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# Argus NGL Americas

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## OVERVIEW

- Mont Belvieu, Texas, LST propane firmed, outpacing gains in crude in a day of thin, rangebound trading, and was valued at a stronger 41.8pc of Nymex WTI.
- Mont Belvieu, Texas, EPC ethane's midpoint rose slightly.
- February-loading spot fob cargoes were offered higher Friday.
- Mont Belvieu, Texas, EPC butane's midpoint weakened slightly.
- Edmonton, Alberta, in-well propane weakened slightly in discussions versus the US midcontinent.

US Gulf coast LPG			
	Low	High	Mean
<b>Propane</b>			
fob USGC, diff to Mont Belvieu ¢/USG	+8.000	+8.750	+8.375
fob USGC ¢/USG	82.875	83.625	83.2500
fob USGC \$/t	431.8	435.7	433.7
del Japan (AUSJ) \$/t	554.0	557.5	
del ARA (AUSE) \$/t	499.0	502.5	
Propane AFEI™ USGC netback \$/t			331.83
<b>Butane</b>			
fob USGC ¢/USG	107.438	108.188	107.8130
fob USGC \$/t	486.7	490.1	488.39
LPG freight			\$/t
			Rate
MGC Houston-Tuxpan			17.06
VLGC Houston-Chiba			122
VLGC Houston-Flushing			67
Olefins			¢/lb
			Low High Mid
Mont Belvieu ethylene, Jan			19.500 19.500 19.500
US Gulf coast PGP, Jan			36.500 37.000 36.750
US Gulf coast RGP, Jan			15.500 16.000 15.750

## SPOT MARKET TRADE RANGES

Mont Belvieu		Month	Low	High	Mean	¢/USG VWA
E/P mix Enterprise	Wet		22.000	22.500	22.250	
	Jan		22.000	22.500	22.250	22.250
	Feb		22.000	22.500	22.250	
Ethane Enterprise	Wet		27.000	27.500	27.250	
	Jan		26.875	27.500	27.188	27.282
	Feb		27.000	27.500	27.250	
Ethane Targa	Wet		27.000	27.500	27.250	
	Jan		27.000	27.500	27.250	27.250
	Feb		27.000	27.500	27.250	
Propane LST	Wet		73.250	73.750	73.500	
	Jan		73.000	73.875	73.438	73.411
	Feb		74.750	75.125	74.938	
Propane Enterprise	Wet		73.250	73.750	73.500	
	Jan		72.750	74.125	73.438	73.659
	Feb		74.625	75.125	74.875	
Propane Targa	Wet		73.250	73.750	73.500	
	Jan		73.250	73.750	73.500	73.500
	Feb		74.625	75.125	74.875	
Refinery grade butane LST	Wet		101.000	101.500	101.250	
	Jan		100.750	101.250	101.000	101.000
	Feb		99.500	100.375	99.938	
Normal butane Enterprise	Wet		101.000	101.500	101.250	
	Jan		99.875	102.000	100.938	101.338
	Feb		99.500	100.375	99.938	
Isobutane LST	Wet		108.750	109.250	109.000	
	Jan		107.500	110.000	108.750	108.750
	Feb		107.500	108.000	107.750	
Isobutane Enterprise	Wet		108.750	109.250	109.000	
	Jan		107.500	110.000	108.750	108.417
	Feb		107.500	108.000	107.750	
Natural gasoline Enterprise	Wet		150.000	150.500	150.250	
	Jan		148.000	152.000	150.000	149.953
	Feb		147.500	149.500	148.500	
Natural gasoline LST	Wet		150.250	150.750	150.500	
	Jan		150.000	150.500	150.250	150.250
	Feb		148.000	150.000	149.000	
Natural gasoline Targa	Wet		149.000	149.500	149.250	
	Jan		148.750	149.250	149.000	149.000
	Feb		148.250	150.250	149.250	

\*Tables include hyperlinks to those values maintained in the Argus database.

