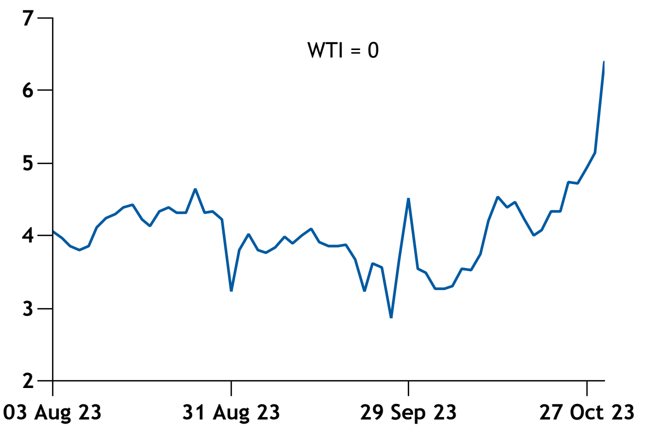
Mars vs WTI   *$/bl*



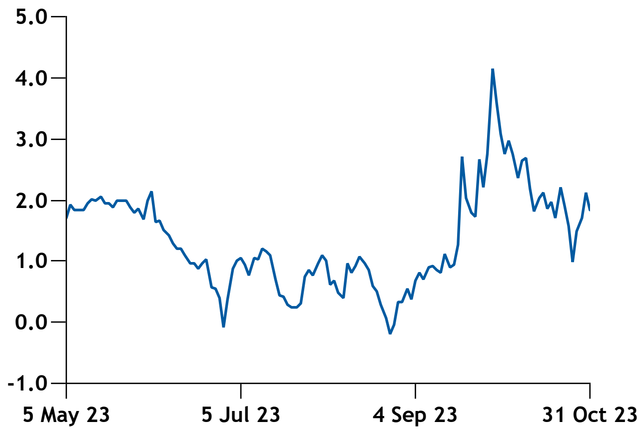
ANNOUNCEMENT

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

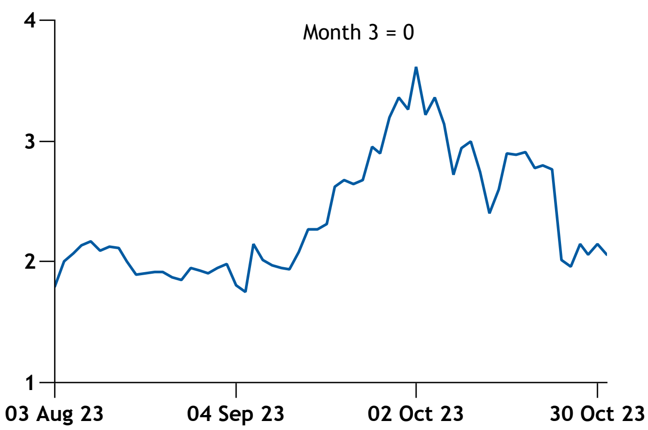
Ice Brent month 1 vs Nymex WTI   *$/bl*



Brent-Dubai Exchange of Futures for Swaps (EFS) m1   *$/bl*



Dubai month 1 vs month 3   *$/bl*

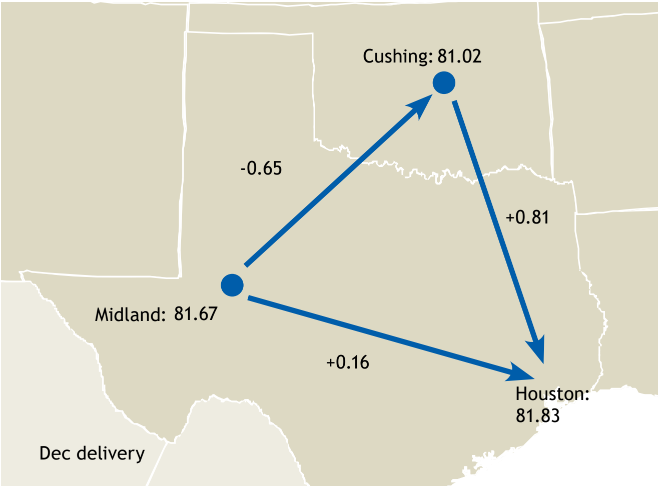


ANNOUNCEMENT

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

US GULF COAST AND MIDCONTINENT

WTI regional prices and spreads *$/bl*



Bakken Patoka's first trades for December delivery were much lower than the prior trade month's average, following Bakken DAPL lower month-on-month.

Bakken at the Patoka, Illinois, refining hub traded at premiums to the CMA Nymex WTI between $1.95-$2/bl. In November trade, Bakken Patoka averaged $3.39/bl premium to the CMA Nymex, while its cumulative-weighted average of trade during the month was $3.56/bl over the basis.

Bakken near production in North Dakota has also started December trade weaker than the prior month. So far, Bakken DAPL is averaging a $1.97/bl discount to the CMA Nymex as of this session's close, compared with a $1.13 average discount in November.

In Cushing, Oklahoma, Bakken traded at a 45¢/bl premium to the light sweet Cushing benchmark, translating to around a $1.15/bl premium to the CMA Nymex WTI.

Growing output could be weighing on Bakken's price at the US midcontinent.

US crude output hit a new monthly high in August on gains from New Mexico, Texas and North Dakota. Output averaged 13.05mn b/d in August, up from 12.96mn b/d in July, the Energy Information Administration (EIA) said on Tuesday in its *Petroleum Supply Monthly* report. This surpasses the previous high of 13mn b/d set in November 2019.

Operators in North Dakota pumped out 1.22mn b/d across August, up by 37,000 b/d from the month before.

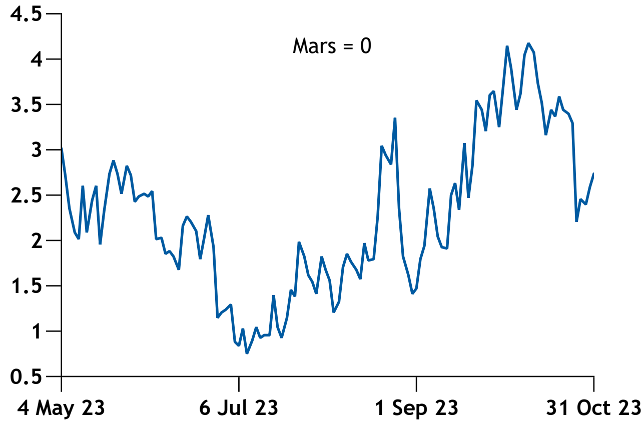
US medium sour crude grades maintained their strength this session relative to benchmark prices and prior month averages.

Mars' discount to Cushing held roughly steady this session at a 53¢/bl weighted-average discount, compared to the grade's $1.52/bl average discount in November.

Southern Green Canyon (SGC) has so far averaged a 98¢/bl discount to Cushing, while its average gap was $1.54/bl in the prior month of trade.

Argus Sour Crude Index (ASCI™)				$/bl
	Month	Basis	Diff	Price
ASCI	Dec	Dec WTI	-0.69	80.33
ASCI 2	Dec	CMA Nymex + Argus WTI diff to CMA	-0.69	80.50

LLS vs Mars *$/bl*



Assessment rationale

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

The Bakken Clearbrook assessment reflected reported trade.

In the absence of sufficient transaction information for Poseidon, WTS and WCS Houston, market value was assessed using intelligent judgment according to the methodology.

US GULF COAST AND MIDCONTINENT

WTI *$/bl*

	Timing	Low	High	WTI formula basis price	WTI formula basis MTD	Roll to next month
WTI Cushing	Dec	81.00	81.04	81.02	83.02	-0.52
WTI Cushing	Jan	80.48	80.52	80.50		-0.54
WTI Cushing	Feb	79.94	79.98			-0.54
WTI Cushing	Mar	79.40	79.44			

	Timing	Price	WTI Nymex spread
CMA Nymex	Dec	80.31	+0.71
CMA Nymex	Jan	79.78	+0.72
CMA Nymex	Feb	79.25	
CMA Nymex	Mar	78.79	

	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	MTD weighted average
Argus AGS Marker	Dec						81.77	81.82	81.78	83.84
Argus AGS	Dec	Dec WTI	+0.75	+0.80	+0.76	+0.82	81.77	81.82	81.78	
WTI Houston	Dec	Dec WTI	+0.80	+0.85	+0.81	+0.87	81.82	81.87	81.83	
WTI Houston	Jan	Jan WTI	+0.90	+1.10	+1.00	+1.05	81.40	81.60	81.50	
WTI Midland	Dec	Dec WTI	+0.60	+0.70	+0.65	+0.67	81.62	81.72	81.67	
WTI Midland	Jan	Jan WTI	+0.75	+0.85	+0.80	+0.84	81.25	81.35	81.30	
WTI Midland Enterprise	Dec	Dec WTI	+0.60	+0.70	+0.65	+0.67	81.62	81.72	81.67	
WTI diff to CMA Nymex	Dec	CMA	+0.74	+0.94	+0.88	+1.00				
WTI postings-plus	Dec	Postings	+4.12	+4.32	+4.26	+4.38				

Midcontinent *$/bl*

	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average	Cumulative MTD VWA
Bakken DAPL	Dec	CMA Nymex	-2.10	-2.00	-2.05	-1.97	78.21	78.31	78.26	-1.98
Bakken Patoka	Dec	CMA Nymex	+1.95	+2.00	+1.98	+2.25	82.26	82.31	82.29	+1.98
Bakken Clearbrook	Dec	CMA Nymex	-0.45	-0.35						
Bakken Cushing	Dec	Dec WTI	+0.40	+0.50	+0.45	+0.53	81.42	81.52	81.47	
Light Sweet Guernsey	Dec	CMA Nymex	-2.00	-1.90	-1.95	-2.14	78.31	78.41	78.36	-2.15
DJ Light	Dec	Dec WTI	-0.30	-0.10	-0.20	-0.41	80.72	80.92	80.82	
White Cliffs	Dec	Dec WTI	-0.30	-0.10	-0.20	-0.41	80.72	80.92	80.82	
Niobrara	Dec	Dec WTI	+0.80	+0.90	+0.85	+0.90	81.82	81.92	81.87	
WCS Cushing	Dec	CMA Nymex	-9.00	-8.90	-8.99	-8.86	71.31	71.41	71.32	
Canadian High TAN Cushing	Dec	CMA Nymex	-9.65	-9.55	-9.60	-9.50	70.66	70.76	70.71	

Texas *$/bl*

	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average
WTL Midland	Dec	Dec WTI	-0.20	-0.15	-0.19	-0.17	80.82	80.87	80.83
Bakken Beaumont/ Nederland	Dec	CMA Nymex + Argus WTI diff to CMA	+1.05	+1.10	+1.08	+1.13	82.24	82.29	82.27
WTS	Dec	Dec WTI	-1.60	-0.85	-1.23	-1.50	79.42	80.17	79.79
WTS	Jan	Jan WTI	-1.00	-0.50	-0.75	-0.74	79.50	80.00	79.75
Southern Green Canyon	Dec	Dec WTI	-1.00	-0.80	-0.93	-0.98	80.02	80.22	80.09
WCS Houston	Dec	CMA Nymex	-8.00	-7.90	-7.95	-7.85	72.31	72.41	72.36
Canadian High TAN Houston	Dec	CMA Nymex	-8.65	-8.55	-8.60	-8.61	71.66	71.76	71.71

Louisiana *$/bl*

	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average
LLS	Dec	Dec WTI	+2.15	+2.25	+2.20	+2.08	83.17	83.27	83.22
LLS	Jan	Jan WTI	+1.95	+2.20	+2.08	+2.04	82.45	82.70	82.58
HLS	Dec	Dec WTI	+2.00	+2.10	+2.05	+2.01	83.02	83.12	83.07
Thunder Horse	Dec	Dec WTI	+1.95	+2.05	+2.00	+1.80	82.97	83.07	83.02
Poseidon	Dec	Dec WTI	-1.10	-0.90	-1.00	-0.91	79.92	80.12	80.02
Mars	Dec	Dec WTI	-0.60	-0.50	-0.53	-0.47	80.42	80.52	80.49
Mars	Jan	Jan WTI	-0.85	-0.80	-0.83	-0.82	79.65	79.70	79.67

ARGUS AGS

Midland-quality WTI at the US Gulf coast fell with crude futures on a strengthening US dollar and record high crude production.

The AGS Marker fell by $1.38/bl to a volume-weighted average of $81.78/bl, reflecting its lowest flat price since 28 August. The AGS index differential to Nymex meanwhile declined by 9¢/bl to a 76¢/bl premium.

Liquidity was based at the Magellan East Houston (MEH) terminal, where six deals totaling 22,000 b/d were transacted at premiums to the Nymex light sweet crude futures contract from 80¢/bl to 85¢/bl.

WTI deals at MEH set the WTI Houston pipeline index and are also normalized to Enterprise Products' nearby Echo terminal in a separate process for inclusion in AGS.

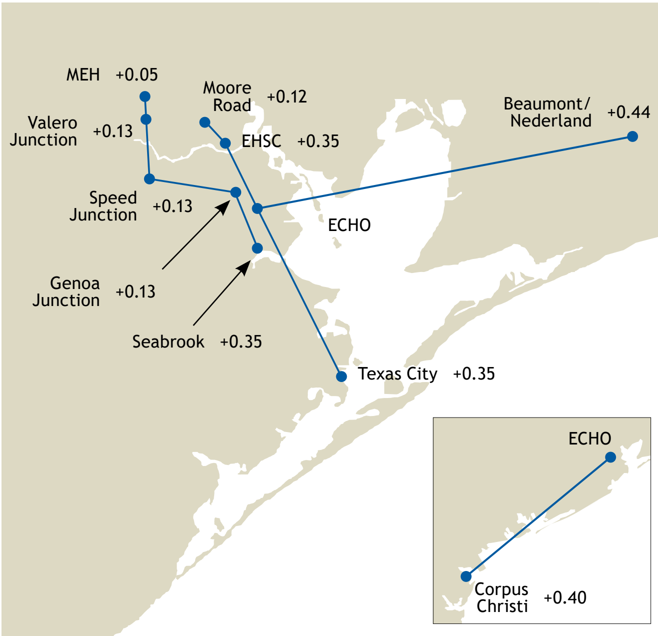
A strengthening US dollar weighed on WTI with the greenback rising by 0.5pc against a basket of international currencies to about 106.6 this session. The US DXY dollar index is near its highest level year-to-date, making dollar-denominated commodities such as oil more expensive for holders of foreign currency.

Meanwhile, US crude output continues to rise, hitting a new monthly high on gains from New Mexico, Texas and North Dakota. Output averaged 13.05mn b/d in August, up from 12.96mn b/d in July, the Energy Information Administration (EIA) said this session in its Petroleum Supply Monthly report. This surpasses the previous high of 13mn b/d set in November 2019.

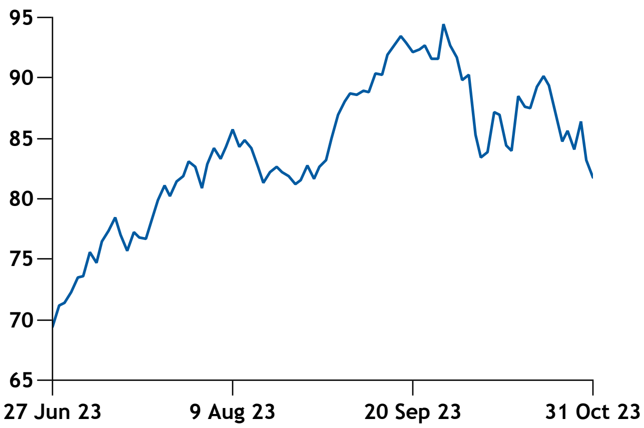
New Mexico posted the largest gain at 40,000 b/d to reach 1.8mn b/d of crude production in August, while Texas output rose by 25,000 b/d to a record high of 5.63mn b/d.

Argus AGS					$/bl
	Timing		Low/high	VWA	VWA MTD
Argus AGS Marker	Dec		81.77/81.82	81.78	83.84
Argus AGS	Dec		81.77/81.82	81.78	
	Timing	Basis	Diff low/high	VWA	VWA MTD
Argus AGS	Dec	Dec WTI	+0.75/+0.80	+0.76	+0.82

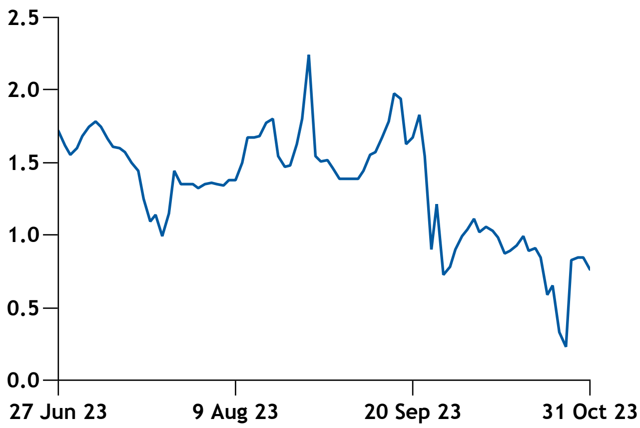
AGS locational differentials vs Echo $/bl



AGS Marker $/bl

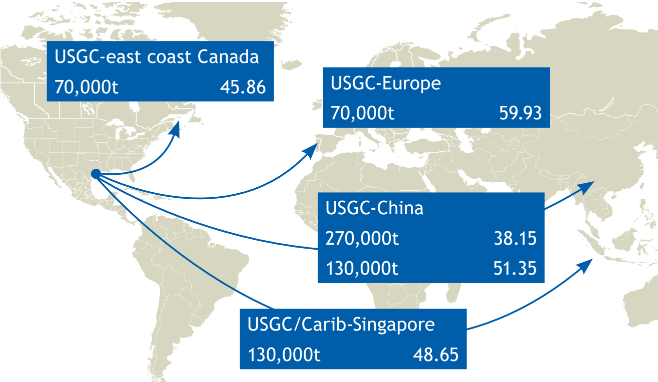


AGS index diff to Nymex WTI $/bl



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	719,000

Spot assessments for WTI fob weakened further this session against Ice Brent amid lagging global gasoline demand and turnaround activity in the US.

WTI loading 15-45 days forward at the US Gulf coast declined by 20¢/bl this session to discounts between $2.05/bl and $1.75/bl, equating to roughly 70¢/bl above WTI Houston.

An Aframax cargo of WTI loading in the first decade was offered at a $1.60/bl discount to February Ice Brent early in the trading session.

Decade spreads were widened this session. Second and third decades were assessed slightly lower on three-pack of-

US Gulf coast waterborne *$/bl*

	Timing	Basis	Diff low/high	Low/High
WTI fob USGC	Prompt	Dec CMA Nymex	+2.09/+2.39	82.40-82.70
	Prompt	Dec WTI Houston	+0.57/+0.87	
	Prompt	Feb Ice	-2.05/-1.75	
Bakken fob Beaumont/ Nederland	Prompt	Dec CMA Nymex	+2.29/+2.59	82.60-82.90
	Prompt	Dec WTI Houston	+0.77/+1.07	
	Prompt	Feb Ice	-1.85/-1.55	

WTI intramonth spreads *$/bl*

Load window (dates)	Timing	Basis	Diff low/high	Diff midpoint
1-10 M1	Dec	Dec WTI Houston	+0.55/+0.85	+0.70
	Dec	Feb Ice	-2.07/-1.77	-1.92
11-20 M1	Dec	Dec WTI Houston	+0.40/+0.75	+0.58
	Dec	Feb Ice	-2.22/-1.87	-2.05
21-31 M1	Dec	Dec WTI Houston	+0.20/+0.55	+0.38
	Dec	Feb Ice	-2.42/-2.07	-2.25

Anticipated US crude export cargoes — 15-45 days forward

Tanker name	Approximate volume '000 *bl*	Estimated grade	Load window	Load port	Chartered destination	ETA
Daba	2100	WTI	13-18 Nov	Galveston lightering	China	15 Jan
New Renown	2100	WTI	16 Nov	tbd	China	18 Nov
Habrut	2100	WTI	16-17 Nov	Corpus Christi, Texas	Europe	tbd
Almi Atlas	2100	WTI	16 Nov	tbd	Europe	tbd
Pantanassa	2100	WTI and/or WTL	17 Nov	Corpus Christi, Texas	China	tbd
Gem No 5	2100	WTI and/or WTL	17 Nov	tbd	South Korea	17 Jan
Barakah	2100	WTI and/or Mars	18-19 Nov	tbd	China	18 Jan
New Energy	2100	WTI	20 Nov	Galveston lightering	China	22 Jan
Das	2100	WTI and/or WTL	20 Nov	Corpus Christi, Texas	Thailand	10 Jan
Olympic Lyra	2100	WTI	23-25 Nov	tbd	Asia-Pacific	tbd
Seaduchess	2100	WTI	23-25 Nov	tbd	Europe	tbd
Sea Ruby	2100	WTI and/or Mars	25-30 Nov	tbd	China	tbd
Qamran	2100	WTI and/or WTL	28 Nov	tbd	China	30 Jan
C. Glory	2100	WTI and/or WTL	1 Dec	tbd	South Korea	1 Feb
Olympic Lion	2100	WTI and/or WTL	12 Dec	tbd	South Korea	12 Feb

US WATERBORNE

fers that surfaced this session.

Three-pack offers – an all or nothing offer for one Aframax cargo loading in each decade – were at premiums to WTI Houston of 35¢/bl and 45¢/bl with the former loading out of Nederland, Texas.

VLCCs of WTI loading in early December were on offer at premiums between 60¢-$1/bl above WTI Houston.

A VLCC cargo of West Texas Light (WTL) loading in mid-December was offered at a $2.20/bl discount to February Ice Brent. Third decade WTL was meanwhile offered at 40¢/bl discount to WTI Houston.

Bids for WTI arriving in Europe between 12 November – 3 December surfaced between premiums of $2.45/bl and $2.80/bl to North Sea Dated cif Rotterdam. An offer for WTI aboard the Aframax *Green Adventure* arriving in Europe 23-27 November was offered at a premium of $3.20/bl.

WTI fob prices weakened alongside US pipeline benchmarks as domestic markets pointed towards a greater availability of crude. December Nymex light sweet crude futures' discount to February Ice Brent widened by 12¢/bl to $3.43/bl, while WTI Houston's premium to Nymex weakened by 9¢/bl to a volume-weighted average of 81¢/bl.