Current month-to-date averages, Jan		¢/USG	
	Mean MTD	VWA MTD	
<b>Mont Belvieu</b>			
E/P mix Enterprise	22.688	22.688	
Ethane Enterprise	27.641	27.711	
Ethane Targa	27.781	27.781	
Isobutane LST	107.438	107.438	
Isobutane Enterprise	107.438	107.212	
Natural gasoline Enterprise	151.969	151.925	
Natural gasoline LST	152.031	152.031	
Natural gasoline Targa	151.813	151.813	
Propane LST	74.719	74.766	
Propane Enterprise	74.594	74.900	
Propane Targa	75.125	75.125	
Butane LST	101.813	101.813	
Butane Enterprise	101.672	101.794	
<b>Conway</b>			
E/P mix	23.281	23.210	
Propane	74.125	74.285	
Butane	102.156	102.125	
Isobutane	134.313	134.313	
Natural gasoline	152.938	152.908	
Rail natural gasoline	156.938	na	

## MONT BELVIEU LIGHT NGLS

Mont Belvieu, Texas, LST propane firmed, outpacing gains in crude in a day of thin, rangebound trading, and was valued at a stronger 41.8pc of Nymex WTI.

January LST propane opened 0.625¢/USG higher at 73.25¢/USG and firmed to 73.875¢/USG before falling to 73¢/USG in the afternoon. February LST propane was discussed between 72.75-76.5¢/USG in the afternoon.

January EPC propane opened 1.25¢/USG higher at 74¢/USG and traded between 72.75-74.125¢/USG thereafter. February EPC propane was discussed between 73-76.125¢/USG in the afternoon.

EPC January ethane opened 0.125¢/USG lower at 26.875¢/USG and rose to 27.5¢/USG by midday, bringing the day's midpoint up 0.25¢/USG versus the previous session on early gains in natural gas prices. February EPC ethane was discussed between 26.5-27.375¢/USG in the afternoon.

February Nymex light sweet crude futures rose by 10¢/bl to \$73.77/bl.

## SPOT MARKET TRADE RANGES

Conway		¢/USG			
	Month	Low	High	Mean	VWA
E/P mix	Wet	21.750	22.250	22.000	
	Jan	21.750	22.250	22.000	22.000
Propane	Wet	72.500	73.000	72.750	
	Jan	72.000	73.500	72.750	73.050
Normal butane	Wet	102.250	102.750	102.500	
	Jan	102.000	102.750	102.375	102.375
Isobutane	Wet	133.750	134.250	134.000	
	Jan	133.750	134.250	134.000	134.000
Natural gasoline	Wet	152.500	153.000	152.750	
	Jan	151.500	154.000	152.750	152.833
Rail natural gasoline	Wet	151.000	151.500	151.250	
	Jan	156.500	157.000	156.750	

Hattiesburg		¢/USG			
	Month	Low	High	Mean	Mean MTD
Propane	Jan	78.750	79.250	79.000	81.4375

Bushton		¢/USG			
	Month	Low	High	Mean	Mean MTD
Propane	Jan	73.500	74.000	73.750	75.1250

Napoleonville		¢/USG			
	Month	Low	High	Mean	Mean MTD
E/P Mix	Jan	9.250	10.250	9.750	10.1875
Ethane	Jan	16.188	20.938	18.563	19.0160
Propane	Jan	62.188	62.688	62.438	63.5940
Normal butane	Jan	85.563	86.063	85.813	86.5470
Isobutane	Jan	82.125	82.625	82.375	81.0625
Natural gasoline	Jan	136.000	136.625	136.313	138.2813

Northeast markets		¢/USG			
		Low	High	Mean	Mean MTD
NYH butane		124.000	124.500	124.250	127.875

NGL fractionation spreads		
	¢/USG	\$/mmBtu
<b>Gulf, Mont Belvieu</b>		
Ethane Enterprise	10.005	1.784
Propane Enterprise	48.595	2.248
Normal butane Enterprise	73.033	0.683
Isobutane Enterprise	81.901	1.094
Natural gasoline Enterprise	120.093	1.830
Total barrel value		7.639
Total barrel frac spread		4.919
<b>Midcontinent, Conway</b>		
Ethane-propane mix	3.487	1.440
Propane	46.014	2.225
Normal butane	72.208	0.692
Iso-butane	104.908	1.345
Natural gasoline	120.376	1.860
Total barrel value		7.562
Total barrel frac spread		4.642

Spreads		¢/USG	
	Month	VWA	VWA MTD
<b>Quality spreads: Enterprise</b>			
EP mix/purity ethane	Jan	-5.000	-5.000
Isobutane/butane	Jan	+7.750	+5.750
<b>Locational spreads: Propane</b>			
LST/Enterprise	Jan	-0.375	-0.156
Targa/LST	Jan	+0.375	+0.375
Targa/Enterprise	Jan	0.000	0.000
Conway/LST	Jan	-0.250	-0.141
Conway/Enterprise	Jan	-0.875	-0.344
<b>Locational spreads: Natural gasoline</b>			
LST/Enterprise	Jan	+0.250	+0.062
Targa/Enterprise	Jan	+0.250	+0.062
See spread methodology at end of report			

## MONT BELVIEU HEAVY NGLS

Mont Belvieu, Texas, EPC butane's midpoint weakened slightly in range-bound trading Friday, leaving butane valued at 45pc of Nymex RBOB.

January EPC butane fell, opening 0.5¢/USG higher at 101.75¢/USG and rising to 102¢/USG during the morning before easing as low as 99.875¢/USG during the afternoon. February butane was discussed between 99.5-100.375¢/USG during the afternoon, near parity to January values.

Bids and offers for LST refinery-grade butane remained wide, and refinery grade was assessed at parity to normal based on discussions.

January EPC isobutane rose, opening 2.5¢/USG higher at

NGL spot deals			
	Timing	¢/USG	bl
Butane Conway	Jan	102.000	5,000
	Jan	102.750	5,000
Butane EPC	Jan	99.875	10,000
	Jan	100.000	5,000
	Jan	100.625	10,000
	Jan	101.500	10,000
	Jan	101.625	10,000
	Jan	101.750	10,000
	Jan	102.000	10,000
	Jan	102.000	10,000
Butane frac grade LST/Butane EPC	Jan	0.250	10,000
E/P mix Conway	Jan	22.000	10,000
Ethane EPC	Jan	26.875	15,000
	Jan	27.125	10,000
	Jan	27.125	10,000
	Jan	27.250	10,000
	Jan	27.250	10,000
	Jan	27.375	20,000
	Jan	27.375	10,000
	Jan	27.375	10,000
	Jan	27.375	10,000
	Jan	27.375	10,000
	Jan	27.500	10,000
	Jan	27.500	10,000
Isobutane Conway	Jan	134.000	5,000
Isobutane EPC	Jan	107.500	10,000
	Jan	107.750	10,000
	Jan	110.000	10,000
Natural gasoline Conway	Jan	151.500	5,000
	Jan	153.000	5,000
	Jan	154.000	5,000
Natural gasoline EPC	Jan	148.000	10,000
	Jan	148.000	10,000
	Jan	148.250	10,000
	Jan	148.500	10,000
	Jan	149.000	10,000
	Jan	149.500	10,000
	Jan	150.000	10,000
	Jan	150.000	10,000
	Jan	150.000	10,000
	Jan	150.000	10,000
	Jan	150.000	5,000
	Jan	150.500	5,000
	Jan	151.000	10,000
	Jan	151.000	10,000
	Jan	151.750	10,000
	Jan	152.000	10,000
	Jan	152.000	10,000
	Jan/Feb	0.000	25,000
	Jan/Feb	0.125	20,000
	Jan/Feb	0.125	10,000
Natural gasoline LST	Jan	152.500	289
Natural gasoline Targa	Jan	149.000	10,000
Propane Conway	Jan	72.000	5,000
	Jan	72.500	5,000
	Jan	72.500	5,000
	Jan	73.000	10,000
	Jan	73.000	10,000
	Jan	73.000	5,000

110¢/USG and traded between 107.5-107.75¢/USG thereafter.