US crude output rose by 1pc in August to a new monthly high on gains from New Mexico, Texas and North Dakota.

Output averaged 13.05mn b/d in August, up from 12.96mn b/d in July, the Energy Information Administration (EIA) said today in its Petroleum Supply Monthly report. This surpasses the previous high of 13mn b/d set in November 2019.

Marathon Petroleum has accelerated the schedule for maintenance originally planned for early 2024, prompted by ongoing repairs at its fire-damaged unit at its 593,000 b/d Galveston Bay, Texas, refinery, the company said in an earnings call this session.

Marathon Petroleum started repairs on the catalytic reformer unit at the refinery about three months after the 15 May fire that damaged the unit.

Repairs are progressing as planned and Marathon expects the reformer unit to start up in mid-November and the refinery to achieve full rates in mid-December.

The maintenance will add to the fall turnaround season already underway at the US Gulf coast, resulting in additional availability of crude to store or export.

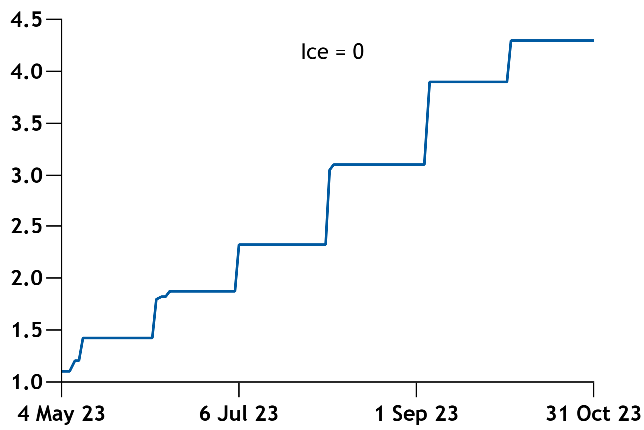
In addition to lower refinery runs and higher production in the US, refinery runs in China may drop by 300,000 b/d to 15.2mn b/d in October from September levels, according to *Argus* estimates on the back of poor refining margins and a shortage of product export quotas.

US west coast pipeline, 30 Oct			$/bl
	Basis	Diff to Ice Brent	Outright
Light postings avg	Dec	-0.13	87.32
Heavy postings avg	Dec	-3.97	83.48

US west coast waterborne				$/bl
	Timing	Basis	Diff low/high	Low/High
ANS del	Dec	CMA Nym	+8.39/+8.49	88.70-88.80
	Dec	CMA Ice	+4.25/+4.35	
ANS del concurrent	Dec	Dec WTI	+8.39/+8.49	89.41-89.51

ANS del USWC monthly volume-weighted average		$/bl
	Basis	Diff
Sep	Ice CMA	+2.35
Oct	Ice CMA	+3.03
Nov	Ice CMA	+3.88
Dec MTD	Ice CMA	+4.30

ANS vs Ice $/bl



Separately, Enterprise moved a record 988,000 b/d at its crude oil marine terminals in the third quarter, up by 21pc from the previous quarter and nearly 20pc higher than a year earlier. Volumes at the Enterprise Hydrocarbons Terminal (EHT) on the Houston Ship Channel increased by 200,000 b/d in the third quarter from a year earlier, the company said.

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.

LATIN AMERICA

Colombian heavy sour Castilla Blend continued to trend lower amid bearish sentiment caused by expectations of higher competing supply out of Venezuela.

Market participants valued the Colombian crude this session at discounts to February Ice Brent, weakening the *Argus*-assessed midpoint of possible trade by nearly 90¢/bl to reflect a roughly $9.50/bl discount to the international basis. Medium sour Vasconia was meanwhile assessed 15¢/bl than in the previous session to reflect a range of possible trade at discounts to February Ice Brent between $3.70/bl and $3.20/bl.

Latin sours have been trending lower after the US government recently lifted its sanctions on Venezuela's oil and gas sector, allowing state-owned PdV to resume oil exports to the US and other destinations and earn payments from its sales rather than having to use crude to repay debt. PdV now can freely choose where to sell its crude based on arbitrage economics.

The country is expected to increase its crude output by an estimated 200,000 b/d by the end of the year, suggesting that volume will compete directly with other spot cargoes currently trading out of Latin America, which are mostly loading in December.

Much of the Venezuelan crude sold since the US imposed sanctions in 2019 has been transported to Asia, mainly to China's independent refiners, but Chinese refiners appear in no rush to accumulate more Venezuelan cargoes in the near-term amid worsening margins and ample supply of cheap Iranian crude.

Historically, Venezuelan crude exports have largely comprised 16°API Merey, extra heavy oil from the Orinoco belt and diluted crude oil (DCO), which some Chinese refiners favored because it had the advantage of being imported as a product under the "diluted bitumen" category.

Merey crude was last heard pegged at a roughly $21/bl discount to Ice Brent, though that value could rise as more global refiners begin purchasing cargoes. Competing Iranian heavy was last offered about $2/bl stronger over concerns about supply during the Hamas-Israel conflict.

Separately, Petroecuador this week said it will not renew its oil supply deals with state-owned Thai company PTT and China's Unipec after they expire in December 2023, allowing the company to sell an additional 18.8mn-19.2mn bl per year in spot tenders.

South America				$/bl
	Timing	Basis	Diff low/high	Low/High
Colombia				
Vasconia	Prompt	Feb WTI	+0.79/+1.29	80.75-81.25
		Feb Ice	-3.70/-3.20	
Castilla	Prompt	Feb WTI	-5.46/-4.51	74.50-75.45
		Feb Ice	-9.95/-9.00	
Argentina				
Escalante	Prompt	Feb WTI	+1.09/+2.09	81.05-82.05
		Feb Ice	-3.40/-2.40	
Medanito	Prompt	Feb WTI	+2.24/+2.79	82.20-82.75
		Feb Ice	-2.25/-1.70	
Ecuador				
Oriente	Prompt	Feb WTI	-1.65/-1.05	78.31-78.91
		Feb Ice	-6.14/-5.54	
Napo	Prompt	Feb WTI	-7.25/-7.05	72.71-72.91
		Feb Ice	-11.74/-11.54	

Mexico				$/bl
	Timing	Basis	Diff	Price
Maya				
Excluding USWC	Oct	Dec Nymex	-4.83	76.19
USWC	Oct	Dec Nymex	-4.68	76.34
Europe	Oct	Jan Dated Brent	-9.30	79.56
India	Oct	Jan Dated Brent	-10.25	78.61
Asia-Pacific	Oct	Dec Dubai	-6.38	82.11
Isthmus				
Excluding USWC	Oct	Dec Nymex	-0.28	80.74
USWC	Oct	Dec Nymex	-1.88	79.14
Europe	Oct	Jan Dated Brent	-9.25	79.61
India	Oct	Jan Dated Brent	-9.45	79.41
Asia-Pacific	Oct	Dec Dubai	-5.68	82.81
Olmeca				
Excluding USWC	Oct	Dec Nymex	-0.23	80.79
USWC	Oct	Dec Nymex	-1.33	79.69
Europe	Oct	Jan Dated Brent	-6.05	82.81
India	Oct	Jan Dated Brent	-7.45	81.41
Asia-Pacific	Oct	Dec Dubai	-3.33	85.16
Zapoteco				
Excluding USWC	Oct	Dec Nymex	-1.68	79.34
USWC	Oct	Dec Nymex	+0.02	81.04
Europe	Oct	Jan Dated Brent	-9.25	79.61
India	Oct	Jan Dated Brent	-7.90	80.96
Asia-Pacific	Oct	Dec Dubai	-3.98	84.51

Mexico K-factors						$/bl
	Timing	USGC	USWC	Europe	India	Asia-
Maya	Oct	-7.60	-7.45	-7.85	-8.80	-6.40
Isthmus	Oct	-3.05	-4.65	-7.80	-8.00	-5.70
Olmeca	Oct	-3.00	-4.10	-4.60	-6.00	-3.35
Zapoteco	Oct	-4.45	-2.75	-7.80	-6.45	-4.00

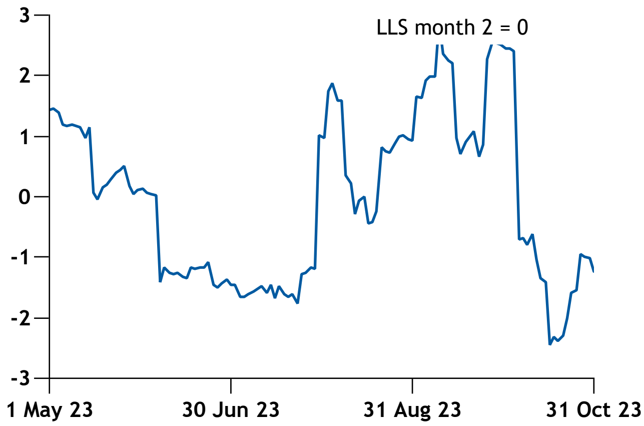
CANADA

Canada domestic										$/bl
	Timing	Basis	Diff low	Diff high	Diff weighted average	Diff MTD weighted average	Low	High	Weighted average
Syncrude (SSP)	Dec	CMA Nym	+0.75	+1.30	+1.03	+1.28	81.06	81.61	81.34
WCS	Dec	CMA Nym	-25.10	-24.60	-24.85	-24.04	55.21	55.71	55.46
WCS Cushing	Dec	CMA Nym	-9.00	-8.90	-8.99	-8.86	71.31	71.41	71.32

Canada domestic				$/bl
	Timing	Basis	Diff low/high	Low/High
AWB	Dec	CMA Nym	-26.70/-26.00	53.61-54.31
CDB	Dec	CMA Nym	-27.60/-26.90	52.71-53.41
Cold Lake	Dec	CMA Nym	-25.55/-25.05	54.76-55.26
Condensate	Dec	CMA Nym	-2.15/-1.75	78.16-78.56
MSW	Dec	CMA Nym	-7.30/-7.00	73.01-73.31
LSB	Dec	CMA Nym	-6.25/-5.70	74.06-74.61
LLB	Dec	CMA Nym	-24.85/-24.30	55.46-56.01

Canada waterborne prices				$/bl
	Timing	Basis	Diff low/high	Low/High
Hibernia	Dated	North Sea	+4.60/+4.90	93.46-93.76

Canadian Synthetic vs LLS month 2 $/bl



December Canadian heavy crude was valued stronger relative to the basis ahead of the trade cycle, but November discounts widened with pipelines apportioned.

The Western Canadian Select (WCS) financial December contract (TMW) was heard at a discount of $24.85/bl to CMA Nymex WTI ahead of Wednesday's first day of the December trade cycle. In the prior session, it was heard trading at a $25.15/bl discount for December.

November WCS was heard trading on Tuesday at CMA Nymex -26.65 with pipeline apportionment up for delivery during the month. During the November trade cycle dates, the *Argus* WCS Hardisty assessment averaged CMA Nymex -19.15.

Congestion on Canadian pipeline operator Enbridge's giant 3mn b/d Mainline pipeline network has risen for the last three months with higher Canadian crude output.

Enbridge had notified shippers that 22pc of light crude nominations flowing through Kerrobert, Saskatchewan, were apportioned for November, while 24pc of heavy crude flows through Superior, Wisconsin, were also apportioned for November.

Condensate was trading at Fort Saskatchewan at CMA Nymex -1.75. That set the high end of the day's *Argus* Canadian condensate assessment of CMA Nymex -2.15/-1.75. In the prior session, condensate was heard trading at CMA Nymex -1.25. Condensate is used as diluent to move bitumen production and more is needed in the winter months when it is colder, but there is only limited outbound pipeline space.

December Bakken at Clearbrook, Minnesota, was reported trading at CMA Nymex -0.75, widening its discount by 35¢/bl from the prior day. In the prior day, Bakken Clearbrook moved to a discount for the first time since December last year.

Conventional December Mixed Sweet Blend (MSW) was trading in the physical market at CMA Nymex -7.15.

Assessment rationale

The minimum volume was met and volume-weighted average calculated according to the methodology for WCS Cushing. In the absence of sufficient transaction information for WCS Houston, market value was assessed using intelligent judgment according to the methodology.

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)	Jan	400,000		86.68
CFD value against relevant basis month				
		Basis		**Midpoint**
6 Nov-10 Nov		Jan		+1.71
13 Nov-17 Nov		Jan		+0.86
20 Nov-24 Nov		Jan		+0.42
27 Nov-1 Dec		Jan		+0.13
4 Dec-8 Dec		Jan		-0.07
11 Dec-15 Dec		Jan		-0.28
CFD value for 10 Nov-29 Nov		Jan		+0.65
North Sea Anticipated Dated calculation				
		Month		**Price**
VWA of North Sea partial trade		Jan		86.68
CFD value for 10 Nov-29 Nov		Jan		+0.65
Anticipated Dated				87.33
Physical differentials for 10 Nov-29 Nov				
Grade		**Basis**		**Diff midpoint**
Brent		Dated		+2.60
Forties		Dated		+1.80
Oseberg		Dated		+5.70
Ekofisk		Dated		+4.70
Troll		Dated		+6.70
WTI cif Rotterdam		Dated		+2.95
Freight adjustment				
WTI North Sea freight adjustment factor 31 Oct				1.42
WTI North Sea freight adjustment factor 1 Nov				1.47
North Sea quality premiums (QP) for 10 Nov-29 Nov				
Oseberg				+1.48
Ekofisk				+1.17
Troll				+1.89
North Sea Dated calculation				
	Anticipated Dated	**Add Diff midpoint**	**Subtract QP and freight**	**Price**
Brent component of Dated	87.33	+2.60		89.93
Forties component of Dated	87.33	+1.80		89.13
Oseberg component of Dated	87.33	+5.70	+1.48	91.55
Ekofisk component of Dated	87.33	+4.70	+1.17	90.86
Troll component of Dated	87.33	+6.70	+1.89	92.14
WTI component of Dated	87.33	+2.95	+1.42	88.86
North Sea Dated is the lowest component on each day				**88.86**

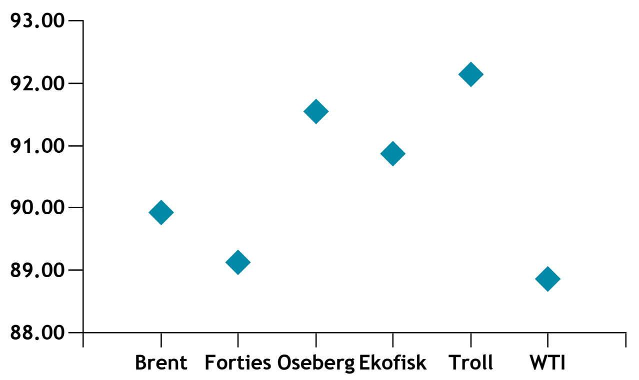
North Sea flat price
Argus derives a flat price from trade of a month-ahead forward contract for the delivery of Brent, Forties, Oseberg, Ekofisk, Troll and WTI on a cif Rotterdam basis, taking a weighted average of trade between 4:29pm and 4:30pm in London. In the absence of trade, a combination of 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.

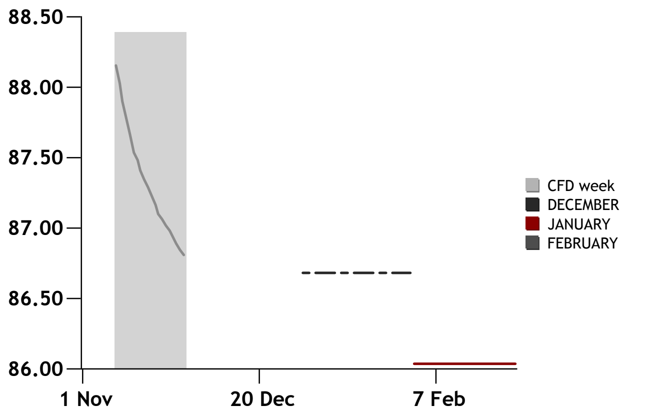
Physical differentials
Argus assesses trade in physical cargoes of Brent, Forties, Oseberg, Ekofisk, Troll and WTI crude, assigning differentials to North Sea Dated to each grade for the 10-days to month-ahead range.

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. Argus adjusts the WTI component by removing from the delivered price the freight cost to Rotterdam. The lowest-priced of the six components on each day is used to set the price of North Sea Dated.

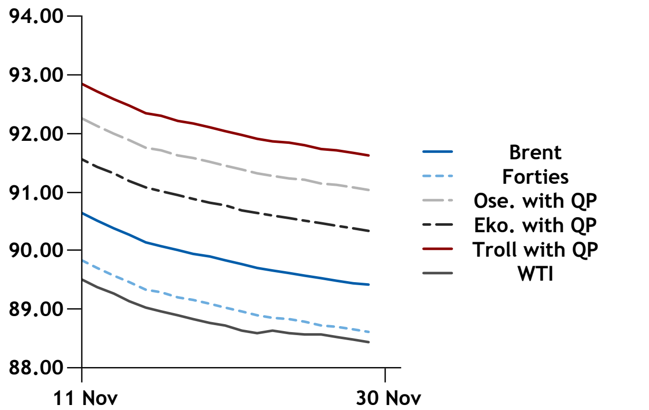
Components of North Sea Dated $/bl



North Sea forward curve establishing Anticipated Dated $/bl



Dated components-establishing North Sea Dated $/bl



NORTH SEA

Trafigura was looking for supplies of US crude WTI delivered to Europe, while Orlen closed a tender for its December requirements.

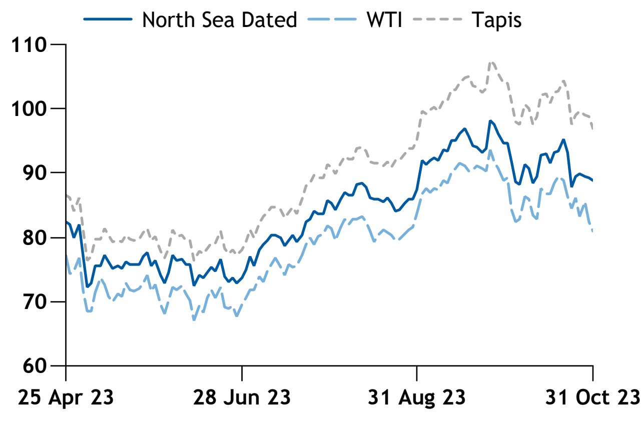
Trafigura was looking for three cargoes of WTI. The firm bid for a 12-16 November delivery at North Sea Dated +2.45 cif Rotterdam, for a 17-21 November arrival at Dated +2.65 cif Rotterdam and a 29 November — 3 December arrival at Dated +2.80 cif Rotterdam. The only offer came from BP, which was looking to place a 23-27 November WTI arrival on the Aframax *Green Adventure* at Dated +3.20 cif Rotterdam. The *Green Adventure* was headed to Houston as of 31 October and was expected to leave for Europe on 10-11 November, tracking data showed. No deals were struck for WTI.

On North Sea grades, Gunvor was looking for Forties crude loading on 12-14 November at Dated +1.40 fob Hound Point, 35¢/bl lower than Mercuria's bid in the previous session, to no avail. None of the window activity was confirmed.

Polish refiner Orlen (formerly PKN) was looking for December supplies delivered to Butinge and Gdansk. The company sought light sweet Statfjord, Gullfaks, Oseberg or Troll delivered to Gdansk on 3-7 December and on 6-10 December. Separately, the refiner was looking for a cargo delivered on 8-12 December to Gdansk. The list of grades eligible for Butinge included North Sea benchmark grades Brent, Forties, Ekofisk and Oseberg, as well as non-benchmark crudes Gullfaks, Statfjord, Johan Sverdrup and Flotta Gold. North Sea crude will compete with US light sweet grades WTI, Bakken and Eagle Ford, as well as Algerian Saharan Blend and Tunisian Zarzaitine in the tender.

Traders said Orlen might have bought a cargo of Johan Sverdrup from Equinor for delivery at Butinge, but this was not confirmed. Results for delivery to Gdansk were slow to surface.

North Sea Dated, WTI, Tapis $/bl



North Sea					$/bl
	Basis	Diff	Bid	Ask	±
Dated*	Jan	+2.18	88.83	88.89	-0.42
Dated BFOET**	Jan	+2.45	89.10	89.16	-0.36
Argus Brent Sour	Dated	-0.03	88.80	88.86	-0.36
Brent†	Dated	+2.60	91.43	91.49	-0.42
Forties	Dated	+1.80	90.63	90.69	-0.42
Oseberg	Dated	+5.70	94.53	94.59	-0.42
Ekofisk	Dated	+4.70	93.53	93.59	-0.42
Troll	Dated	+6.70	95.53	95.59	-0.42
Statfjord cif Rotterdam	Dated	+6.90	95.73	95.79	-0.42
Statfjord fob platform	Dated	+5.95	94.78	94.84	-0.42
Gullfaks cif Rotterdam	Dated	+7.70	96.53	96.59	-0.42
Gullfaks fob platform	Dated	+6.75	95.58	95.64	-0.42
Flotta Gold	Dated	+3.00	91.83	91.89	-0.42
Grane	Dated	+3.40	92.23	92.29	-0.42
Johan Sverdrup	Dated	+1.50	90.33	90.39	-0.42

**Argus North Sea Dated is the equivalent of Platts Dated Brent*
***Dated BFOET is a Dated illustration, which excludes WTI.*
†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			
Dec	Ice	-0.45			
Jan	Ice	+0.13			
Ice minute markers					
				1-minute	±
Dec				87.76	-0.26
Jan				86.43	-0.18
Feb				85.79	-0.04
Dated CFDs, Singapore close					
		Basis	Bid	Ask	±
6 Nov-10 Nov		Jan	+1.75	+1.83	+0.15
13 Nov-17 Nov		Jan	+1.06	+1.14	+0.07
20 Nov-24 Nov		Jan	+0.60	+0.68	+0.04
27 Nov-1 Dec		Jan	+0.26	+0.34	-0.04
Dated CFDs, London close					
6 Nov-10 Nov		Jan	+1.67	+1.75	-0.08
13 Nov-17 Nov		Jan	+0.82	+0.90	-0.24
20 Nov-24 Nov		Jan	+0.38	+0.46	-0.22
27 Nov-1 Dec		Jan	+0.09	+0.17	-0.17
4 Dec-8 Dec		Jan	-0.11	-0.03	-0.07
11 Dec-15 Dec		Jan	-0.32	-0.24	+0.01
Delivered northwest Europe assessments					
	Basis	Diff	Bid	Ask	±
WTI cif Rotterdam (period 1)*	Dated	+2.95	91.78	91.84	-0.42
WTI cif Rotterdam (period 2)*	Dated	+3.05	91.88	91.94	-0.42

**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

Orlen runs the 373,000 b/d Plock refinery and the 210,000 b/d Gdansk refinery, both of which largely import supplies from the Gdansk terminal. Butinge is connected to the firm's 190,000 b/d Mazeikiai plant. Orlen also has refining capacity in the Czech Republic through its subsidiary Unipetrol, for which it seeks supplies through Italy's Trieste.

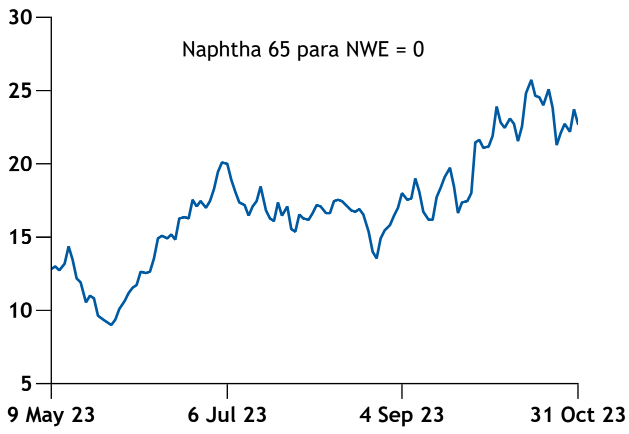
December loading programmes for niche grades surfaced. Exports of light sweet niche Njord will average 65,000 b/d in December, or five cargoes of 400,000 bl each, up from three cargoes in November's programme. Equinor took 70pc of Njord produced in the last 12 months to its Mongstad refinery.

Several cargoes of niche medium sweet grades will load in December, including one 400,000 bl cargo of Norne, steady on November, two cargoes of Martin Linge of the same size, up from one shipment in November, and a 600,000 bl of Gina Krog — a delayed October shipment.

On heavy sour crudes, December programmes show three cargoes of Heidrun of 630,000-660,000 bl each, and two 350,000 bl cargoes of Mariner, after just one Mariner shipment in November. Nearly 70pc of Mariner goes to the US, mainly to Chevron's Pascagoula refinery, while Heidrun mostly stays in northwest Europe.

Forward prices inched down. The *Argus* January North Sea price was $86.68/bl, down by 12¢/bl from the previous session, based on 400,000 bl of trade in the minute leading up to the timestamp. CFD also declined. The front-week 6-10 November CFD shed 8¢/bl to January North Sea +$1.71/bl, while the second-week 13-17 November CFD decreased by 24¢/bl to January North Sea +86¢/bl.

Ekofisk vs naphtha 65 para NWE cif $/bl



North Sea				$/bl
North Sea quality premiums (QP)				
			Oct	Nov
Ekofisk			0.87	1.17
Oseberg			0.97	1.48
Troll			1.32	1.89
De-escalators				
Sulphur				0.30
North Sea calculations				
			Basis	Price
Volume-weighted average of North Sea partial traded			Jan	86.68
Ice Brent marker			Jan	86.43
Exchange of futures for physical (EFP)			Jan	+0.13
North Sea basis (flat price)			Jan	86.68
Anticipated Dated based on 10 days-month ahead CFD strip:				
			Price	±
10 Nov-29 Nov			87.33	-0.36
Argus Brent component of Dated			89.93	-0.36
Argus Forties component of Dated			89.13	-0.36
Argus Oseberg component of Dated (QP applied)			91.55	-0.36
Argus Oseberg component of Dated (no QP applied)			93.03	-0.36
Argus Ekofisk component of Dated (QP applied)			90.86	-0.36
Argus Ekofisk component of Dated (no QP applied)			92.03	-0.36
Argus Troll component of Dated (QP applied)			92.14	-0.36
Argus WTI component of Dated (QP applied)			88.86	-0.42

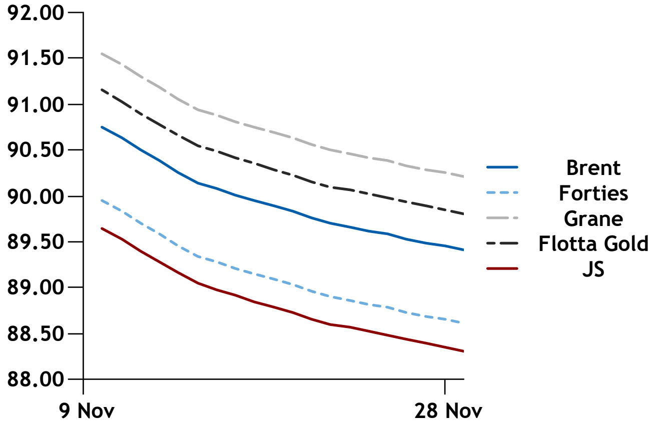
**the lowest component on each day of the 10-day - month-ahead assessment period sets Dated.*

Argus alternative Dated illustration				
	Basis	Diff	Price	±
Argus Dated Average	Jan	+4.49	91.170	-0.370
Dated to Ice Brent frontline, London close				
		Bid	Ask	±
Nov		+1.07	+1.15	-0.22
Dec		+0.45	+0.53	-0.17
Jan		+0.34	+0.42	-0.12
Feb		+0.33	+0.41	-0.05
1Qc"		+0.33	+0.41	-0.07
2Qc"		+0.27	+0.35	-0.05
2024		+0.25	+0.31	-0.06
Ice Bwave, 30 Oct 23				
Jan				88.21
Feb				87.41
Mar				86.71
Saudi formula base				88.88

ARGUS BRENT SOUR

Argus Brent Sour calculation			$/bl
Anticipated Dated			87.33
Argus Brent Sour calculation			
Components of Argus Brent Sour	**Anticipated Dated**	**Add Diff midpoint**	**Price**
Brent	87.33	+2.60	89.93
Forties	87.33	+1.80	89.13
Grane	87.33	+3.40	90.73
Flotta Gold	87.33	+3.00	90.33
Johan Sverdrup fob Mongstad	87.33	+1.50	88.83
Argus Brent Sour is the lowest component on each day of the assessment period			**88.83**

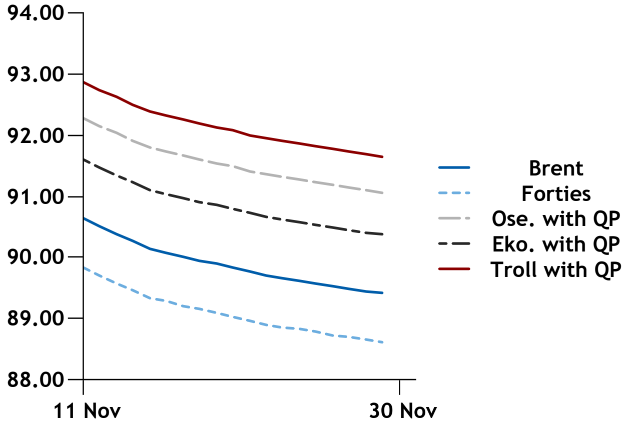
Components of Argus Brent Sour



ALTERNATIVE NORTH SEA DATED ILLUSTRATIONS

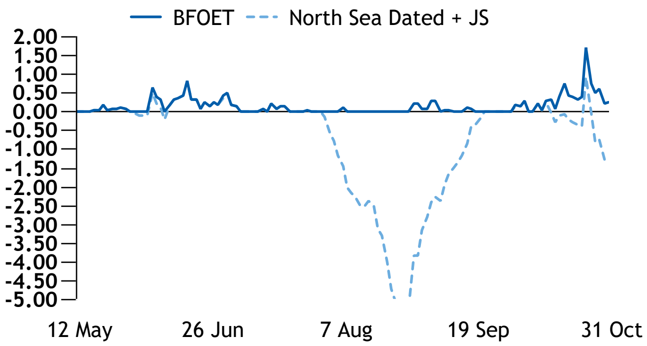
Dated BFOET calculation				$/bl
Anticipated Dated				87.33
Dated BFOET quality premiums (QP) for 10 Nov-29 Nov				
Oseberg				+1.45
Ekofisk				+1.14
Troll				+1.86
BFOET calculation				
Components of Dated BFOET	**Anticipated Dated**	**Add Diff midpoint**	**Subtract QP**	**Price**
Brent	87.33	+2.60		89.93
Forties	87.33	+1.80		89.13
Oseberg	87.33	+5.70	+1.45	91.58
Ekofisk	87.33	+4.70	+1.14	90.89
Troll	87.33	+6.70	+1.86	92.17
Dated BFOET is the lowest component on each day of the assessment period				**89.13**

Components of Dated BFOET



North Sea Dated + JS calculation				$/bl
Anticipated Dated				87.33
North Sea quality adjustments (QA) for 10 Nov-29 Nov				
Oseberg				+1.48
Ekofisk				+1.17
Troll				+1.89
Johan Sverdrup fob Mongstad				+1.17
North Sea Dated + JS calculation				
Components of North Sea Dated + JS	**Anticipated Dated**	**Add Diff midpoint**	**Subtract QA**	**Price**
Brent	87.33	+2.60		89.93
Forties	87.33	+1.80		89.13
Oseberg	87.33	+5.70	+1.48	91.55
Ekofisk	87.33	+4.70	+1.17	90.86
Troll	87.33	+6.70	+1.89	92.14
Johan Sverdrup fob Mongstad	87.33	+1.50	+1.17	87.66
North Sea Dated is the lowest component on each day of the assessment period				**87.66**

Dated illustrations vs North Sea Dated



RUSSIA-CASPIAN

Greek refiner Helleniq Energy picked up Caspian CPC Blend for its December requirements via a tender in the latest session, while Russian Urals loading from Baltic ports firmed.

Traders said Helleniq picked up a cargo of CPC Blend from Shell. The tender results were not confirmed, and details on price were slow to surface. Helleniq had initially sought an 85,000t or 135,000t cargo for 7-9 December delivery to the port of Pachi Megara or Thessaloniki.

More of the light sour crude looked set to head on a long-haul voyage east of the Suez canal, according to shipping reports. The *Suez Ice Supreme* loaded around 1mn bl of crude from the CPC-R marine terminal on Russia's Black Sea coast on 31 October for delivery to Sikka, connected to the private-sector refiner Reliance Industries 1.2mn b/d refinery complex at Jamnagar and to state-controlled BPCL's 156,000 b/d Bina plant. The fixture was not confirmed and could still fail.

CPC Blend exports averaged 1.39mn b/d from January to September 2023, with *Argus* tracking data indicating that around 79,000 b/d, or 6pc, were shipped to the northwest Indian port of Sikka.

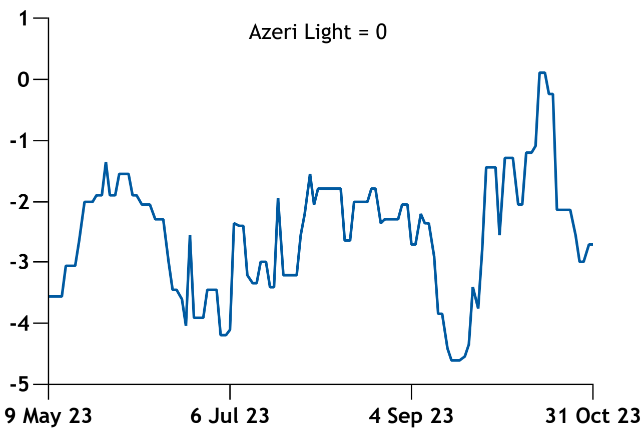
On Russian supplies, traders pegged medium sour Urals cargoes shipped out of Primorsk and Ust-Luga in November at slightly stronger levels of around North Sea Dated -14.50 fob, up 5¢/bl from previous assessments.

Further afield, traders said Urals cargoes landing on India's west coast were priced at Dated -5.15 dap, down from around Dated -4.55 towards the end of last week. A recent surge in freight rates has exerted pressure on Urals' values, according to traders.

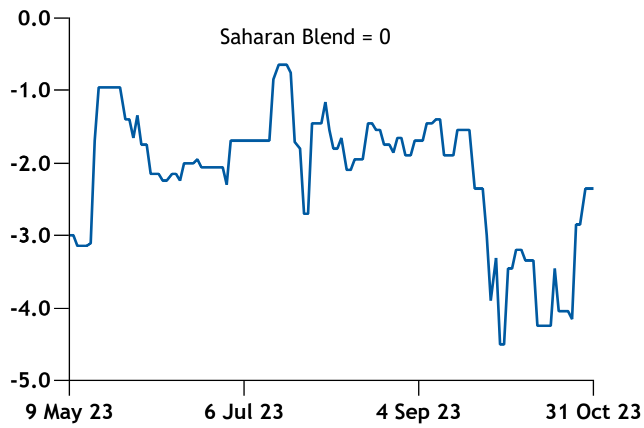
Traders said there was little demand for Russia's Siberian Light, with the lighter grade assessed no higher than Russian Urals crude in the Black Sea. Bids for the crude were heard as low as Dated -14.50 on a fob Novorossiysk basis, though

Russia-Caspian					*$/bl*
	Basis	Diff	Bid	Ask	±
fob Russia					
Urals fob Primorsk	Dated	-14.50	74.33	74.39	-0.17
Urals fob Ust-Luga	Dated	-14.50	74.33	74.39	-0.17
Urals Aframax fob Novo	Dated	-13.30	75.53	75.59	-0.42
Urals Suezmax fob Novo	Dated	-13.50	75.33	75.39	-0.42
Siberian Light fob Novo	Dated	-13.50	75.33	75.39	-4.37
Urals dap West Coast India	Dated	-5.15	83.68	83.74	-1.02
Urals dap West Coast India	Dubai	-2.40	83.68	83.74	-1.02
Delivered					
Kebco cif Augusta	Dated	+2.15	90.98	91.04	-0.42
Kebco Aframax fob Novo	Dated	-4.148	84.71	84.72	-0.89
Kebco Suezmax fob Novo	Dated	-2.169	86.66	86.73	-0.42
CPC Blend cif Augusta	Dated	-1.35	87.48	87.54	-0.42
BTC Blend cif Augusta	Dated	+5.25	94.08	94.14	-0.42
Azeri Light cif Augusta	Dated	+5.05	93.88	93.94	-0.42
Netforwards					
Urals NWE cif Rotterdam	Dated	-11.15	77.68	77.74	-0.31
Urals Med Aframax cif Augusta	Dated	-6.99	81.84	81.90	+0.05
Urals Med Suezmax cif Augusta	Dated	-10.57	78.26	78.32	-0.42
Siberian Light cif Augusta	Dated	-7.19	81.64	81.70	-3.90
Netbacks					
Urals cif Black Sea	Dated	-11.05	77.78	77.84	-0.16
CPC fob terminal	Dated	-6.26	82.57	82.63	-0.84
BTC fob Ceyhan	Dated	+2.49	91.32	91.38	-0.54
Azeri Light fob Supsa	Dated	+0.33	89.16	89.22	-0.85
Retrospective netbacks					
Urals fob Primorsk	Dated	-13.20	75.63	75.69	-0.43
Urals fob Ust-Luga	Dated	-13.20	75.63	75.69	-0.43
Urals fob Novo (Aframax)	Dated	-11.90	76.93	76.99	-0.42
CPC Blend fob	Dated	-4.76	84.07	84.13	-0.42
Turkish straits demurrage					
Delay *days*					11.00
Aframax demurrage rate *$/d*					65,000
Suezmax demurrage rate *$/d*					90,000

Bonny Light vs Azeri Light *$/bl*



CPC Blend vs Saharan Blend *$/bl*



RUSSIA-CASPIAN

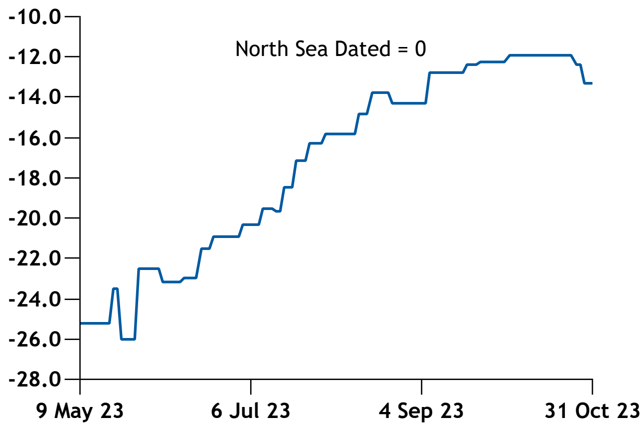
trade was said to be muted. The grade was discussed last week as high as Dated -9.55 on the same sale terms.

Russian seaborne crude exports to China rose by 21pc on the month to 1.29mn b/d in September, according to *Argus* tracking data. The increase, the highest since June, mainly reflects the redirection of supplies away from India. Gazpromneft, Rosneft, Surgutneftegaz, and trading company Demex were the key Russian crude suppliers to China in September.

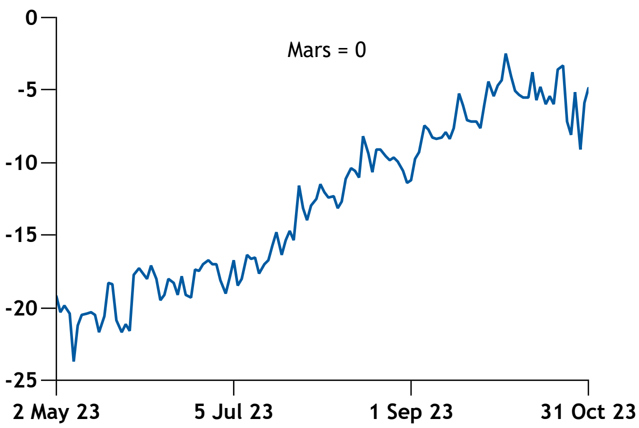
Druzhba pipeline — Urals (monthly prices)					$/bl
	Basis	Diff low	Diff high	Low	High
Slovakia					
Sep	Monthly avg of Dated	-9.75	-9.73	84.21	84.23
Aug	Monthly avg of Dated	-10.16	-10.16	76.02	76.02
Jul	Monthly avg of Dated	-18.03	-17.97	62.06	62.12
Hungary					
Sep	Monthly avg of Dated	-9.75	-9.60	84.21	84.36
Aug	Monthly avg of Dated	-10.16	-9.95	76.02	76.23
Jul	Monthly avg of Dated	-18.03	-17.97	62.06	62.12

North Sea Dated month average	$/bl
Sep	93.964
Aug	86.18
Jul	80.09

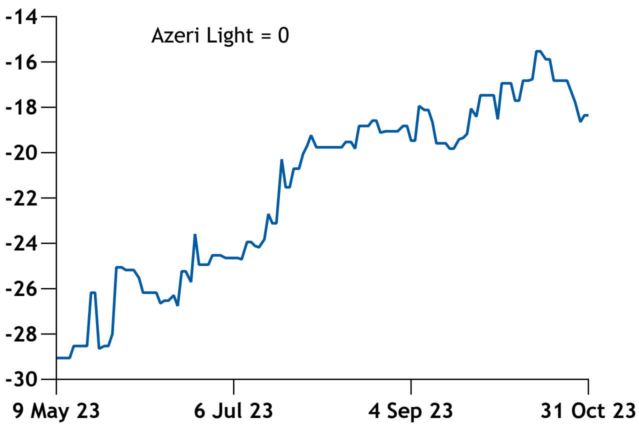
Urals fob Novo vs North Sea Dated *$/bl*



Urals fob Novo vs Mars *$/bl*



Urals fob Novo vs Azeri Light *$/bl*



Ending Russian cif Rotterdam, cif Augusta crude prices

Following consultation, *Argus* will discontinue Urals cif Rotterdam, Urals Med Aframax cif Augusta and Urals Med Suezmax cif Augusta, and Siberian Light Med cif Augusta prices on 1 January 2024. Fob assessments for the grades will continue to be published. For any queries, please contact crude editor Michael Carolan at michael.carolan@argusmedia.com

MEDITERRANEAN

Libya's state-owned firm NOC decreased the official formula prices for its November-loading sweet crude grades but left its prices for sour grades unchanged from October.

NOC cut the official November prices for its 10 sweet crudes by 20-70¢/bl on the month. Formula prices for Libya's two biggest exports streams, Es Sider and Esharara, were reduced by a respective 70¢/bl and 20¢/bl, leaving them at premiums of 30¢/bl and 50¢/bl to the North Sea Dated benchmark. Last week Algeria's state-owned Sonatrach trimmed the November price of Saharan Blend crude, Esharara's closest regional competitor, by 40¢/bl.

Narrower refining margins and higher freight rates in Europe are likely to have weighed on demand for middle distillate-rich Es Sider. There is also an overhang of unsold November-loading cargoes of Libyan crude as well as west African grades, according to traders.

Prices for Libya's sour grades, Bouri and Al-Jurf, were left unchanged on the month, possibly reflecting tight sour supplies globally.

Meanwhile, Algeria's Sonatrach and Libya's NOC are to hold a high-level meeting on 7 November in Tripoli where discussions on Sonatrach resuming its contractual commitments will take place. Sonatrach holds a 50pc stake in Area 65 and a 50pc stake in Areas 95 and 96 in the Ghadames basin, all of which contain several discoveries. The Algerian state-run firm was forced to abandon activities in the country in 2014 because of the deteriorating security situation. Sonatrach's return would provide a boost of confidence to Libya's upstream sector, which has seen little exploration since its 2011 civil war.

Elsewhere, Polish refiner Orlen — formerly PKN Orlen — was said to have overlooked Tunisian Zarzaitine and Algerian Saharan Blend in a buy tender closed in the latest session for 8-12 December delivery to its Butinge terminal, in Lithuania. Orlen instead opted for medium sour Johan Sverdrup from Norwegian state-owned Equinor, traders said. The results were not confirmed and further details did not surface.