January EPC natural gasoline rose alongside early gains in crude, opening 0.375¢/USG higher at 150¢/USG and rose as high as 152¢/USG before falling to 148¢/USG during the afternoon. February natural gasoline was discussed between 147.5-149.5¢/USG during the afternoon. January/February spreads traded pricing the months at parity or a narrower 0.125¢/USG backwardation. January Targa natural gasoline traded at 149¢/USG and was discussed on either side of that level thereafter.

### CONWAY LIGHT NGLS

Conway, Kansas, January propane opened 0.75¢/USG higher at 72.5¢/USG and firmed to 73.5¢/USG before falling to 72¢/USG in the afternoon, bringing the day's midpoint up alongside gains at Mont Belvieu, Texas. Conway propane was valued at a stronger 41.4pc of Nymex WTI.

February Conway propane was discussed between 72.5-75.25¢/USG in the afternoon.

E/P mix traded at 22¢/USG, 0.5¢/USG down from the previous session.

### CONWAY HEAVY NGLS

Conway, Kansas, butane firmed with gains in crude and was valued at a slightly stronger 58.3pc of Nymex WTI and a stronger 45.6pc of RBOB.

January butane traded opened 0.875¢/USG higher at 102.75¢/USG and eased to 102¢/USG in the afternoon.

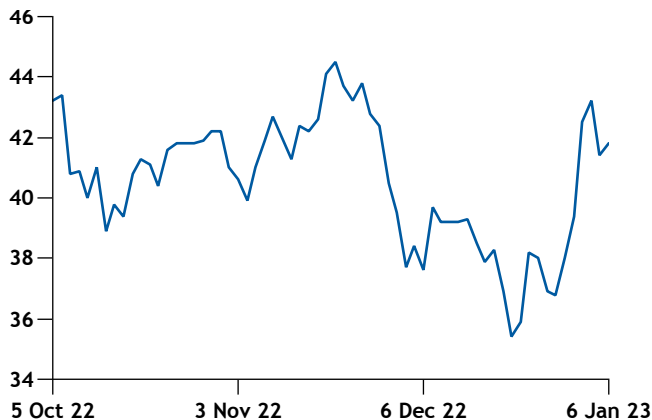
Conway isobutane changed hands at 134¢/USG.

Conway natural gasoline opened 3.75¢/USG higher at 153¢/

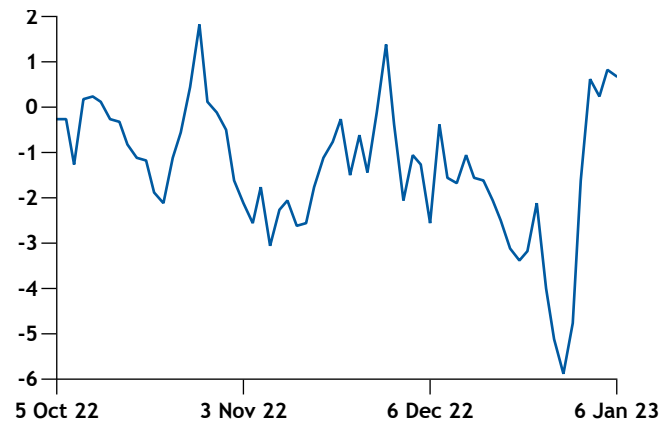
NGL spot deals			
	Timing	¢/USG	bl
	Jan	73.000	5,000
	Jan	73.250	5,000
	Jan	73.500	10,000
	Jan	73.500	5,000
	Jan	73.500	5,000
	Jan	73.500	5,000
Propane EPC	Jan	72.750	10,000
	Jan	73.000	10,000
	Jan	73.125	10,000
	Jan	73.500	10,000
	Jan	73.625	10,000
	Jan	74.000	10,000
	Jan	74.000	10,000
	Jan	74.000	10,000
	Jan	74.000	10,000
	Jan	74.125	10,000
	Jan	74.125	10,000
Propane Hattiesburg	Jan	79.000	5,000
	Jan	80.500	2,500
Propane LST	Jan	73.000	10,000
	Jan	73.000	10,000
	Jan	73.250	10,000
	Jan	73.500	10,000
	Jan	73.500	10,000
	Jan	73.750	10,000
	Jan	73.875	10,000