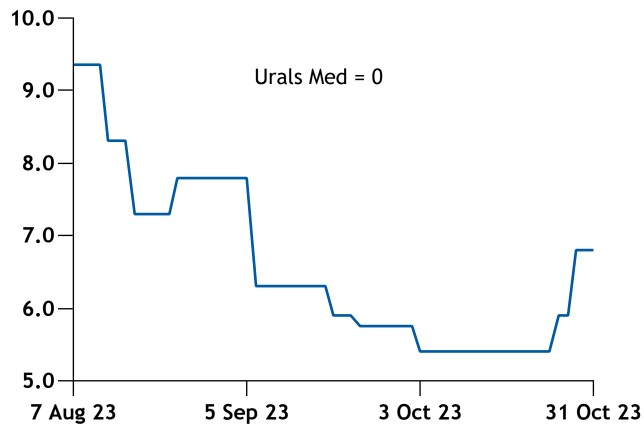
Saharan Blend exports to Lithuania averaged nearly 5,000 b/d in the first nine months of 2023, double the amount shipped to the Baltic country over January-September last year, according to *Argus* tracking data. Prior to 2022, no Saharan Blend cargoes had headed to Lithuania since 2015.

The EU embargo on seaborne imports of Russian crude has resulted in European refiners having to turn to alternatives to Urals, but several buyers have also opted to replace some volumes of the sour Russian grade with sweet substitutes.

Mediterranean					$/bl
	Basis	Diff	Bid	Ask	±
Saharan Blend	Dated	+1.00	89.83	89.89	-0.42
Zarzaitine	Dated	+0.75	89.58	89.64	-0.42
Es Sider	Dated	-0.20	88.63	88.69	-0.42
Kirkuk	Dated	-6.50	82.33	82.39	-0.42
Basrah Medium fob (Med)	Somo	-0.70	86.98	87.04	-0.42
Basrah Heavy fob (Med)	Somo	-1.00	84.08	84.14	-0.42
Iranian Light fob Sidi Kerir	Dated	+0.38	89.21	89.27	-0.42
Iranian Heavy fob Sidi Kerir	Dated	-2.42	86.41	86.47	-0.42
Suez Blend	Dated	+0.25	89.08	89.14	-0.42

Official formula prices				$/bl
	Basis			
Algeria		**Sep**	**Oct**	**Nov**
Saharan Blend	Dated	1.25	2.15	1.75
Syria		**Aug**	**Sep**	**Oct**
Syrian Light	Dated	na	na	na
Souedie	Dated	na	na	na
Libya		**Sep**	**Oct**	**Nov**
Al-Jurf	Dated	-0.45	-0.15	-0.15
Amna	Dated	0.95	1.55	0.9
Bouri	Dated	-1.95	-1.65	-1.65
Brega	Dated	-0.7	-0.3	-0.5
Bu Atiffel	Dated	0.8	1.2	0.7
Es Sider	Dated	0.35	1	0.3
Esharara	Dated	0.3	0.7	0.5
Mellitah	Dated	-0.65	-0.35	-0.55
Mesla	Dated	-0.2	0.2	-0.3
Mesla ex Ras Lanuf	Dated	na	na	na
Sarir	Dated	-1.7	-1.2	-1.9
Sirtica	Dated	0	0.4	-0.25
Zueitina	Dated	0.1	0.4	0.2

Kirkuk vs Urals fob Novo $/bl



WEST AFRICA

Nigeria's NNPC raised November formula prices for its medium sweet grades.

The state-owned firm raised next month's official formula prices for two-thirds of its crude grades, despite a backlog of unsold November-loading cargoes and ample availability of competing European crudes weighing on differentials.

The November price of flagship Qua Iboe has been cut by 9¢/bl on the month to a premium of $3.88/bl to the North Sea Dated benchmark. The price of similar-quality Bonny Light was raised by $22¢/bl though, and now stands at its highest premium to Dated since September 2022.

Formula prices for Nigeria's medium sweet grades were raised across the board, notably for Forcados, which has been increased by $1.61/bl compared with October to a $5.05/bl premium to Dated. NNPC has raised the formula price of similar-quality Escravos by $88¢/bl to a $6.20/bl premium. Bonga and Egina were raised by $1.27/bl and $1.19/bl on the month, respectively, to premiums of $6.28/bl and $7.44/bl.

The November formula prices were significantly above some traders' expectations, coming against a backdrop of rising freight costs and a recent drop in European gasoline margins.

Meanwhile, eight unconfirmed offers emerged in the afternoon window.

China's Unipec offered a 950,000 bl cargo of Dalia loading on 1-2 December at Dated -0.60 fob, down from Dated +0.20 fob, without enticing a buyer. ExxonMobil also publicly offered a 950,000 bl cargo of Dalia, loading on 10-11 December at Dated +0.10 fob, but withdrew the offer after lowering the price to Dated -0.05 fob.

Unipec offered a 950,000 bl cargo of Mostarda loading on 22-23 December from Dated flat on fob sale terms down to Dated -0.40 fob, to no avail. The firm also offered a 950,000 bl cargo of Olombendo loading on 29-30 December at Dated +2.50 fob, before lowering the price to Dated +2.10 fob.

ExxonMobil was seeking buyers for a 950,000 bl cargo of Hungo loading on 13-14 December at Dated +0.10 fob, lowering its indication to Dated -0.35, without enticing a buyer. The firm offered the same sized shipment of Kissanje loading between 22-23 December at Dated +0.90 fob, before lowering the offer to Dated +0.45 fob, without any firm deals.

Vitol was seeking buyers for a 950,000 bl cargo of Okwuibome arriving on 1-5 December at Dated +5.50 cfr Augusta, down to Dated +5.15 cfr. The firm also floated an offer for a 950,000 bl of Rabi Light aboard the Suezmax *Euronike*, for delivery on 1-15 December at Dated +4.00 cfr Augusta or Rotterdam, before lowering it to Dated +3.65 cfr.

West Africa					$/bl
	Basis	Diff	Bid	Ask	±
Agbami	Dated	-2.00	86.83	86.89	-0.42
Amenam	Dated	-1.50	87.33	87.39	-0.42
Bonga	Dated	+4.50	93.33	93.39	-0.42
Bonny Light	Dated	+2.35	91.18	91.24	-0.42
Brass River	Dated	+3.50	92.33	92.39	-0.42
CJ Blend	Dated	+0.30	89.13	89.19	-0.42
EA Blend	Dated	+3.60	92.43	92.49	-0.42
Egina	Dated	+6.45	95.28	95.34	-0.42
Erha	Dated	+4.30	93.13	93.19	-0.42
Escravos	Dated	+4.90	93.73	93.79	-0.42
Forcados	Dated	+3.15	91.98	92.04	-0.42
Qua Iboe	Dated	+2.75	91.58	91.64	-0.42
Usan	Dated	-3.10	85.73	85.79	-0.42
Cabinda	Dated	+3.00	91.83	91.89	-0.42
Dalia	Dated	-0.65	88.18	88.24	-1.02
Girassol	Dated	+4.50	93.33	93.39	-0.42
Hungo	Dated	-0.40	88.43	88.49	-0.77
Kissanje	Dated	+0.40	89.23	89.29	-0.77
Mostarda	Dated	-0.45	88.38	88.44	-1.27
Nemba	Dated	+0.30	89.13	89.19	-0.42
Zafiro	Dated	+1.40	90.23	90.29	-0.42
Jubilee	Dated	+2.10	90.93	90.99	-0.42
Doba	Dated	-2.10	86.73	86.79	-0.42
Djeno	Dated	-1.00	87.83	87.89	-0.42

Nigerian official formula prices				$/bl
	Basis	Sep	Oct	Nov
Abo	Dated	+2.01	+3.36	+3.74
Agbami	Dated	-0.96	-0.24	-0.26
Ajapa	Dated	+3.10	+5.32	+6.20
Aje	Dated	+1.79	+2.65	+2.40
Akpo	Dated	-0.96	-0.26	-0.23
Amenam	Dated	+0.03	+0.63	+0.43
Antan	Dated	+2.48	+3.98	+4.04
Asaramatoru	Dated	+2.02	+3.37	+3.29
Bonga	Dated	+3.46	+5.01	+6.28
Bonny Light	Dated	+1.57	+2.91	+3.13
Brass River	Dated	+0.95	+2.86	+2.94
CJ Blend	Dated	+1.63	+1.53	+1.16
EA	Dated	+4.15	+5.15	+6.05
Ebok	Dated	-1.61	-1.34	-0.78
Egina	Dated	+4.66	+6.25	+7.44
Eremor	Dated	-7.10	-7.48	-5.80
Erha	Dated	+3.20	+4.62	+5.48
Escravos	Dated	+3.00	+5.32	+6.20
Forcados	Dated	+2.13	+3.44	+5.05
Ima	Dated	+1.26	+1.35	-1.11
Jones Creek	Dated	+0.58	+1.02	+1.91
Obe	Dated	+0.91	+2.03	+1.70
Okono	Dated	+2.78	+4.29	+4.49
Okoro	Dated	+4.39	+5.96	+6.00
Okwori	Dated	+3.19	+5.17	+6.02
Okwuibome formula	Dated	+3.64	+5.49	+5.49
Otakikpo	Dated	+0.82	+1.36	+0.63
Oyo	Dated	+3.34	+4.90	+5.47
Pennington	Dated	+1.63	+3.26	+3.70
Qua Iboe	Dated	+2.44	+3.97	+3.88
Ukpokiti	Dated	+2.57	+3.98	+4.10
Usan	Dated	-2.94	-1.57	-1.15
Yoho	Dated	+2.54	+3.79	+3.64
Zafiro*	Dated	+1.40	+1.83	+1.36
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

The official selling price (OSP) for December-loading cargoes of medium sour Oman crude fell by $2.98/bl from November to $89.79/bl.

The December OSP is the monthly average of the daily Singapore marker prices for the front-month December Oman futures contract on the DME in October.

Light sour Murban fell back to a discount against medium sour Oman, with the front-month December Oman futures on DME 5¢/bl higher than December Murban futures on IFAD at the close of Asia trading day on 31 October.

Chinese private-sector refiner Rongsheng was heard to have bought 1mn bl of Murban from TotalEnergies late last

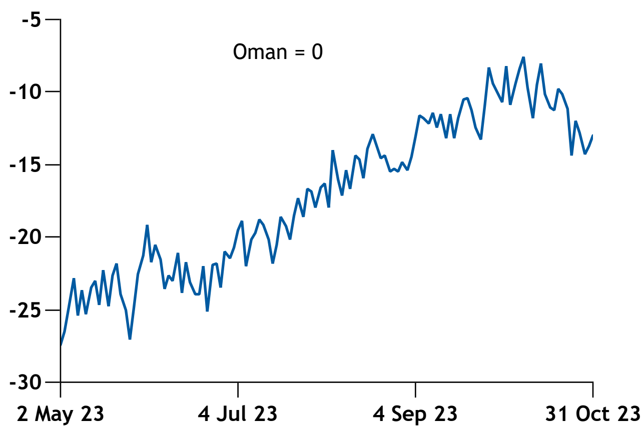
Mideast Gulf						$/bl
	Month	Basis	Diff	Bid	Ask	±
Dubai	Dec			88.44	88.54	-1.11
Oman	Dec	Dubai swaps	+2.09	88.47	88.57	-1.16
Murban	Dec	Dubai swaps	+2.04	88.42	88.52	-1.96
Das	Dec	Dubai swaps	+1.44	87.82	87.92	-1.96
Upper Zakum	Dec	Dubai swaps	+1.63	88.01	88.11	-0.99
Umm Lulu	Dec	Dubai swaps	+2.09	88.47	88.57	-1.96
Qatar Land	Dec	QP	+1.40	89.58	89.68	-1.02
Qatar Marine	Dec	QP	+0.70	88.78	88.88	-1.02
Qatar Al-Shaheen	Dec	Dubai swaps	+2.52	88.90	89.00	-1.02
Banoco Arab Medium	Dec	Aramco	0.00	90.88	90.98	-1.09
Basrah Medium fob Iraq†	Nov	Somo	+0.50	89.86	89.96	-1.38
Basrah Heavy fob Iraq†	Nov	Somo	+0.50	86.36	86.46	-1.38
DFC fob Qatar	Dec	Dubai swaps	-1.10	85.28	85.38	-1.02
LSC fob Qatar	Dec	Dubai swaps	-1.50	84.88	84.98	-1.02

†Asia-Pacific destination-restricted cargoes

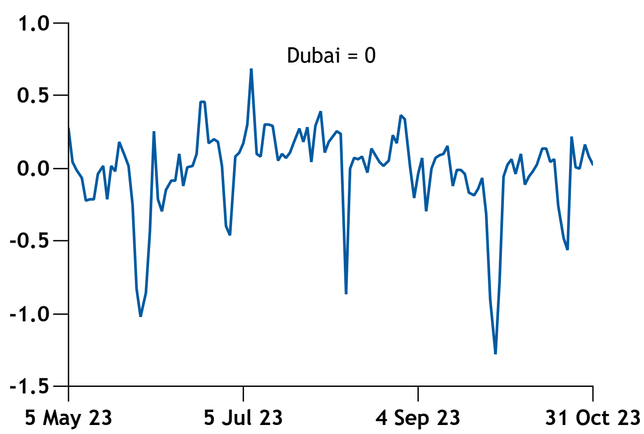
RGV differentials to Murban		$/bl
	Diff	±
Das	-0.40	-0.04
Upper Zakum	-2.23	+0.02
Umm Lulu	-0.77	-0.06
Qatar Land	-1.07	-0.04
Qatar Marine	-2.39	+0.03

Differentials to Murban, 4:30pm Singapore				$/bl
	Month	Basis	Diff	±
Mideast Gulf				
Dubai	Dec	Dec Murban	+0.02	+0.85
Oman	Dec	Dec Murban	+0.05	+0.80
Qatar Al-Shaheen	Dec	Dec Murban	+0.48	+0.94
Banoco Arab Medium	Dec	Dec Murban	+2.46	+0.87
Basrah Medium fob Iraq	Nov	Dec Murban	+1.44	+0.58
Basrah Heavy fob Iraq	Nov	Dec Murban	-2.06	+0.58
DFC fob Qatar	Dec	Dec Murban	-3.14	+0.94
LSC fob Qatar	Dec	Dec Murban	-3.54	+0.94
Russia Asia-Pacific				
ESPO Blend		Dec Murban	-6.04	+0.94
Substitute North Sea Dated		Dec Murban	+1.16	+1.06

Urals vs Oman *$/bl*



Oman vs Dubai *$/bl*

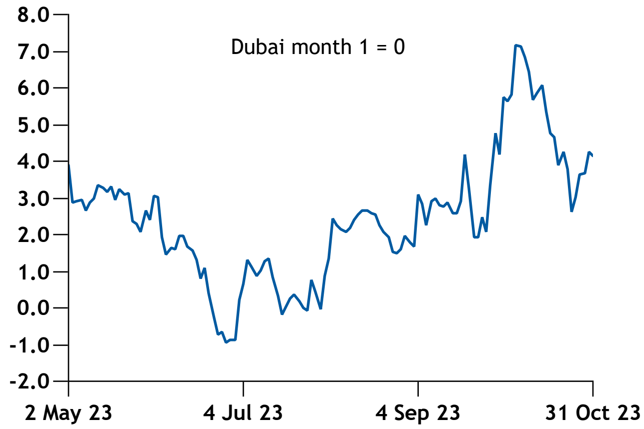


MIDEAST GULF

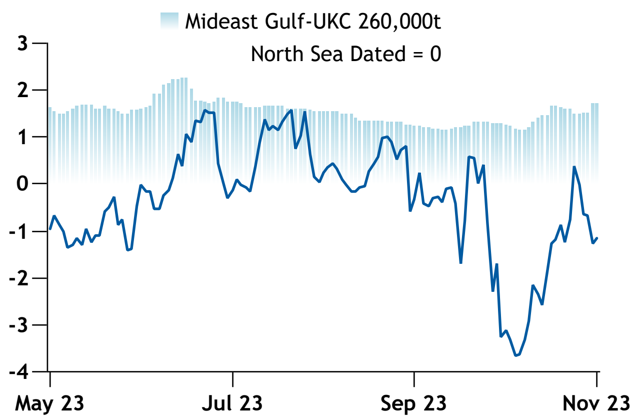
week but details were unclear.

December Dubai partials were heard to have traded around $87.90-88.70/bl.

Cabinda vs Dubai month 1 *$/bl*



Dubai vs North Sea Dated, MEG freight *$/bl*



Mideast Gulf				$/bl
		Bid	Ask	±
Dubai forward, 4:30pm Singapore				
Dec		88.44	88.54	-1.11
Jan		87.29	87.39	-1.11
Feb		86.38	86.48	-1.02
Mar		85.55	85.65	-1.03
Dubai forward, 4:30pm London				
Dec		87.66	87.74	-0.32
Jan		86.50	86.60	-0.32
Feb		85.59	85.69	-0.23
Mar		84.76	84.86	-0.24
Dubai intermonths, 4:30pm Singapore				
Dec/Jan			1.15	nc
Jan/Feb			0.91	-0.09
Feb/Mar			0.83	+0.01
Dubai swaps, 4:30pm Singapore				
Nov		87.29	87.39	-1.11
Dec		86.38	86.48	-1.02
Jan		85.55	85.65	-1.03
Feb		84.82	84.92	-1.03
Dubai swaps months are pricing months				
Dubai EFS, 4:30pm Singapore				
Dec			+1.83	-0.30
Jan			+1.36	-0.18
Feb			+1.32	-0.11
Ice Brent, 4:30pm Singapore				
Dec			88.26	-1.32
Jan			86.96	-1.21
Feb			86.19	-1.14
Mar			85.48	-1.12

Oman forward, 4:30pm Singapore	Diff	Dubai swaps	Bid	Ask	±
Dec	+2.09	Dec	88.47	88.57	-1.16
Jan	+1.68	Jan	87.23	87.33	-1.64
Feb	+1.68	Feb	86.50	86.60	-1.50

Methodology			$/bl
Dubai forward month calculator			
Ice Brent month 1	Dec		88.26
Dubai EFS month 1	Dec	-	+1.83
Dubai swap month 2*	Dec	=	86.43
Dubai forward month 3*	Feb	=	86.43
Dubai intermonth	Jan/Feb	+	0.91
Dubai forward month 2	Jan	=	87.34
Dubai intermonth	Dec/Jan	+	1.15
Dubai forward month 1	Dec	=	88.49

*Dubai swap month 2 = Dubai forward month 3

Oman forward month calculator	MOG formula	Dubai-Oman spread	Diff to Dubai swaps	Dubai swaps outright	Oman forward midpoint
Dec	0.00	+2.09	+2.09	86.43	88.52
Jan	0.00	+1.68	+1.68	85.60	87.28
Feb	0.00	+1.68	+1.68	84.87	86.55

ASIA-PACIFIC

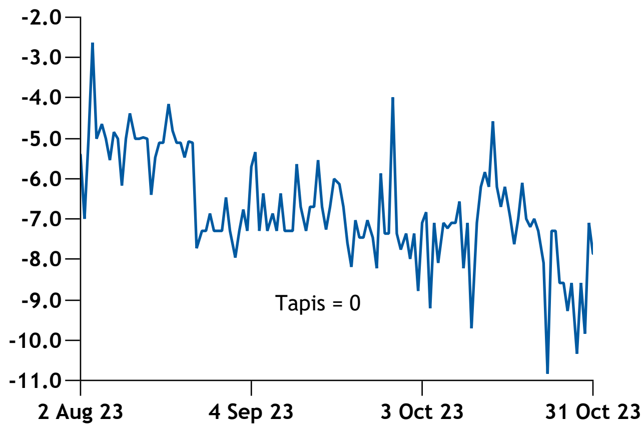
Spot premiums for December-loading Malaysian light sweet crude cargoes eased on the back of weaker middle distillates refining margins.

Trafigura sold a cargo of Malaysian light sweet Labuan crude loading in December at a premium slightly above $11/bl to North Sea Dated. A December-loading cargo of Labuan had traded earlier in October at a premium above $13/bl to Dated.

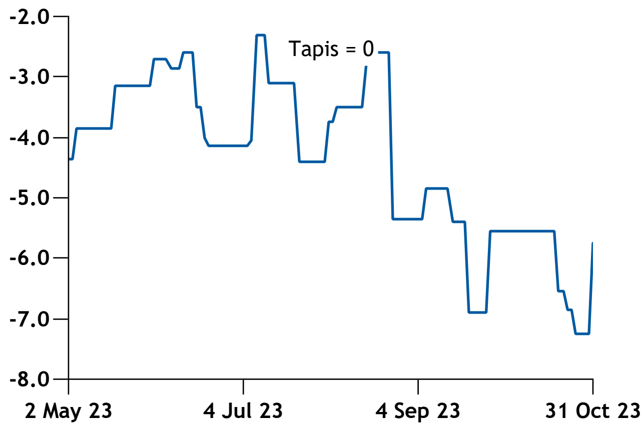
Three cargoes of Malaysian light sweet Miri Light crude loading in December have also been sold to Asia-Pacific refiners above an $8/bl premium to Dated.

Malaysia's state-owned Petronas awarded its tenders to sell December-loading Muda and Cakerawala condensate cargoes to Thai buyers. Petronas sold 300,000 bl of Muda loading on 13-19 December and 300,000 bl of Cakerawala loading on 12-21 December at discounts of $5-6/bl to Dated. August-loading Cakerawala traded at about a $6/bl discount to Dated.

Saharan Blend vs Tapis *$/bl*



Bonny Light vs Tapis *$/bl*



Asia-Pacific					$/bl
	Basis	Diff	Bid	Ask	±
Minas	ICP	+1.00	87.21	87.31	-1.32
Duri	ICP	+1.00	91.21	91.31	-1.32
Cinta	ICP	+0.30	84.81	84.91	-1.32
Widuri	ICP	+0.30	85.36	85.46	-1.32
Senipah	ICP	0.00	72.21	72.31	-1.32
Attaka	ICP	+1.50	86.01	86.11	-1.32
Ardjuna	ICP	0.00	83.51	83.61	-1.32
Belida	ICP	+1.00	85.51	85.61	-1.32
Sutu Den	Dated*	+5.85	94.66	94.76	-0.42
Bach Ho	Dated*	+5.85	94.66	94.76	-0.42
Tapis	Dated*	+8.10	96.91	97.01	-1.92
Kikeh	Dated*	+10.90	99.71	99.81	-1.92
Kimanis	Dated*	+11.00	99.81	99.91	-1.92
Labuan	Dated*	+11.80	100.61	100.71	-1.92
Miri Light	Dated*	+8.50	97.31	97.41	-1.92
Kutubu Light	Dated*	-5.00	83.81	83.91	-0.42
Cossack	Dated*	-5.00	83.81	83.91	-0.42
North West Shelf	Dated*	-8.75	80.06	80.16	-0.42
Ichthys	Dated*	-2.50	86.31	86.41	-0.42
Vincent	Dated*	+8.00	96.81	96.91	-0.42
Pyrenees	Dated*	+9.00	97.81	97.91	-0.42
Van Gogh	Dated*	+8.90	97.71	97.81	-0.42
Sudan					
	Basis	Diff	Bid	Ask	±
Nile Blend	Dated*	-2.40	86.41	86.51	-0.42
Dar Blend	Dated*	-4.00	84.81	84.91	-0.42

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

Benchmarks	
North Sea Dated	88.86
Substitute Dated	89.63
Tapis Singapore close	97.73

Argus Condensate Index (ACI)	
	$/bl
ACI, Qatar DFC	82.90
Qatar DFC cfr Singapore	86.66
Australia North West Shelf (NWS) cfr Singapore	82.90
DFC cfr differential to NWS cfr	4
	$/t
VLCC Qatar-Singapore freight	11.19
Aframax northwest Australia-Singapore freight	17.80

Argus Japanese Crude Cocktail Index					$/bl
	May	Jun	Jul	Aug	Sep
Argus JCC (fixed)	86.4502	82.1418	80.5191	82.1590	-
Argus JCC (preliminary)					86.4480

ASIA-PACIFIC

Delivered China

Congolese Djeno continued to strengthen on rising freight costs.

December-delivery Djeno rose to a $5.70/bl premium to February Ice Brent. The cost of shipping a 260,000 t cargo of Djeno to China rose by around 30¢/bl from the previous session. Other grades remained steady.

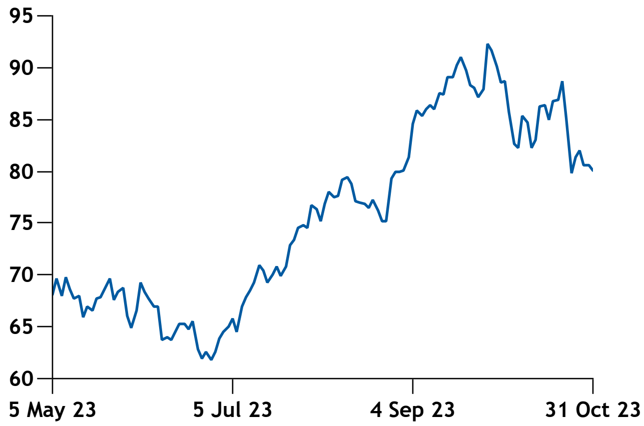
January-delivery Tupi was at a $3.40/bl premium to North Sea Dated in December, which equaled to a $4.90/bl premium over March Ice Brent.

Delivered Northeast Asia						$/bl
	Month	Basis	Diff	Bid	Ask	±
WTI del NE Asia	Jan	Dec Dubai	+6.70	93.08	93.18	-1.02

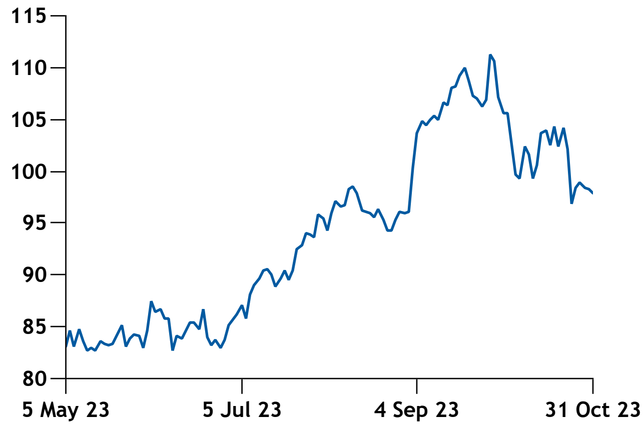
Delivered ex-ship Shandong prices							$/bl
Grade	Timing	Basis	Diff Mid	Low	High	Price	±
ESPO Blend	Dec	Feb Ice Brent	-0.25	85.69	86.19	85.94	-1.14
Djeno	Dec	Feb Ice Brent	+5.70	91.39	92.39	91.89	-0.74
Tupi	Jan	Mar Ice Brent	+4.90	89.88	90.88	90.38	-1.12
	Jan	Dec Dated	+3.40	na	na	na	nc
Johan Sverdrup	Jan	Mar Ice Brent	+7.50	90.48	95.48	92.98	-1.12
Oman	Nov	Jan Ice Brent	-12.00	74.46	75.46	74.96	-1.21

Mideast Gulf and Atlantic basin crude cfr Asia (fob plus freight)					
		Singapore		China	
	Month	$/bl	±	$/bl	±
Mideast Gulf					
Dubai	Dec	90.15	-0.87	90.96	-0.75
Oman	Dec	90.15	-0.93	90.96	-0.80
Murban	Dec	90.04	-1.74	90.82	-1.62
Upper Zakum	Dec	89.69	-0.75	90.49	-0.63
Umm Zulu	Dec	90.07	-1.74	90.84	-1.62
Qatar Marine	Dec	90.44	-0.78	91.23	-0.67
Al-Shaheen	Dec	90.61	-0.78	91.42	-0.66
Basrah Medium	Nov	91.59	-1.14	92.42	-1.01
Basrah Heavy	Nov	88.15	-1.12	89.00	-1.00
West Africa					
Cabinda	Dtd	95.76	-0.64	96.54	-0.57
Girassol	Dtd	97.29	-0.64	98.07	-0.57
Bonny Light	Dtd	95.07	-0.64	95.83	-0.58
Qua Iboe	Dtd	95.43	-0.65	96.19	-0.58
Escravos	Dtd	97.63	-0.64	98.40	-0.57
North Sea					
Forties	Dtd			96.15	-0.39
US Gulf coast					
WTI	Prompt	90.13	-1.40	90.61	-1.40
Mars	Dec	88.65	-1.61	89.17	-1.60
WCS	Dec	80.08	-1.29	80.63	-1.29

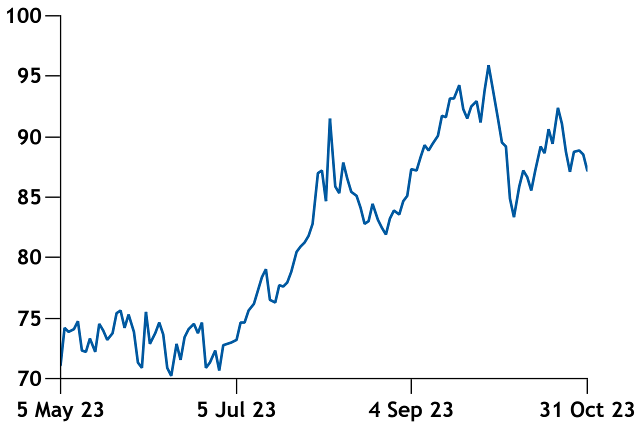
Northwest Shelf $/bl



Pyrenees $/bl



Minas $/bl



RUSSIA ASIA-PACIFIC

Seaborne loadings of Russian ESPO Blend from the far eastern port of Kozmino are set to rebound in October.

Vortexa data showed around 857,000 b/d of the grade loaded at Kozmino on 1-30 October, an increase from about 826,000 b/d that was lifted in September. The September exports were the lowest since June.

ESPO Blend flows from Kozmino to India resumed in October, after pausing in September. Around 52,000 b/d, or 6pc of the October ESPO Blend shipments, headed to the Indian northwest port of Sikka, Vortexa data showed. The remaining volumes headed to China, the main destination for ESPO Blend exports.

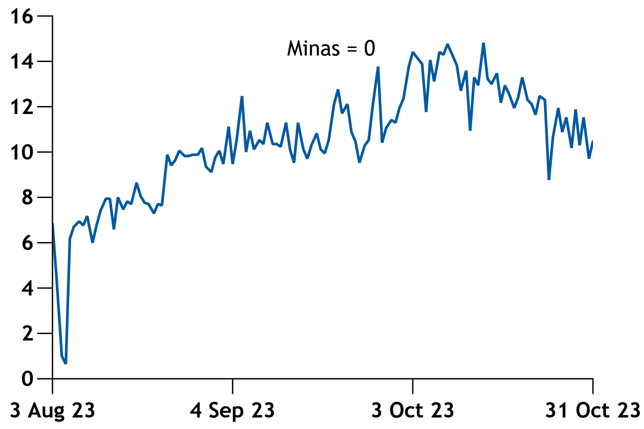
Assessment rationale

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.

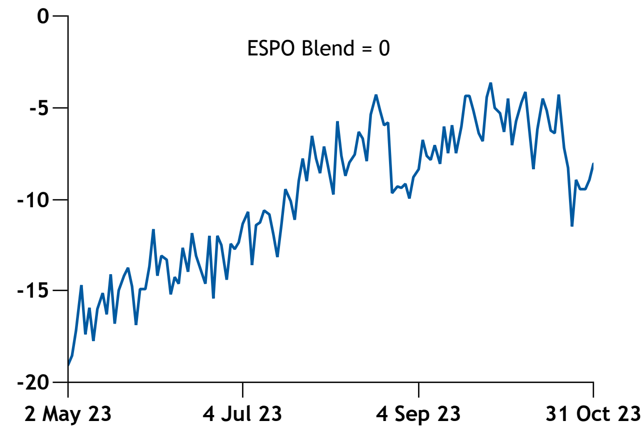
Russia Asia-Pacific						$/bl
	Basis		Diff	Bid	Ask	±
ESPO Blend	Dec	Dubai swaps	-4.00	82.38	82.48	-1.02
ESPO Blend*	Dec	Ice Brent	-5.83	82.38	82.48	-1.02
*Dec-loading cargoes						
Russia-Caspian crude cif basis Singapore						
				Bid	Ask	±
BTC Blend				96.47	96.53	-0.54
Urals (Black Sea)				81.71	81.77	-0.42

Dirty freight rates from Kozmino (ESPO) 100,000t	$/bl
	Rate
To Yeosu	1.84
To north China	2.30
To Chiba	2.30
To Singapore	2.84

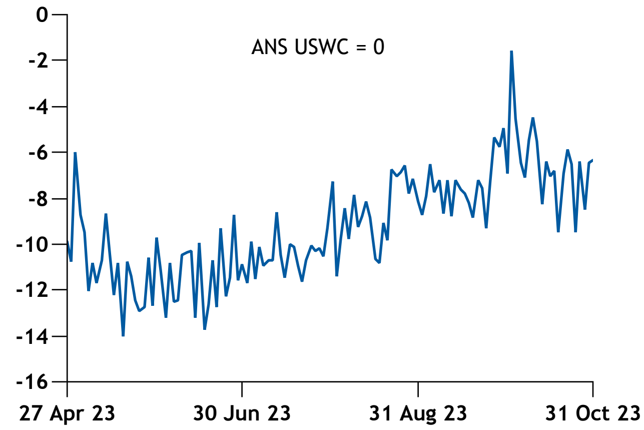
Tapis vs Minas $/bl



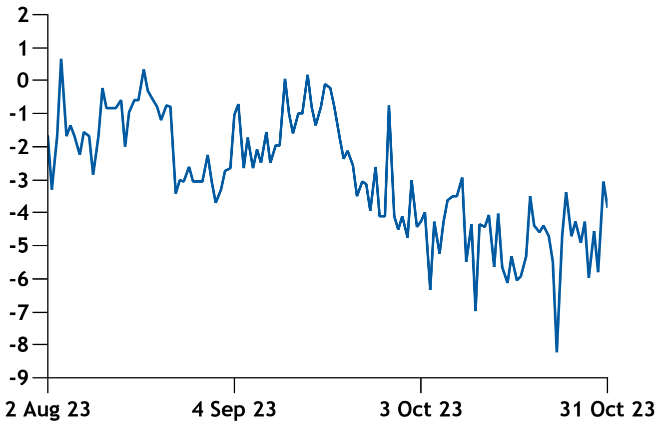
Urals fob Primorsk vs ESPO Blend $/bl



ESPO Blend vs ANS USWC $/bl



Azeri Light vs Tapis $/bl



OFFICIAL PRICES

Official formula prices $/bl

	Basis			
Saudi Arabia		**Sep**	**Oct**	**Nov**
Saudi Arabia to US: fob Ras Tanura				
Arab Extra Light	ASCI	+9.40	+9.60	+9.60
Arab Light	ASCI	+7.25	+7.45	+7.45
Arab Medium	ASCI	+7.95	+8.15	+8.15
Arab Heavy	ASCI	+7.50	+7.70	+7.70
Saudi Arabia to US: delivered US Gulf				
Arab Extra Light	ASCI	+10.70	+10.90	+10.90
Arab Light	ASCI	+8.55	+8.75	+8.75
Arab Medium	ASCI	+9.25	+9.45	+9.45
Arab Heavy	ASCI	+8.80	+9.00	+9.00
Saudi Arabia to NW Europe: fob Ras Tanura				
Arab Extra Light	Ice Brent Settlement	+7.40	+7.30	+8.50
Arab Light	Ice Brent Settlement	+5.80	+5.70	+7.20
Arab Medium	Ice Brent Settlement	+4.60	+4.50	+6.00
Arab Heavy	Ice Brent Settlement	+1.90	+1.80	+3.30
Saudi Arabia to Mediterranean: fob Sidi Kerir				
Arab Extra Light	Ice Brent Settlement	+6.35	+6.50	+8.10
Arab Light	Ice Brent Settlement	+4.55	+4.70	+6.70
Arab Medium	Ice Brent Settlement	+3.55	+3.70	+5.70
Arab Heavy	Ice Brent Settlement	+0.55	+0.70	+2.70
Saudi Arabia to Mediterranean: fob Ras Tanura				
Arab Extra Light	Ice Brent Settlement	+6.30	+6.20	+7.70
Arab Light	Ice Brent Settlement	+4.50	+4.40	+6.30
Arab Medium	Ice Brent Settlement	+3.50	+3.40	+5.30
Arab Heavy	Ice Brent Settlement	+0.50	+0.40	+2.30
Saudi Arabia to Asia-Pacific: fob Ras Tanura				
Arab Super Light	Oman/Dubai avg	+4.95	+5.45	+5.45
Arab Extra Light	Oman/Dubai avg	+2.55	+2.85	+3.35
Arab Light	Oman/Dubai avg	+3.50	+3.60	+4.00
Arab Medium	Oman/Dubai avg	+3.35	+3.45	+3.45
Arab Heavy	Oman/Dubai avg	+1.60	+1.70	+1.70
Iran		**Sep**	**Oct**	**Nov**
Iran to Mediterranean: fob Kharg Island				
Iranian Light	Ice Brent Settlement	+2.65	+2.55	+4.45
Iranian Heavy	Ice Brent Settlement	+0.20	+0.05	+1.95
Foroozan Blend	Ice Brent Settlement	+0.25	+0.15	+1.95
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	+4.15	+4.00	+5.40
Iranian Heavy	Ice Brent Settlement	+1.90	+1.75	+3.15
Foroozan Blend	Ice Brent Settlement	+1.95	+1.80	+3.15
Iran to Asia-Pacific: fob Kharg Island				
Iranian Light	Oman/Dubai avg	+3.45	+3.50	+3.85
Iranian Heavy	Oman/Dubai avg	+1.80	+1.75	+1.75
Foroozan Blend	Oman/Dubai avg	+1.75	+1.75	+1.85
Soroush	Oman/Dubai avg	-1.80	-1.75	-1.75
Nowruz	Oman/Dubai avg	-1.80	-1.75	-1.75
Kuwait		**Sep**	**Oct**	**Nov**
Kuwait to Asia-Pacific				
Kuwait	Oman/Dubai avg	+2.85	+3.05	+3.05
Kuwait to US				
Kuwait	ASCI	+7.95	+8.15	+8.15
Kuwait	Arab Medium	0.00	0.00	0.00
Kuwait to Mediterranean				
fob Kuwait	Dated	+2.10	+1.10	+2.50
fob Sidi Kerir	Dated	+2.40	+1.40	+2.80
Kuwait to northwest Europe				
fob Kuwait	Dated	+3.25	+2.25	+3.25

Official formula prices (continued) $/bl

	Basis			
Dubai		**Nov**	**Dec**	**Jan**
Dubai fob	Oman MOG OSP	0.00	+0.05	+0.05
Yemen fob Salif/Ash Shihr				
Marib Light	Dated	na	na	na
Masila	Dated	na	na	na
Iraq		**Sep***	**Oct***	**Nov†**
Iraq to Europe				
Kirkuk (fob Ceyhan)	Dated	+0.85	+0.75	+1.75
Basrah Medium	Dated	-2.05	-2.55	-1.15
Basrah Heavy	Dated	-4.80	-5.20	-3.75
Iraq to US				
Kirkuk (fob Ceyhan)	ASCI	1.35	1.35	1.35
Basrah Medium	ASCI	-0.55	-0.35	-0.25
Basrah Heavy	ASCI	-4.60	-4.40	-4.40
Iraq to Asia-Pacific				
Basrah Medium	Oman/Dubai avg	1.40	1.80	2.10
Basrah Heavy	Oman/Dubai avg	-1.90	-1.60	-1.40

Official selling prices $/bl

Abu Dhabi	**Sep**	**Oct**	**Nov**
Murban	80.78	87.28	93.92
Das premium to Murban	-0.60	-0.60	-0.60
Umm Lulu premium to Murban	+0.15	+0.20	+0.25
Upper Zakum premium to Murban	0.00	-0.60	-0.50
Qatar	**Sep**	**Oct**	**Nov**
Dukhan/Land premium to Oman/Dubai avg	+0.25		
Marine premium to Oman/Dubai avg	+0.65		
Dukhan/Land premium to Dubai avg		+1.30	+1.80
Marine premium to Dubai avg		+1.00	+1.70
Oman	**Oct**	**Nov**	**Dec**
Oman	86.57	92.77	89.79
Indonesia	**Jul**	**Aug**	**Sep**
Minas	79.02	86.50	93.88
Duri	83.63	89.78	97.91
Widuri	77.86	85.34	92.72
Belida	76.32	84.15	92.17
Attaka	76.53	84.06	92.10
Ardjuna	75.28	83.11	91.13
Cinta	77.31	84.79	92.17
Senipah	66.44	73.51	81.76
Malaysia	**Jul**	**Aug**	**Sep**
Tapis	83.29	90.41	98.26
MCO Alpha Premium	+6.40	+7.70	+9.55
Labuan	86.45	93.92	103.55
Miri	86.45	93.92	103.55
Kikeh	86.45	93.92	103.55
Bintulu	84.77	92.27	103.21
Dulang	88.15	96.10	105.67
Brunei	**Jun**	**Jul**	**Aug**
Seria Light	77.46	83.32	90.44
Champion	77.86	83.72	90.84

Reference prices $/bl

Opec reference basket monthly avg	**Jul**	**Aug**	**Sep**
Opec	81.06	87.33	94.60
Argus Japanese Crude Cocktail Index	**Jun**	**Jul**	**Aug**
Argus JCC	82.14	80.52	82.16

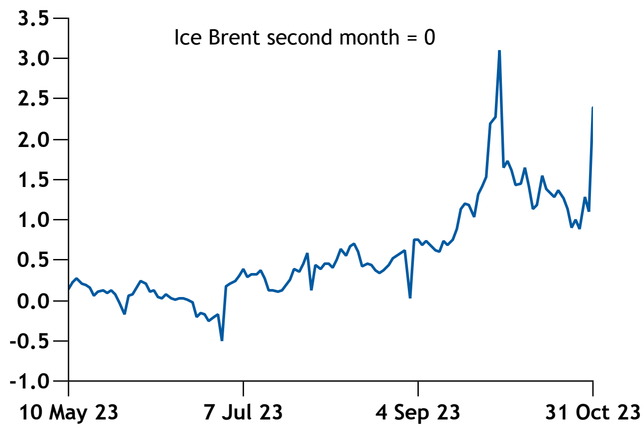
The Argus Japanese Crude Cocktail Index is created by Argus based on data published by the Customs and Tariff Bureau of Japan's Ministry of Finance.

FUTURES AND FORWARD MARKETS

Futures markets							$/bl
	Open	High	Low	S'pore*	London†	Settle	±
Ice Brent							
Dec	87.90	88.61	87.40	88.26	87.76	87.41	-0.04
Jan	86.66	87.39	84.77	86.96	86.43	85.02	-1.33
Feb	85.86	86.71	84.22	86.19	85.79	84.45	-1.17
**4:30pm Singapore minute marker, †4:30pm London minute marker*							
Nymex Light Sweet							
Dec	82.59	83.37	80.74	82.88	82.47	81.02	-1.29
Jan	81.96	82.77	80.26	82.26	81.87	80.50	-1.18
Feb	81.29	82.11	79.74	81.58	81.23	79.96	-1.03
Mar	80.65	81.47	79.21	80.91	80.62	79.42	-0.92
Dec 24						75.69	-0.54
Dec 25						71.86	-0.41
Dec 26						68.99	-0.27
Dec 27						66.60	-0.13
Dec 28						64.44	-0.10
DME Oman							
Dec				88.52			-1.16
Jan				87.28			-1.64
Feb				86.55			-1.50
Mar				85.88			-1.41
Volume *bl*				57,000			
IFAD Murban							
Dec				88.47			-1.96
Jan				87.70			-1.11
Feb				86.75			-1.17
Mar				85.94			-1.18
Volume *bl*				3,039,000			
Tocom Mideast Gulf (day session)							
Dec						86.25	-1.13
Jan						85.01	-0.83
Feb						83.84	-0.76
Mar						82.82	-0.76
Volume *bl*							790,945

INE crude futures				
Timing	Settle Yuan/*bl*	±	Settle $/*bl*	±
Nov	672.30	nc	93.66	nc
Dec	656.40	-9.90	91.45	-1.37
Jan	652.20	-9.70	90.86	-1.35
Feb	646.90	-10.10	90.12	-1.41
Volume *bl*				122,391,500

Ice Brent: First month vs second month $/bl



Forward markets			$/bl
	Bid	Ask	±
North Sea, Singapore close			
Dec	88.19	88.25	-1.41
Jan	86.88	86.96	-1.30
Feb	86.11	86.19	-1.23
Mar	85.40	85.48	nc
North Sea, London close			
Dated	88.83	88.89	-0.42
Dec	87.39	87.47	-0.62
Jan	86.65	86.71	-0.12
Feb	86.00	86.08	+0.02
Mar	85.38	85.46	nc
Dubai, Singapore close			
Dec	88.44	88.54	-1.11
Jan	87.29	87.39	-1.11
Feb	86.38	86.48	-1.02
Mar	85.55	85.65	-1.03
Dubai, London close			
Dec	87.66	87.74	-0.32
Jan	86.50	86.60	-0.32
Feb	85.59	85.69	-0.23
Mar	84.76	84.86	-0.24
WTI Cushing, 1:30pm Houston			
Dec	81.00	81.04	-1.29
Jan	80.48	80.52	-1.18
Feb	79.94	79.98	-1.03
Mar	79.40	79.44	-0.92

Intermonths	$/bl
	Mid
North Sea Singapore close	
Dec/Jan	1.300
Jan/Feb	0.770
Feb/Mar	0.710
North Sea London close	
Dec/Jan	0.750
Jan/Feb	0.640
Feb/Mar	0.620

Forward spreads 4:30pm London			$/bl
	N Sea/Dubai	WTI/N Sea	WTI/Dubai
Dec	-	-4.96	-5.23
Jan	-	-4.81	-4.68
Feb	0.40	-4.81	-4.41
Mar	0.61	-4.80	-4.19

DAILY NETBACKS

Northwest Europe (31 Oct)	Complex				Simple			$/bl
	Yield	Freight	Netback	± 30 Oct	Yield	Freight	Netback	± 30 Oct
Arab Light	100.18	1.71	98.47	+1.55	97.40	1.71	95.69	+1.50
Arab Heavy	92.16	1.77	90.39	+1.84	89.17	1.77	87.40	+1.49
Azeri	107.25	4.26	102.99	+1.26	104.08	4.26	99.82	+1.62
Bonny Light	109.25	4.38	104.87	+2.04	106.50	4.38	102.12	+2.11
Brass River	107.39	4.25	103.14	+1.87	105.01	4.25	100.76	+1.83
Brent	103.62	1.96	101.66	+1.41	100.18	1.96	98.22	+1.48
Es Sider	102.40	4.24	98.16	+1.21	99.17	4.24	94.93	+1.14
Forties	101.71	1.94	99.77	+0.79	99.53	1.94	97.59	+1.34
Iranian Light	99.50	1.70	97.80	+1.31	96.20	1.70	94.50	+1.26
Kirkuk	98.05	1.70	96.35	+1.60	95.41	1.70	93.71	+1.55
Kuwait	94.26	1.74	92.52	+2.01	91.64	1.74	89.90	+1.60
Murban	103.48	1.63	101.85	+1.50	101.00	1.63	99.37	+1.35
Saharan Blend	103.61	4.02	99.59	+1.22	101.24	4.02	97.22	+1.18
Urals	100.24	0.00	100.24	+1.40	97.06	0.00	97.06	+1.41
Zueitina	104.13	4.21	99.92	+1.50	100.98	4.21	96.77	+1.64

Singapore (31 Oct)	Complex				Simple			$/bl
	Yield	Freight	Netback	± 30 Oct	Yield	Freight	Netback	± 30 Oct
Arab Light	97.18	2.60	94.58	-0.98	86.55	2.60	83.95	-0.95
Arab Heavy	91.36	2.69	88.67	-0.94	78.23	2.69	75.54	-0.90
Dubai	97.24	2.64	94.60	-1.02	84.87	2.64	82.23	-0.99
ESPO Blend	98.74	2.83	95.91	-0.80	84.66	2.83	81.83	-0.70
Iranian Heavy	94.48	2.66	91.82	-0.99	80.23	2.66	77.57	-0.95
Minas	97.79	3.71	94.08	-0.87	82.06	3.71	78.35	-0.65
Murban	99.37	2.48	96.89	-0.97	88.46	2.48	85.98	-0.94
Oman	94.86	2.65	92.21	-0.98	80.08	2.65	77.43	-0.94

US Gulf coast (31 Oct)	Complex				Simple			$/bl
	Yield	Freight	Netback	± 30 Oct	Yield	Freight	Netback	± 30 Oct
Arab Light	101.77	2.20	99.57	+0.76	94.41	2.20	92.21	+0.03
Arab Medium	99.23	2.22	97.01	+0.72	90.79	2.22	88.57	+0.17
Bonny Light	109.15	5.42	103.73	+1.35	89.53	5.42	84.11	+0.55
LLS	104.55	0.00	104.55	+0.88	98.22	0.00	98.22	+0.33
Mars	99.12	0.00	99.12	+0.88	89.64	0.00	89.64	+0.02
Maya	89.06	3.92	85.14	+0.46	78.24	3.92	74.32	+0.01
WTI	103.55	0.00	103.55	+0.84	97.61	0.00	97.61	+0.20

US west coast (31 Oct)	Complex				Simple			$/bl
	Yield	Freight	Netback	± 30 Oct	Yield	Freight	Netback	± 30 Oct
ANS	107.23	0.00	107.23	+2.19	84.24	0.00	84.24	-0.02
Oriente	105.86	9.02	96.84	+2.31	86.18	9.02	77.16	+0.35

DEALS DONE

Argus AGS deals done							$/bl
				Adjusted		Volume	
	Differential	Reported		AGS index	AGS Marker		
Location	basis	differential	price	differential	price	b/d	bl
Magellan East Houston	Dec WTI	+0.85		+0.80	81.82	2,000	
Magellan East Houston	Dec WTI	+0.80		+0.75	81.77	1,000	
Magellan East Houston	Dec WTI	+0.80		+0.75	81.77	2,000	
Magellan East Houston	Dec WTI	+0.85		+0.80	81.82	2,000	
Magellan East Houston	Dec WTI	+0.80		+0.75	81.77	10,000	
Magellan East Houston	Dec WTI	+0.80		+0.75	81.77	5,000	

*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	Dec	Dec	CMA Nymex trade days	+0.74		1,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.74		3,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.77		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.78		1,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.79		2,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.81		2,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.87		10,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.88		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.88		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.88		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.89		2,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.89		4,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.89		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.90		3,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.90		15,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.92		2,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.93		5,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.94		1,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.94		3,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.94		7,000
WTI	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	+0.94		10,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		1,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		1,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		1,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		1,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		2,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		2,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		2,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		2,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		3,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		3,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		4,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		4,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		5,000
WTI	Midland Enterprise	Dec	Dec	WTI	+0.65		6,000
Bakken	Cushing Oklahoma	Dec	Dec	CMA Nymex + Argus WTI Diff to CMA	+0.45		5,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		3,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		3,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		5,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		5,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		5,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		5,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		10,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		10,000
Bakken	Cushing Oklahoma	Dec	Dec	WTI	+0.45		22,000

DEALS DONE (CONTINUED)

North America pipeline deals done							
Grade	Location	Trade month	Basis month	Differential basis	Differential	Price *$/bl*	Volume *b/d*
Bakken	DAPL North Dakota	Dec	Dec	CMA Nymex trade days	-2.10		1,000
Bakken	DAPL North Dakota	Dec	Dec	CMA Nymex trade days	-2.10		1,000
Bakken	DAPL North Dakota	Dec	Dec	CMA Nymex trade days	-2.00		1,000
Bakken	DAPL North Dakota	Dec	Dec	CMA Nymex trade days	-2.00		1,000
Bakken	Patoka Illinois	Dec	Dec	CMA Nymex trade days	+1.95		3,226
Bakken	Patoka Illinois	Dec	Dec	CMA Nymex trade days	+2.00		3,226
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		1,065
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		1,613
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		1,613
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		1,613
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		1,613
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		3,226
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-9.00		3,226
Cold Lake Cushing	Cushing Oklahoma	Dec	Dec	CMA Nymex trade days	-8.90		1,613
HLS	Empire Louisiana	Dec	Dec	WTI	+2.05		2,000
HLS	Empire Louisiana	Dec	Dec	WTI	+2.05		2,000
HLS	Empire Louisiana	Dec	Dec	WTI	+2.05		2,000
HLS	Empire Louisiana	Dec	Dec	WTI	+2.05		3,000
HLS	Empire Louisiana	Dec	Dec	WTI	+2.05		3,226
LLS	St. James Louisiana	Dec	Dec	WTI	+2.20		5,000
Light Sweet Guernsey	Guernsey Wyoming	Dec	Dec	CMA Nymex trade days	-2.00		1,000
Light Sweet Guernsey	Guernsey Wyoming	Dec	Dec	CMA Nymex trade days	-1.90		1,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.60		1,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.60		1,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.60		2,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.55		2,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.55		2,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.50		1,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.50		2,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.50		3,000
Mars	Clovelly Louisiana	Dec	Dec	WTI	-0.50		6,000
Niobrara Cushing	Cushing Oklahoma	Dec	Dec	WTI	+0.85		2,000
Niobrara Cushing	Cushing Oklahoma	Dec	Dec	WTI	+0.85		3,000
Niobrara Cushing	Cushing Oklahoma	Dec	Dec	WTI	+0.85		5,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-1.00		3,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-0.95		1,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-0.95		2,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-0.95		2,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-0.90		3,000
Southern Green Canyon	Nederland / Texas City	Dec	Dec	WTI	-0.80		2,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		1,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		1,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		2,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		2,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		3,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		3,000
Thunder Horse	Clovelly Louisiana	Dec	Dec	WTI	+2.00		5,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.85		1,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.85		2,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.85		2,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.85		2,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.85		5,000
WTL Midland	Midland Texas	Dec	Dec	WTI Midland	-0.80		5,000

DEALS DONE (CONTINUED)

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	EFP	31 Oct 23	Jan	700,000	0.11					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.13					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.11					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.12					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.15					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.15					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.15					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.15					
Northwest Europe	EFP	31 Oct 23	Jan	700,000	0.14					
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.75		
Northwest Europe	North Sea	31 Oct 23	Jan	100,000	86.70					
Northwest Europe	North Sea	31 Oct 23	Jan	100,000	86.60					
Northwest Europe	North Sea	31 Oct 23	Jan	100,000	86.70					
Northwest Europe	North Sea	31 Oct 23	Jan	100,000	86.70					
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.77		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.75		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.75		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.70		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.70		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.75		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.90		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+0.90		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+1.10		
Northwest Europe	North Sea	31 Oct 23	Dec	700,000		Jan	North Sea	+1.05		
Northwest Europe	North Sea Dated CFD	31 Oct 23		100,000		Jan	North Sea	+0.88	13 Nov 23	17 Nov 23
Northwest Europe	North Sea Dated CFD	31 Oct 23		100,000		Jan	North Sea	+0.88	13 Nov 23	17 Nov 23
Northwest Europe	North Sea Dated CFD	31 Oct 23		100,000		Jan	North Sea	+0.43	20 Nov 23	24 Nov 23
Northwest Europe	North Sea Dated CFD	31 Oct 23		100,000		Jan	North Sea	+0.42	20 Nov 23	24 Nov 23
Northwest Europe	North Sea Dated CFD	31 Oct 23		200,000		Jan	North Sea	+0.42	20 Nov 23	24 Nov 23
Northwest Europe	North Sea Dated CFD	31 Oct 23		200,000			CFD	+0.45	13 Nov 23	17 Nov 23

INFRASTRUCTURE NEWS

Marathon starts Galveston turnaround early

Marathon Petroleum has accelerated the schedule for maintenance originally planned for early 2024 as it repairs a fire-damaged unit at its 593,000 b/d Galveston Bay, Texas, refinery.

Marathon started repairs on the catalytic reformer unit at the refinery about three months after the 15 May fire that damaged the unit. That work prompted the company to bring forward a planned first quarter 2024 turnaround into the third and fourth quarter of this year, the company said on an earnings call today.

Repairs are progressing as planned and Marathon expects the reformer unit to start up in mid-November and the refinery to achieve full rates in mid-December.

Marathon ran its refineries at approximately 94pc in the third quarter with crude throughputs of 2.8mn b/d. Utilization rates were down by four percentage points from the same period in 2022.

Marathon expects crude throughputs of 2.6mn b/d and $300mn of planned turnaround costs in the fourth quarter. Throughputs will be 70,000 b/d lower than the fourth quarter of 2022 and turnaround expenses will be down by $142mn.

By Nathan Risser

Marathon Carson refinery begins work

Marathon Petroleum began unit startup/shutdown activities at the Carson, California, side of its 363,000 b/d Los Angeles refinery on Monday, a day later than expected.

Maintenance began at 5:45am ET, resulting in excess flaring, according to a Marathon filing to local environmental regulators. Work on the unit is expected to be completed by 10 November.

Unit maintenance was originally scheduled to start on 29 October, according to a previous notice.

Affected units were not disclosed.

The Carson side of Marathon's Los Angeles refinery previously underwent unit startup/shutdown activities on 19-25 October and reported unrelated, unplanned flaring on 26 October.

By Gordon Pollock

ANNOUNCEMENT

Argus Sour Crude Index ("ASCI")

Proportional assessment

Following the end of the third 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 28 August 2023 and ending 22 November 2023. Each grade has been assigned the following percentage values:

- Mars: 67pc
- Poseidon: 20pc
- SGC: 13pc

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.

ANNOUNCEMENT

Proposed early timestamp for some prices, 10 Nov

Argus proposes to advance the timestamp of its Mideast Gulf, Asia-Pacific and Russia Asia-Pacific crude assessments to 12:30pm Singapore time on 10 November, the last publication day before a public holiday in Singapore, because of a potential lack of representative market activity. There will be no assessments for these grades on 13 November.

Argus will accept comments on this proposed change until 2 November. 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 2 November. Please note, formal comments will be published after the consultation period unless confidentiality is specifically requested.

INFRASTRUCTURE NEWS

ExxonMobil Joliet refinery reports unit upset

ExxonMobil's 251,800 b/d Joliet refinery in Channahon, Illinois, reported a unit upset on 27 October.

A process upset occurred at 9pm ET, according to a filing submitted by ExxonMobil with state environmental regulators, resulting in flaring and excess sulphur dioxide emissions.

Affected units were not disclosed.

Emissions reported at Shell Norco refinery

Shell's 227,900 b/d Norco, Louisiana, refinery had excess emissions and heavy smoke beginning on 23 October.

Heavy smoke and chemical odors possibly related to a leak on a unit were reported via an emergency services call log on the National Response Center database maintained by the US Coast Guard (USCG).

It remains unclear which units were affected and how much of an impact the release would have on refinery operations.

A spokesperson for Shell declined to comment.

PBF Torrance refinery reports flaring

PBF Energy reported unplanned flaring at its 160,000 b/d Torrance, California, refinery today.

Emergency flaring in response to unplanned operational conditions began at 1:28pm ET, according to a filing submitted by PBF with local environmental regulators.

Affected units were not disclosed.

PBF began a major turnaround at the Torrance refinery in late September, that was originally expected to last around 50 days and is ongoing, according to regulatory filings.
By Gordon Pollock

Phillips 66 Wilmington refinery flares

Phillips 66 reported flaring at the Wilmington, California side of its 139,000 b/d Los Angeles refinery on 27 October.

Flaring began at 5pm ET, according to a filing submitted by Phillips 66 with state regulators, resulting in excess sulphur oxide emissions.

The incident was reported to the Los Angeles City Fire Department, and no evacuations or injuries were reported.

Affected units were not disclosed.

CVR plans spring Oklahoma refinery turnaround

US independent refiner CVR Energy is planning a spring 2024 turnaround at it's 75,000 b/d Wynnewood, Oklahoma, refinery according to an earnings release today.

CVR's 132,000 b/d Coffeyville, Kansas, refinery will next undergo maintenance in 2025, the company said today.
By Nathan Risser.

CHS Laurel refinery compressor malfunctions

Cooperative refiner and agribusiness company CHS reported a compressor malfunction at its 62,500 b/d Laurel, Montana, refinery on 26 October.

A compressor at the refinery tripped at 9pm ET, according to an emergency services call log from the National Response Center database managed by the US Coast Guard, resulted in excess hydrogen sulfide emissions.

The caller stated the affected unit would need to be restarted to reduce emissions to the appropriate level.

ANNOUNCEMENT

Change to North Sea freight adjustment factors

Following consultation, from 1 November, *Argus* will change the freight adjustment factors used to convert values from a delivered cif Rotterdam basis to a fob basis for the six crude grades underpinning the North Sea Dated benchmark. Instead of the simple average of the five rates from Sullom Voe, Hound Point, Sture, Teesside and Mongstad, respectively, to Rotterdam, *Argus* will use the volume-weighted average of the five journeys based on loading programmes for Brent, Forties, Oseberg, Ekofisk and Troll in the previous year.

ANNOUNCEMENT

Including AWRP costs in CPC Blend prices

From 1 November, *Argus* will include additional war risk premium (AWRP) costs in its price assessments for CPC Blend cif Augusta as well in the calculation for the CPC Blend fob Novorossiysk netback, to align with the latest market practices. CPC Blend cif Augusta will include all freight and insurance costs, including AWRP, while the cost of AWRP will be deducted alongside freight and insurance costs in netback calculations for CPC Blend fob Novorossiysk. To discuss this change, please contact Michael Carolan at michael.carolan@argusmedia.com

INDUSTRY NEWS

Libya's NOC cuts most November formula prices

Libya's state-owned oil firm NOC has lowered the official formula prices for November-loading exports of its sweet crude grades while leaving prices for its two sour grades unchanged from October.

NOC has cut the official November prices for its 10 sweet crudes by 20-70¢/bl on the month. Formula prices for Libya's two biggest exports streams, Es Sider and Esharara, have been reduced by a respective 70¢/bl and 20¢/bl, leaving them at premiums of 30¢/bl and 50¢/bl to the North Sea Dated benchmark.

Last week Algeria's state-owned Sonatrach trimmed the November price of Saharan Blend crude, Esharara's closest regional competitor, by 40¢/bl.

Spot prices for Es Sider averaged a 68¢/bl premium to Dated over 1-30 October, when the majority of November-loading cargoes would have traded, according to *Argus* assessments, down from an average premium of $1.09/bl in September.

Narrower refining margins and higher freight rates in Europe is likely to have weighed on d

emand for middle distillate-rich Es Sider. There is also an overhang of unsold November-loading cargoes of Libyan crude as well as west African grades, according to traders.

Prices for Libya's two sour grades, Bouri and Al-Jurf, have been left unchanged on the month, possibly reflecting tight sour supplies globally.

By John Cordner

Nigeria lifts medium sweet formula prices

Nigeria's state-owned NNPC has raised next month's official formula prices for two-thirds of its crude grades, despite a backlog of unsold November-loading cargoes and ample availability of competing European crudes weighing on differentials.

Formula prices for Nigeria's medium sweet grades were raised across the board, notably for the key stream Forcados, which has been increased by $1.61/bl compared with October to a $5.05/bl premium to the North Sea Dated benchmark. NNPC has raised the formula price of similar-quality Escravos by $88¢/bl to a $6.20/bl premium.

EA Blend and Erha prices have been hiked, by 90¢/bl and 86¢/bl to respective premiums of $6.05/bl and $5.48/bl. Prices of other medium grades also got a boost, with Bonga and Egina raised by $1.27/bl and $1.19/bl on the month, respectively, to premiums of $6.28/bl and $7.44/bl.

The November formula prices are significantly above some traders' expectations, coming against a backdrop of rising freight costs and a recent drop in European gasoline margins. The spike in freight rates has undermined arbitrage shipments, as has a backwardated market structure — where prompt cargoes are valued at a premium to those loading further forward — which means long-haul cargoes essentially lose value while on the water.

NNPC has cut the official formula prices for 11 of its crude grades, in line with the deteriorating profitability of shipping west African oil east and to Europe. The November price of flagship light sweet stream Qua Iboe has been cut by 9¢/bl on the month to a premium of $3.88/bl to Dated. The price of similar-quality Bonny Light was raised by $22¢/bl though, and now stands at its highest premium to Dated since September 2022.

Grades that have been cut include very light Agbami, down by 2¢/bl to a 26¢/bl discount to the benchmark, and similar-quality Amenam, down by 20¢/bl to a 43¢/bl premium. NNPC has also reduced the formula price for light sweet CJ Blend by 37¢/bl to a $1.16/bl premium, while niche grade Ima has seen the most substantial cut, with its formula price slashed by $2.46/bl from October to a $1.11/bl discount to Dated.

By Sanjana Shivdas

Europe hesitant to raise Mideast term supply

European refiners look unlikely to increase their term supplies of Mideast Gulf crude next year as high official formula prices push them to the spot market and to sweeter alternatives.

Four refiners in northwest Europe and the Mediterranean have told *Argus* that they plan to keep their annual term supplies from Saudi Arabia and/or Iraq unchanged from this year. Two more buyers in the region said they do not intend to start new term contracts with either. Iraq's state-owned oil marketer Somo gave refiners until 15 October to submit their requirements for 2024, while some European buyers looking to renew their contracts with state-controlled Saudi Aramco said they had not yet submitted their requested volumes. Annual term supplies are typically negotiated in the October-November period before the official January formula prices are issued in December.

Buyers often turn to term contracts as a way to secure reliable supplies, but Mideast Gulf oil producers have made consistent hikes to their official formula prices this year, making that option less appealing, according to some refiners. Aramco's official formula prices for November-loading crude exports to Europe were the highest since *Argus* records began. Somo's European November formula prices for

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Basrah Heavy were the strongest since March 2021, while the official November price for Europe-bound exports of Basrah Medium was the highest since its launch in January 2021.

The price increases come against a backdrop of tight sour crude availability, which has been driven by a combination of Opec+ production cuts, a prolonged absence of Iraqi Kirkuk blend exports from the Turkish port of Ceyhan and the EU's ongoing ban on seaborne imports of Russian crude. While the tight supply situation has some refiners concerned about whether they will be allocated their requested volumes, the fact that India and China have increased their intake of more competitively priced Russian crude means Mideast Gulf sellers could have more availability for the European market. Saudi Arabia's exports to Europe have increased slightly this year despite its 500,000 b/d voluntary production cut since May and a further 1mn b/d cut from July. Around 755,000 b/d of Saudi crude headed for Europe in the first nine months of this year, up by 30,000 b/d on the same period last year, according to oil analytics firm Vortexa.

Meanwhile, exports of Iraqi Basrah crude to Europe averaged 725,000 b/d over January-September, up from 659,000 b/d a year earlier, according to *Argus* tracking data. Loadings to the region neared 1mn b/d in both June and August, for the first time since *Argus* records began in 2010. Should this trend continue, Europe as a whole could displace India as the second-largest buyer of Basrah. Basrah is sold on both a term basis and on the spot market. The exports data do not differentiate the split, but market participants suggest that reduced demand from customers in Asia-Pacific has contributed to increased spot supplies being redirected to Europe, at a time when rising freight rates and lower refining margins in Europe are already driving spot prices down.

The latest *Argus* assessments put spot cargoes of Basrah Medium and Heavy at discounts of 70¢/bl and $1/bl to their official November formula prices for European customers, respectively. The former is the widest discount since September 2022 and the latter the widest since January this year. This could make the spot market more appealing than term contracts to European refiners.

Sweeter tooth

Customers in Europe and the Mediterranean have already taken steps to reduce their reliance on sour crudes in response to the higher formula prices, turning their attention to sweeter alternatives.

Concern that the Israel-Hamas conflict might spill over into the wider Mideast Gulf region and disrupt supply may prompt them to redouble their efforts. Europe is spoiled for choice when it comes to sweet crudes at the moment owing to record high volumes of US light grade WTI being shipped to the region. Sour grades have accounted for 45pc of total crude deliveries to Europe so far this year, down from 50pc during the same period in 2022, according to Vortexa.
By Kuganiga Kuganeswaran and Giulio Bajona

Russian CPC Blend exports rise

Exports of Russian crude through the Caspian Pipeline Consortium system rose by 12pc on the month to 170,000 b/d (652,000t) in September, according port statistics agency Morcentre-TEK.

Lukoil CPC Blend exports increased by 12pc in September, as trading arm Litasco reduced sales of Caspian crude to Azerbaijan's state-owned Socar, traders say. Shipments to India dropped by 44pc in September, as Lukoil CPC Blend exports to China resumed after a break in August. Supplies of Lukoil's light Caspian crude to Azerbaijan fell by nearly 8pc against August — exports through the *Yury Korchagin* floating storage tanker go to Socar's 240,000 b/d Baku refinery.

Crude supplies from Sakhalin, in Russia's far east, were little changed on the month at 238,000 b/d (945,000t) in September, according to shipping agents. Sokol exports from De-Kastri were up by 1.8pc — shipments to India a fifth higher, as supplies to China almost halved. Loadings of Sakhalin Blend at Prigorodnoye on Sakhalin island rose by 1.2pc — all Sakhalin Blend has gone to China this year.

Lukoil loadings at the Baltic port of Svetly more than doubled on the month to 8,000 b/d (33,800t) in September — crude is delivered by shuttle tanker to the *Kola* floating storage tanker, moored near the Barents Sea port of Murmansk, for export in the Varandey Blend stream. But condensate exports from Novatek's Baltic Ust-Luga terminal dropped by a third on the month to 22,000 b/d (82,000t). Ust-Luga condensate goes to the UAE, market participants say.

Russian seaborne crude supply to China rises

Russian seaborne crude exports to China rose by 21pc on the month to 1.29mn b/d (5.2mn t) in September, according to shipping agents and oil analytics firm Vortexa. The increase, to the highest since June, mainly reflects the redirection of supplies away from India, particularly Urals and Gazpromneft's arctic grades.

Supplies to China along the Northern Sea Route (NSR) through Russian Arctic waters continued in September. Gazpromneft shipped three 140,000t cargoes of arctic crude to

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China from Murmansk on the Barents Sea and Lukoil shipped 100,000t of Urals from the Baltic port of Primorsk, according to Vortexa and shipping agents. Exports along the NSR have continued in October.

NSR shipments to China from Murmansk take 25 days if ice conditions are favourable, compared with 40 days through the Suez Canal, while along the NSR routes from Russia's Baltic ports are 10-15 days shorter.

China was the destination for all ESPO Blend loaded at the far east port of Kozmino last month, with exports rising by 14pc against August to 812,000 b/d (3.29mn t) — shipments for India halted. And Urals supplies were more than three-quarters higher on the month at 196,000 b/d (818,000t). Urals exports to Kyaukpyu port in Myanmar (Burma) were steady in September, but Gazpromneft suspended shipments of its arctic crude to the port — from Kyaukpyu, crude is delivered by pipeline to the 260,000 b/d Yunnan refinery in southwest China.

Gazpromneft, Rosneft, Surgutneftegaz and trading company Demex were the key Russian crude suppliers to China in September. Gazpromneft sells mainly on a dap Chinese ports basis to the trading divisions of large Chinese companies. Rosneft sells through trading firms on a fob Russian ports and cfr Chinese ports basis. Surgutneftegaz sells spot cargoes on a fob Russian ports basis to trading companies. Demex accumulates ESPO Blend cargoes at Kozmino, for sale on a fob basis, from crude supplied to the port by smaller producers.

Weak demand constrains China crude runs

Chinese crude runs may drop in October on the back of poor refining margins and a shortage of product export quotas.

Chinese crude runs are on course to average 15.2mn b/d in October, *Argus* surveys indicate, down from the 15.5mn b/d that the National Bureau of Statistics reported for September. Oil firms began cutting runs as gasoline demand fell following the Golden Week public holidays and cooler temperatures slowed construction activity, softening diesel demand. Gasoline crack spreads dropped by more than $3/bl by 20 October from the September average of $7.80/bl. Diesel crack spreads declined by $2/bl from last month.

And state-owned refiners have used up much of their oil product export quotas for this year, forcing them to lower throughputs and cut their purchases of oil products from independent refiners. Diesel flows from the northeast Bohai bay to eastern regions shrank to their lowest this year on 1-20 October, reaching 81,000 b/d from 140,000 b/d in September, *Argus* data show.

State-owned oil giant Sinopec is expected to process about 5mn b/d of crude this month, down by 230,000 b/d on the month. Its Qingdao Petrochemical, Zhanjiang Dongxing and Guangzhou refineries shut crude units for maintenance in October, bringing 265,000 b/d of capacity off line. Sinopec has chosen not to lift run rates at its other refineries, despite being responsible for securing domestic product supply, as it is expecting demand to remain sluggish. State-run PetroChina will process about 3.9mn b/d of crude in October, 20,000 b/d more than last month. Its 200,000 b/d Sichuan refinery remains closed for maintenance, but its 200,000 b/d Daqing Refining and Chemical plant restarted operations this month.

China's private-sector mega-refiners will process a combined 2.6mn b/d in October, down by 10,000 b/d from last month. Rongsheng is running its 800,000 b/d ZPC refinery at 116pc this month but will cut throughputs to 97pc in November. Shenghong has cut run rates by 10 percentage points at its 320,000 b/d Lianyungang refinery in Jiangsu, following problems at one of its residue hydrogenation units.

Chasing a dream

Oil demand is closely tied to GDP growth in China, and the latter was relatively robust in the first three quarters. GDP needs to grow by just 4.4pc in the fourth quarter in order for China to achieve its 5pc growth target for 2023. But concerns are mounting about China's economic prospects next year owing to its ongoing real estate crisis and local government cash-flow problems. Beijing on 24 October approved Yn1 trillion ($137bn) in special bonds that will enable local governments to refinance their more urgent debts. This may remove a key impediment to construction starts, something typically overseen by local administrations, but it is unlikely to have a significant impact on activity until the first quarter.

Fourth-quarter run rates probably will be shaped by state-owned refineries' lack of product export quotas and independent refiners' shrinking crude import quotas. Independents also face weakening margins as Russian crude — a favourite with private-sector firms because of its relative cheapness — is becoming pricier. Sinopec is lobbying for extra export quotas, or the early release of 2024 quotas, to facilitate product destocking as domestic demand weakens. Refiners may lower throughputs to minimise their losses as profits are squeezed.

Runs rates at Shandong's independent oil firms, with a combined capacity of 3.4mn b/d, dropped by one percentage point to 70pc in October. The Dongying-based 52,000 b/d

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Shenchi refinery trimmed its operating rates by five percentage points from September, although this could be offset by higher run rates at the 70,000 b/d Lijin refinery after it concluded a one-month full turnaround.

Serica mulls restarting North Sea Kyle field

UK-focused independent producer Serica is considering restarting the decommissioned Kyle oil field in the North Sea.

The company was awarded the block that contains Kyle in this week's UK licensing round, and said today it will study the feasibility of a restart through a tie-back to the *Triton* floating production, storage and offloading (FPSO) vessel. *Triton* services the Bittern field, in which Serica has a 54.6pc stake.

The Kyle field, which had been operated by Calgary-based Canadian Natural Resources, ceased production in June 2020, after 19 years of operation. The FPSO that serviced the field was removed. Output from Kyle peaked at around 20,000 b/d shortly after it began operation, but had not exceeded 2,000 b/d for the last two years of its initial life.

Serica today said there could be around 9mn bl of oil recoverable at Kyle.

By Ben Winkley

US adds sanctions against Myanmar's Moge

The US administration today added another layer of economic restrictions against state-owned Myanmar Oil and Gas (Moge) with a prohibition for US-affiliated companies to provide financial services to the company.

Moge is still not directly subject to US sanctions, even though US officials have urged foreign oil companies of possible sanctions risks involved in doing business with Moge. Washington in January imposed sanctions against senior Moge executives.

The prohibition on provision of financial services for US-based or affiliated companies is likely to affect trade in any oil Moge sells to foreign buyers.

The action aims to disrupt the Myanmar government's access to the US financial system and curtail its ability to perpetrate atrocities, the State Department said today.

The US has avoided directly targeting Moge because some of the gas fields it partially owns also supply Thailand. Thailand's state-controlled oil firm PTTEP last year took over as operator of Myanmar's 770mn cf/d (7.95bn m^3/yr) Yadana gas field after TotalEnergies exited the project.

Moge also owns minority stakes in Myanmar's other large offshore natural gas fields — Yetagun, Zawtika and Shwe. These are operated by Malaysia's state-owned Petronas, PTTEP and South Korea's Posco respectively.

By Haik Gugarats

Algeria's Sonatrach eyes return to Libya

Algeria's state-owned Sonatrach could resume exploration in Libya after it was forced to abandon activities in the country in 2014 because of the deteriorating security situation.

Sonatrach and Libya's state-owned National Oil Corporation (NOC) are to hold a high-level meeting on 7 November in Tripoli where discussions on Sonatrach resuming its contractual commitments will take place. Sonatrach holds a 50pc stake in Area 65 and a 50pc stake in Areas 95 and 96 in the Ghadames basin, all of which contain several discoveries.

Sonatrach's return would provide a boost of confidence to Libya's upstream sector, which has seen little exploration since its 2011 civil war. While Russia's Tatneft announced a rare new oil discovery in March, Spain's Repsol has struggled to get a planned nine-well campaign going.

Italian Eni's plans to drill an exploration well onshore next year to be followed by an offshore well in late 2024 and early 2025, upstream director Luca Vignati told *Argus* in a recent interview.

But these plans will ultimately depend on Libya's testy politics, which have hampered upstream targets for more than a decade. A plan by NOC to boost its crude oil production by 100,000 b/d to 1.3mn b/d by the end of the year looks unlikely to be met. Libya's crude output stood at 1.196mn b/d in September, according to its official submission to Opec.

By Aydin Calik

West Siberian output decline approaching

Crude output in key west Siberian production centre Khanty-Mansiysk will fall this year, before recovering in 2024 and then slipping into decline again, the district's administration says.

Khanty-Mansiysk production is forecast at 215mn t (4.3mn b/d) this year — 3.6pc lower than in 2022. Output is expected to rise to 222mn t next year, but to slide to 219mn t in 2026. The figures are included in the Khanty-Mansiysk autonomous district's budget for 2024 and 2025-26.

Regional production increased by 3.4pc to 223.1mn t last year — around 40pc of total Russian crude and condensate output. Rosneft, Lukoil and Surgutneftegaz account for 80pc

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of the total, with Gazpromneft and small and medium-sized producers providing the rest. Khanty-Mansiysk output held steady at 236mn t/yr in 2018-19, after the main producers reversed a 1.5pc/yr production decline in the 10 years to 2017, registering 0.5pc growth in 2018.

Khanty-Mansiysk is believed to hold vast undeveloped oil reserves, but only a handful of new conventional projects are under development. The biggest and most promising are Rosneft's five-field 1.89bn bl Erginsky cluster and Gazpromneft's 950mn bl Zima hub. Much of the region's remaining reserves are probably classed as hard-to-recover, including those in the Bazhenov shale formation.

Before the latest Opec+ agreement came into force in May 2020, Russia's energy ministry had forecast natural production decline in western Siberia after 2022, without new tax incentives for producers, because of the accelerating depletion of mature fields. Russian crude and condensate production is expected to decline by 1.5pc to 527mn t (10.54mn b/d) this year, deputy prime minister Alexander Novak said in September.

UAE remains Japan's top crude supplier in Sep

Japan's crude purchases from the UAE remained firm in September, with more Abu Dhabi's light sour Murban delivered to the country.

Japan imported 2.6mn b/d in September, down by 5pc from a year earlier, according to preliminary data released on 31 October from the country's trade and industry ministry (Meti). The UAE has been Japan's top crude supplier since April this year, except for June, outstripping cargoes from its other main source Saudi Arabia.

The UAE delivered 614,000 b/d of Murban to Japan in September, up by 17pc from the previous year, while it exported 264,000 b/d of Das crude, down by 5pc. Japan purchased from Saudi Arabia 525,000 b/d of Arab Extra Light and 227,000 b/d of Arab Light, up by 44pc on a year earlier and down by 31pc respectively.

Domestic oil product output and sales each fell in September by 1pc from a year earlier, mostly pressured by lower heavy fuel oil production and demand. Overall product output and sales in the month totalled 2.5mn b/d and 2.4mn b/d respectively, Meti data show.

Product imports dropped by 12pc from a year earlier to 533,000 b/d in September, mainly because of a drop in naphtha deliveries. Japan cut its exports by 7pc to 577,000 b/d with lower gasoil and heavy fuel oil shipments.
By Maiko Nakashima

BP fails to capture full 3Q downstream value

BP missed out on the opportunity of an improving operational environment in its downstream during the third quarter, its results for the period showed today. Earnings for the quarter fell short of analysts' expectations, with some complaining more value could have been captured within its oil trading and refining businesses.

Reporting its third-quarter results, BP said that its underlying replacement cost (RC) profit, which strips out all exceptional items, fell to $3.29bn over July-September, down by 60pc on the $8.15bn it reported for third-quarter 2022, when the firm benefited from an exceptional result in its gas marketing and trading business in a volatile market. Wall Street analysts who follow the company had expected it to deliver an underlying RC profit of $4bn.

On a quarterly basis, BP's underlying RC profit was up by by 27pc on the preceding quarter, reflecting higher realised refining margins, a lower level of refining turnaround activity, a "very strong" oil trading result and increased oil and gas production, the company said, although BP noted the third quarter also had a weak gas marketing and trading result.

BP's upstream oil production and operations business delivered a profit adjusted for income and tax of $3.14bn, compared with $2.78bn in the second quarter and $5.21bn in third-quarter 2022. This result was just short of analysts' expectations of $3.3bn.

Its gas and low carbon energy segment disappointed, delivering an adjusted profit of $1.26bn for the third quarter against a $2.23bn profit in the second quarter and $6.24bn in third-quarter 2022. Analysts had been expecting around $2.5bn for this quarter.

In the downstream, BP's customers and products segment produced a $1.55bn adjusted RC profit against a $555mn profit in the second quarter and $2.59bn in third-quarter 2022. Despite the much-improved quarter on quarter performance, analysts had expected this segment to deliver $2.4bn, with investment bank Jefferies noting that the products contribution to the segment was less able "to capture the indicator refining margin, despite a good oil trading performance".

During the third quarter BP's oil and gas production was 2.33mn b/d of oil equivalent, a 1pc improvement over third-quarter 2022. Liquids production increased by 4pc year on year to 1.12mn b/d while gas production was down by 1pc at 1.21mn boe/d. BP said that it expects its fourth-quarter production to be "broadly flat" compared with the third quarter.

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BP's average refining marker margin, at $31.80/bl, was greater than the $24.70/bl the company reported for the second quarter but lower than the $35.50/bl for third-quarter 2022. Refining availability in the third quarter was 96.3pc, compared with 94.3pc a year earlier. BP said it expects refining margins to be "significantly lower" in the fourth quarter and for turnaround activity within its refining business to be higher.

BP said it completed $2bn of share buybacks during the third quarter, while it completed a further $1.5bn of buybacks on 27 October. It today announced a further $1.5bn programme of share buybacks, which it intends to complete ahead of reporting its fourth quarter results.

The company left its third-quarter dividend unchanged from the previous quarter at 7.27¢ per share.

By Jon Mainwaring

M&A 'not on our minds': BP CEO

BP interim chief executive Murray Auchincloss said today that merger and acquisition activity is "not on our minds" as the company continues to strive to close a valuation gap between itself and its US peers.

Auchincloss fielded questions on BP's third-quarter earnings call with analysts about ExxonMobil and Chevron's recent acquisitions of Pioneer Natural Resources and Hess Corporation, and whether the UK major — particularly its BPX Energy business in the US onshore — now lacks scale to compete efficiently. Auchincloss explained that BP has a "great upstream portfolio" with 36bn bl of total resources, including 18bn "in the plan right now and economic at our thresholds" to be developed over the next couple of decades. "We have the capacity to grow earnings through 2025 and then maintain at that level through 2030 and beyond. So, we feel we've got a very high quality upstream portfolio," he said.

In the US, Auchincloss noted that between its Gulf of Mexico and BPX businesses BP was producing about 600,000 b/d of oil equivalent in 2022. "And we aim to produce about a million a day by the end of the decade. That's 7pc compound annual growth and it will make up 50pc of BP's production by the end of the decade… We don't really feel we need more acreage," he said.

However, Auchincloss said that BP would consider opportunistic countercyclical moves, pointing out that BP had made just such an acquisition in Australia earlier this year: the company bought Shell's 27pc stake in the Browse project off Western Australia in May.

Speaking about capital spending, Auchincloss noted that BP's long-term capex guidance of $14bn-$18bn includes some headroom for inorganic spending but that the company had decided this year to pass on a few small acquisitions, so that 2023 spending would be nearer $16bn rather than $18bn. Capital spending by BP during the first three quarters of the year was $11.5bn, it reported this morning.

"For our part, we're very pleased with how the company is performing," Auchincloss said, noting that BP's share price-to-earnings multiples are trading at equivalent levels to its European peers and that "we have closed the [valuation] gap to some of the US peers by a thirds over the past 12 months". He also noted that BP's distribution framework — including share buybacks as well as dividends — have been delivering doubt-digit percentage returns for shareholders.

"We're really focused on organically driving the shareholder value… M&A is really not on our minds," he added.

BP's third-quarter results showed that its underlying replacement cost profit, which strips out exceptional items, fell 60pc t5o $3.29bn over the July-September period. Within the results, the company also reported that it has decided to write-down $540mn during the third quarter related to wind farm projects it owns with Norway's Equinor, off the coast of New York state. It said that the partners were continuing to work on options for the Empire Wind 1 and 2 and Beacon Wind 1 projects "to mitigate the effect of inflationary pressures and permitting delays" after the companies' request to renegotiate the projects' power purchase agreements were rejected on 12 October.

BP's share price was down 4.6pc at 502.5p per share at 14:00 on Tuesday.

By Jon Mainwaring

PetroChina fuel sales offset upstream, chems

Chinese state-controlled oil firm PetroChina reported higher third quarter profit on a rebound in fuel demand, which offset weaker upstream and chemicals profits.

The company's third quarter profit rose by 22pc to $6.4bn (Yn46.4bn), on revenues of Yn802.3bn, which fell by 4.6pc from a year earlier.

Jet fuel output almost doubled on the year in the third quarter while gasoline output also rose significantly as the company looked to capture a rebound in summer travel demand. Refinery runs and product sales also rose on the year in the third quarter. China increased crude runs to a record 15.5mn b/d in September, higher even than *Argus* estimates, to meet anticipated transport fuel demand during

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the Golden Week public holiday at the start of October. But Chinese crude runs are expected to average lower at 15.2mn b/d in October, *Argus* surveys indicate.

Oil firms began cutting runs as gasoline demand fell following the Golden Week holidays and cooler temperatures caused construction activity to slow, softening diesel demand. PetroChina's diesel output rose on the year in the third quarter but diesel yield as a percentage of crude runs remains largely flat with the third quarter of 2022 at around 30pc.

The company reported a drop in profits in its upstream segment in the third quarter due to lower oil and gas prices. Chemicals profits also shrank but improved from Yn926mn in losses made in the first quarter of 2023. However, the company continues to invest in new chemical facilities.

PetroChina's capital expenditures rose by 10pc on the year to Yn174bn in the first nine months. The company has budgeted Yn243.5bn in spending for the whole year with 80pc going into mainly exploration and production, as well as new energy which includes renewables.

Narrowing oil discounts threaten BPCL profit

Russian crude discounts have narrowed in the past few months, which, along with recent increases in crude prices, is causing concern about profitability for Indian state-controlled Bharat Petroleum (BPCL).

Argus assessed Russian Urals' discount to Dated, on a delivered dap west coast India basis, at $4.55/bl on 30 October compared with the September average of $4.869/bl.

No payments are pending for Russian crude purchases beyond the due date, according to BPCL.

BPCL finance head Vetsa Ramakrishna Gupta in a conference call on 30 October parried a question on the amount of Russian crude to be processed by the company's refineries during the October-December quarter, simply saying that Russian crude throughput is "close to the [company's] potential". The combined share of Russian crude processed at the 156,000 b/d Bina, 310,000 b/d Kochi and 240,000 b/d Mumbai refineries is around 30-40pc of the total, Gupta said.

Indian oil minister Hardeep Singh Puri has repeatedly said over the past year that India will buy crude from wherever it is cheap. India's purchases of Russian crude have increased since the outbreak of the Russia-Ukraine war in February 2022, although few of the payments are being done in Indian rupees, Puri said in an interview with *Argus* earlier this month.

Indian buyers are continuing to pay for Russian crude imports in hard currencies such as the US dollar and UAE dirham. This appears to contradict media reports suggesting rupee payments to Russian crude producers have become stuck in Indian banks because of Indian central bank restrictions.

Around 1.58mn b/d of crude is headed from Russian ports to India during October, according to preliminary data from Vortexa.

Refining margins rise

BPCL reported its highest ever profit of 191bn rupees ($2.94bn) during the first half of the 2023-24 fiscal year ending 30 September, up from a loss of Rs65.67bn a year earlier. Profit totalled Rs85bn during July-September, up from a loss of Rs3.04bn during July-September 2022.

The company's gross refining margins increased to $18.49/bl for July-September from $4.64/bl over April-June. The rise was the result of a rise in diesel crack spreads, as well as higher proportion of cheaper Russian Urals crude in the crude mix at the Bina and Kochi refineries, Gupta said.

The company will spend around Rs1.5 trillion on major projects over the next five years, Gupta said. There is also a need to spend a similar amount to negate the 16mn t of carbon dioxide emissions by the company until 2040 when BPCL has planned to achieve net zero emissions, Gupta said. But the capital expenditure (capex) outlay for 2023-24 is just Rs100bn, he said. There will be increased capex from the third year of the plan, he added.

By Pranav Joshi and Rituparna Ghosh

OMV hit by lower oil prices, petchem margins

Austrian integrated energy firm OMV reported a steep drop in profit in the third quarter compared with the same period last year on the back of lower oil and gas prices, a fall in upstream production and depressed petrochemical margins, partly offset by a higher refinery utilisation rate in Europe.

The company's oil and gas output was down by 5pc on the year at 364,000 b/d of oil equivalent (boe/d) in the July-September period, driven by unplanned shutdowns in Norway, natural decline in Norway and Romania, and longer routine maintenance work in Malaysia than a year earlier. Higher production in New Zealand and the UAE tempered the fall in total output.

OMV achieved an average of $81.15/bl for its crude production in the third quarter, 18pc lower than the same period last year, while the average price of its natural gas sales was down by roughly 70pc on the year. The firm has tweaked its forecast for oil prices — it now expects the Brent benchmark to average more than $80/bl in 2023, compared with previous guidance of $75-80/bl. The company

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has kept its full-year upstream production forecast intact at around 360,000 boe/d, which is more than 30,000 boe/d lower than 2022.

OMV's petrochemical business had a tough quarter. Olefin and polyolefin margins were subdued by the global economic slowdown and high inflation, and there was a significantly lower contribution from the Borealis joint ventures, the firm said. The company has downgraded its 2023 forecast for indicator margins for both ethylene and polyethylene.

OMV's refinery business delivered a much improved performance, thanks to a strong recovery in the utilisation rate in Europe and higher fuel sales. The firm's European refineries operated at 84pc of capacity in the third quarter, up from just 44pc a year earlier when problems at Austria's 193,700 b/d Schwechat refinery constrained throughput.

OMV's European refining margin indicator dipped to $14.05/bl in July-September from $14.38/bl in the same period last year, mainly because of lower cracks for middle distillates. But the company has raised its forecast for the full year to an average of $10-12/bl, up from previous guidance of $8-10/bl.

OMV reported a profit of €474mn for July-September, down by 43pc on the year. Stripping out inventory valuation effects and other one-off items, profit came in at €431mn, a fall of 64pc from a year earlier.
By James Keates

Yemen's Houthis claim strikes against Israel

Yemen's Houthi rebels said Tuesday they had fired a series of missiles and drones at Israeli targets in response to what they describe as the ongoing "aggression" by Israel's military forces against the people of Gaza.

In a series of posts on X, the social media site formerly known as Twitter, the rebel group's military spokesman Yahya Saree said its armed forces had "launched a large batch of ballistic and winged missiles, and a large number of drones at various targets of the Israeli enemy in the occupied territories".

He said the attack was the third operations that the Iran-linked Houthis had carried out so far in support of the Palestinians, and stressed that they would "continue to carry out more qualitative strikes" using missiles and drones "until the Israeli aggression stops".

Saree did not specify when the attack had taken place. But the Israeli air force reported hours earlier that it had "intercepted a surface-to-surface missile" and "an additional aerial threat" over the Red Sea early on Tuesday.

"We affirm that the position of our Yemeni people towards the Palestinian issue is firm and principled, and that the Palestinian people have the full right to self defence, and to obtain their full legitimate rights," Saree said, referring to the heavy Israeli military offensive in Gaza.

It is the "continued crimes of the Zionist enemy," a reference to Israel, that is "destabilizing the region", he said.

Regional tensions have been rising since Gaza-based Hamas militants carried out surprise cross-border raids into Israel on 7 October, which killed more than 1,400 people and saw more than 200 people taken hostage.

Israel has retaliated hard, first with relentless air strikes that have flattened entire neighbourhoods in Gaza, and more recently with a ground incursion that Israeli prime minister Benjamin Netanyahu dubbed the "second stage" of the war on Hamas.

The Gazan health ministry now puts the number of Palestinian deaths so far at above 8,000, marking the deadliest clashes between Israelis and Palestinians for decades.

The UN General Assembly overwhelmingly passed a resolution last week calling for an immediate ceasefire in Gaza, among other things, but the messaging coming out of Tel Aviv suggests that a ceasefire is not on the cards any time soon.

"Calls for a ceasefire are calls for Israel to surrender to Hamas. To surrender to terrorism. To surrender to barbarism," Netanyahu said in a televised address late on Monday. "That, will not happen."
By Nader Itayim

Saudi Arabia's 3Q GDP down 4.5pc on the year

Saudi Arabia's GDP contracted by 4.5pc in the third quarter compared with the same period last year, according to official data, largely as a result of additional voluntary crude production cuts implemented in July.

The data, published today by the Saudi general authority of statistics, showed oil activities down by 17.5pc on the year in the third quarter. The general authority of statistics defines oil activities as those related to crude oil, natural gas and refining.

Saudi Arabia's oil production averaged 8.96mn b/d in the third quarter, according to *Argus* estimates, down significantly from 10.15mn b/d in the previous quarter, as the kingdom began implementing the additional voluntary 1mn b/d cut to production that it announced at the June Opec+ meeting in Vienna.

The cut, which was originally due to last for just one

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month, has been extended several times since — most recently in September when Saudi Arabia said it would be extending it until the end of the year

Saudi Arabia said that the decision was taken "to reinforce the precautionary efforts" being made by Opec+ countries to support stability and balance of oil markets. It could contribute to another year-on-year GDP contraction in the fourth quarter.

The slowdown in its third quarter oil activities more than offset 3.6pc growth in non-oil activities and a 1.9pc increase in government activities over the same period to deliver what is the first contraction in the kingdom's quarterly growth since the start of 2021.
By Nader Itayim

Eurozone economy contracted marginally in 3Q

The eurozone economy contracted marginally in the third quarter, continuing a run of broad stagnation that stretches back to the middle of 2022.

The common-currency area's gross domestic product (GDP) decreased by 0.1pc in the July-September period, according to official eurostat data. The EU economy grew by 0.1pc in the same period.

Among the 20 eurozone economies, Germany contracted by 0.1pc, France grew by 0.1pc, Spain grew by 0.3pc and Italy was flat. The best performer was Latvia, with GDP growth of 0.6pc, and the worst was Ireland where GDP contracted by 1.8pc.

Growth rates in the eurozone and EU are a reversion to pre-pandemic levels after the wild fluctuations seen between late 2019 and the end of 2020. Growth accelerated as economies recovered from the pandemic but have moved between small growth and minor contraction since the start of last year.

Elevated inflation rates have pressured growth, and the IMF in its recent *World Economic Outlook* said this was caused in a large part by energy prices. It projected eurozone growth at 0.7pc this year; the OECD in its most recent *Interim Economic Outlook*, forecast the region's 2023 growth at 0.6pc.
By Ben Winkley

US warns Venezuela over opposition crackdown

Early signs of a renewed crackdown on opposition parties by Venezuelan president Nicolas Maduro's government will test Washington's resolve to keep oil sanctions against the South American Opec producer lifted.

A Venezuelan court on 30 October suspended the results of a presidential primary held by the government's political opposition ahead of elections next year, which resulted in a resounding win by former lawmaker Maria Corina Machado.

The US administration on 18 October lifted sanctions on Venezuela's oil and gas sector for a period of six months, conditioned on Maduro's pledge to work with the opposition parties toward a free election next year. A deal between Maduro and the Unitary Platform opposition alliance called for carrying out primary elections and allowing international observers in next year's election.

The US administration will snap back the sanctions "if the [Maduro] regime has in fact violated the agreement that it reached," US secretary of state Tony Blinken told a Senate panel today. "They're not getting a free pass for actions that they take that are in contradiction to the commitments that they've made to move toward free and fair elections."

Blinken would not say if the court action against Machado violates the agreement. US officials previously said that they view Machado's eligibility to participate in next year's election as a critical part of the conditions for future renewal of the sanctions waiver, which is set to expire on 18 April 2024. The Maduro government has disqualified Machado from running in national elections.

The latest twist in Venezuela's domestic politics provides a reminder of how tenuous the relief of US sanctions is. In effect, the US has extracted a promise from Maduro to hold a free election next year that he could lose — a prospect he has resisted for years, before giving a half-hearted agreement earlier this month.

Oil markets are still trying to absorb Venezuela's sudden return to the fold. US refiners and market analysts suggested that some of the 310,000 b/d of Venezuelan crude discharged in China last year could end up being diverted to its previous top destination, the US. Chevron was the only company allowed to import oil from Venezuela to the US since last November, and only from its joint ventures with state-owned PdV.

US crude imports from Venezuela averaged 120,000 b/d in January-August, according to the Energy Information Administration.
By Haik Gugarats

US crude output at record high in August

US crude output rose by 1pc in August to a new monthly high on gains from New Mexico, Texas and North Dakota.

Output averaged 13.05mn b/d in August, up from

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12.96mn b/d in July, the Energy Information Administration (EIA) said today in its *Petroleum Supply Monthly* report. This surpasses the previous high of 13mn b/d set in November 2019.

New Mexico led the gains with 1.8mn b/d of production in August, up by 40,000 b/d from the month prior. This halts a three-month slide for the state that shares the prolific Permian basin with Texas, where heavyweights ExxonMobil and Chevron plan to expand into North American shale.

Texas, the largest producing state, gained 25,000 b/d in August to reach record high output of 5.63mn b/d. This is up by 539,000 b/d from the same month last year.

Operators in North Dakota pumped out 1.22mn b/d across August, up by 37,000 b/d from the month before. North Dakota has received a notable boost from companies tapping into drilled but uncompleted (DUC) wells in the Bakken region over the course of the summer, but the state regulator said earlier this month that inventory has been depleted.

Offshore US Gulf of Mexico output fell by 2pc to 1.89mn b/d in August from the previous month.

The *Petroleum Supply Monthly* report is based on a methodology that includes a direct survey of oil producers in 15 states.

By Brett Holmes

Enterprise pipeline, terminal flows at record

Enterprise Products Partners posted record volumes on its crude oil pipelines and marine terminals in the third quarter, with rising outflows from its key Houston Ship Channel export facility.

Crude oil pipeline transportation volumes increased to a record 2.56mn b/d in the third quarter, up by 8pc from the previous quarter and 18pc higher than a year earlier. Flows on two of Enterprise's three main pipeline systems — its West Texas and Midland-to-Echo systems — increased in the quarter, while flows on its South Texas system decreased.

Enterprise moved a record 988,000 b/d at its crude oil marine terminals in the third quarter, up by 21pc from the previous quarter and nearly 20pc higher than a year earlier. Volumes at the Enterprise Hydrocarbons Terminal (EHT) on the Houston Ship Channel increased by 200,000 b/d in the third quarter from a year earlier, the company said.

EHT volumes set a record high in October at about 868,000 b/d, according to Vortexa data, and the terminal eclipsed the Enbridge Ingleside Energy Center (EIEC) in Corpus Christi, Texas, that month to be the largest single exporting terminal on the US Gulf coast. Enbridge logged record exports of 977,000 b/d in September at EIEC, and flows there fell to about 816,000 b/d in October, according to Vortexa data. EIEC had consistently led the pack of US export terminals in recent months because of its connections to large-diameter crude pipelines from the Permian basin and its ability to partially load very large crude carriers (VLCCs).

Enterprise is pressing ahead with plans to market capacity for a new crude export terminal it hopes to build off the coast of Texas with international customers and expects to secure needed permits by the end of the year.

Enterprise secured a key favorable decision for the proposed Sea Port Oil Terminal (SPOT) off the coast of Freeport, late in 2022, but still must complete other permitting requirements before it can obtain a deepwater port license needed to start construction. Enterprise should be able to secure a key license to begin construction by the end of 2023, Enterprise co-chief executive Jim Teague said today.

"We're having some productive negotiations with producers and large trading houses on SPOT and frankly I am getting more optimistic by the day," Teague said. Enterprise's current spending plans envision SPOT construction ending in 2027.

The SPOT terminal would be capable of fully loading VLCCs, which can hold up to 2mn bl. It would include two single-point mooring buoys that will be able to load oil at a rate of about 85,000 bl/hr. The project also involves building two crude pipelines running from the port to shore.

By Chris Baltimore

Enterprise converting Seminole oil line to NGL

Enterprise Products Partners will convert its 210,000 b/d Seminole crude pipeline back to natural gas liquids (NGL) service in December to meet an increased need for takeaway capacity in the Permian basin.

The Houston-based midstream operator projects US NGL production in the Permian region is on track to increase by more than 200,000 b/d in 2023 and reach almost 4mn b/d by year-end 2030. Seminole was first switched from NGLs to crude back in 2019.

Enterprise also said today it plans to build the 600,000 b/d Bahia NGL pipeline by the first half of 2025, running 550 miles from the Delaware and Midland basins in Texas to Enterprise's Mont Belvieu, Texas, fractionation complex. The pipeline will include a 24-inch diameter segment in the Delaware basin and connect to a 30-inch diameter segment spanning the Midland basin to Chambers County.

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The Bahia project will replace the previously-announced expansion of the Shin Oak pipeline, which transports raw NGLs from the Permian to Mont Belvieu. Chief executive Jim Teague said the Shin Oak expansion was scrapped because it would be too costly and not provide enough added capacity.

Enterprise's 195,000 b/d fractionator 14 at Mont Belvieu is scheduled to be completed during the second half of 2025, and will include an associated deisobutanizer (DIB) unit with the capability to separate up to 100,000 b/d of butane.

Enterprise reported third quarter LPG exports out of its Houston, Texas, export facility rose to a record 2.1mn b/d, from 1.7mn b/d a year prior. Teague said dock space next year is expected to remain tight as Enterprise and its competitors continue to work to expand export capacity at their terminals.

Enterprise's NGL fractionation volumes reached 1.5mn b/d in the third quarter, up from 1.4mn b/d a year earlier, also a record high. Despite higher production, Enterprise's NGL margins during the quarter were mitigated by two fractionator turnarounds and increased electricity costs caused by higher temperatures during the quarter.

Enterprise reported a profit of $1.35bn in the third quarter, down from $1.39bn a year earlier.
By Abby Downing-Beaver

WTI premiums tight on rising gasoline stocks

Premiums for physical West Texas Intermediate (WTI) crude to the Nymex crude futures benchmark have remained narrow in recent weeks, pushed in part by growing US Gulf coast gasoline stocks.

Premiums for WTI at Houston and Midland, Texas, have fallen to their lowest average monthly levels the benchmark since the end of the June trade month. Volume-weighted premiums slipped from highs in mid-September of $1.99/bl in Houston and $1.80/bl in Midland to $0.80/bl and $0.65/bl premiums, respectively, today.

The differentials were even narrower earlier this month, at the end of the November physical trade month, falling on 25 October to an average of $0.27/bl in Houston and flat in Midland. But much of that narrowing can be attributed to end of trade cycle volatility as traders exit or roll positions.

The persistence of the narrower premiums is likely due to rising US Gulf coast gasoline stocks, which are diminishing demand for domestic crude. Gulf coast gasoline stocks have grown by 9.32pc since 1 September to 86mn bl and are 7.5pc above the same time a year ago, according to Energy Information Administration (EIA) data. Crude stocks have grown 4.79pc to 242.5mn bl since the beginning of September.

Gulf coast refiners have reduced operating rates in response to swelling gasoline stocks, according to market participants in quarterly earnings calls last week. Refineries in the region are running at an average of 86.1pc in the week ending 20 October, according to EIA data, down from 94.4pc in the middle of August.

Some utilization reduction can be attributed to seasonal maintenance and turnarounds, but only three Gulf coast refineries — which collectively make up 9pc of Gulf coast capacity, much lower than the proportion of refineries in other regions currently undergoing heavy maintenance — are currently wrapping up major turnarounds.

Falling premiums have also been supported by weakening US Gulf Coast refining margins, which are pinched by seasonal factors, including last week's shift to cheaper winter-grade gasolines.
By Gordon Pollock

Colombia oil royalty swap plan gains traction

Hydrocarbon companies operating in Colombia plans to speed up solar, road, school and other infrastructure projects that qualify for a government program that lets the firms deduct the spending from oil royalty payments.

Oil, gas and mining companies operating in Colombia have spent about Ps1.9 trillion Colombian pesos ($475mn) in more than 240 infrastructure projects in 14 departments as part of the works-for-taxes program since it was created in 2017. Under the plan, companies with an annual income over Ps1trillion can pay 50pc of their tax obligations through the funding of approved infrastructure and services in certain rural areas hurt by armed conflict, according to the government's National Planning Department (DNP).

The infrastructure projects mostly focus on construction of solar plants, roads, sewage systems, schools and providing technology equipment for student, according to the government's Territory Renewal Agency (ART) which approves the projects.

Companies in the program can spend up to Ps800bn ($200mn) combined, up from the Ps480bn quota for 2022 because of the level of uptake by companies, the finance ministry said.

Ecopetrol, the largest taxpayer in the country, plans to build photovoltaic solar generation for users in rural areas in La Guajira and Putumayo provinces. In addition, it plans to build, upgrade and refurbish 51.5km of roads in the hydrocarbons-producing departments of Arauca, Tolima, Boyaca,

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Valle del Cauca and Sucre, while it will build schools in Tolima, Arauca, Sucre and Antioquia. Ecopetrol built 39 infrastructure projects in 2018-mid 2023, worth Ps725 billion.

In May, ART approved an additional 27 Ecopetrol projects worth Ps167bn.

Canadian oil company Parex plans to invest about Ps400 billion in the plan by 2025, Daniel Ferreiro, Parex president and country manager, said during an energy conference in Cartagena last week. Parex has projects underway worth Ps260 billion, mainly building schools, improving sewage systems and providing potable water, mainly in the eastern province of Arauca and in Cesar. Parex produces a net 55,000 b/d of oil equivalent.

Independent E&P Latin American company Geopark has invested more than $3mn in infrastructure works in several municipalities of the southern province of Putumayo to provide furniture and equipment for a child development center of the Colombian family welfare institute.

By Diana Delgado

Petroecuador to end Unipec, PTT oil deals

Petroecuador will not renew its oil supply deals with state-owned Thai company PTT and China's Unipec, which expire in December 2023, Petroecuador's chief executive Reinaldo Armijos said.

The end of the contracts will allow Petroecuador to sell around 18.8mn-19.2mn b/yr of Oriente and Napo crude in spot tenders. The Ecuadorian company sold 17mn b/yr to PTT and 1.8mn-2.2mn b/yr to Unipec.

Those agreements required Petroecuador to sell dozens of millions of barrels through several years to those companies calculating the price of crude with specific and complicated formulas that result in lower prices compared with spot sales, Armijos said.

From January-October, Petroecuador sold Oriente and Napo crude at an average discount of $12/bl and $17/bl to WTI crude, respectively, under the long-term oil supply deals, it said.

In the same period, Petroecuador sold Oriente and Napo crude at an average discount of $7/bl and $11/bl to the WTI, respectively, in spot tenders.

The Ecuadorian company will also terminate one of three oil supply contracts that expire in April 2024 with Petrochina, Armijos said. The company did not specify that contract's volumes. The other two agreements expire in December 2027 and require Petroecuador to sell 13mn b/yr to Petrochina.

The oil supply agreements with PTT, Unipec and Petrochina have been in force since 2010-2012 and have been renewed every 2-4 years. In exchange, the deals were tied to credits or advance payments.

Favoring spot tenders over long-term oil supply deals more than doubles Petroecuador's supply available for spot sales. The company will be able to sell 64.7mn bl in the spot market in 2024 from 29.7mn bl in 2023, Armijos said.

Petroecuador expects to export around 96mn bl of Oriente and Napo crude in 2023, a 4pc drop from 100.5mn bl in 2022.

By Alberto Araujo

Platform fire hurts Pemex emissions efforts

Mexico's state-owned Pemex cut its third quarter greenhouse gas (GHG) emissions by 18pc to 15.2mn t of CO_2 equivalent (CO_2e) from a year earlier, but emissions remained higher by 4.8pc from the previous quarter following an offshore platform fire in July.

While Pemex had made progress on reducing emissions in previous quarters, July's fire on the Nohoch offshore platform and delays to gas infrastructure in the Tupilco Profundo field — one of Pemex's highest producing gas fields — caused the uptick in emissions, Pemex said.

Pemex has made renewed efforts to reduce its GHG emissions amid investor pressure over the last two years in the face of the operator's poor record on unchecked gas flaring.

Pemex flared 393mn cf/d of gas during the third quarter, down by 20pc from the same quarter last year but up by 35pc from the previous quarter.

Gas flaring releases methane and CO_2. Cutting methane emissions through a reduction in gas flaring is seen as one of the most effective ways to limit global warming and improve air quality in the near term.

The operator has "focused on increasing associated gas usage in exploration and production processes and the continuous operation of compression systems in gas processing centers," Pemex said.

Efforts to reduce gas flaring are part of the company's long-term sustainability plan that it expects to publish by year-end, Pemex director Octavio Romero said.

The operator identified emissions reductions projects across all operating areas during the third quarter and hopes to increase gas usage rates to 98pc by the end of next year, up from 92pc between July and September.

By Rebecca Conan

ANNOUNCEMENTS

Correction

Incorrect prices were published for Bakken Patoka on 27 October. The correct prices are as follows:

Wtd avg diff	Wtd avg price	MTD diff
+2.35	86.75	+2.34

Argus Assessment Rationale Database

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