USG and rose to 154¢/USG before falling to 151.5¢/USG.

LST propane percentage of Nymex WTI %



LST propane vs Conway propane ¢/USG



## NORTHEAST

No fresh discussions for New York Harbor butane emerged Friday as railcar availability in the region remains tight for late January. The railed New York Harbor butane assessment was left unchanged at a 23-23.5¢/USG premium versus Mont Belvieu, Texas.

## CANADA

In-well Edmonton, Alberta propane was offered slightly lower, at a 10¢/USG discount to Conway, Kansas, as market participants focused mainly on railed activity. Railed propane in western Canada was offered at a 7.5¢/USG premium to Conway in sellers' railcars, but buying interest appeared well below that level as many market participants continue to whittle away current supplies rather than re-enter the spot market.

No firm discussions emerged for Edmonton butane, and the assessment was left unchanged at 51pc of the calendar month average of Nymex WTI.

Discussions for Sarnia, Ontario, propane and butane remained muted Friday, and the in-well assessments were left unchanged at a steady 17¢/USG and 14¢/USG premium, respectively, versus Mont Belvieu, Texas.

## CANADA

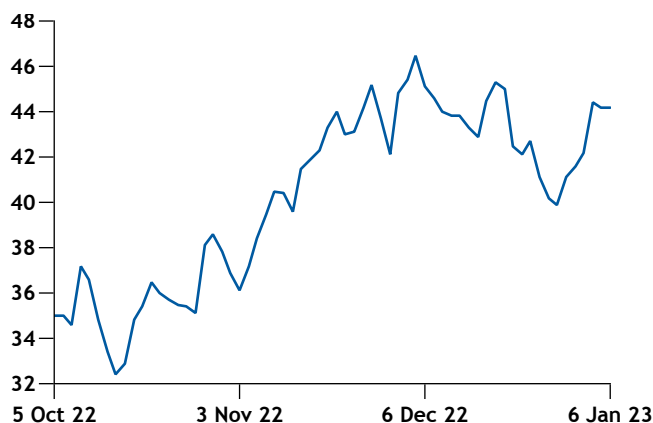
Edmonton					¢/USG	
Daily	Month	Low	High	Mean	Mean MTD	
Propane	Jan	61.500	62.000	61.750	63.875	
Diff to Conway	Jan	-11.250	-10.750	-11.000	-10.250	
Field grade butane	Jan	89.375	90.250	89.813	89.531	
Can. condensate \$/bl	Feb	77.35	77.85	77.600		
Diff to Nymex CMA \$/bl	Feb	+3.250	+3.750	+3.500		
AFEI™ netback to Edmonton propane \$/t						331.826

Sarnia					¢/USG	
Daily	Month	Low	High	Mean	Mean MTD	
Propane	Jan	90.250	90.750	90.500	91.750	
Diff to LST	Jan	+16.813	+17.313	+17.063	17.032	
Butane	Jan	114.750	115.250	115.000	115.688	
Diff to LST	Jan	+13.750	+14.250	+14.000	13.875	
Isobutane	Jan	123.000	123.500	123.250	121.938	
Diff to LST	Jan	+14.250	+14.750	+14.500	14.500	

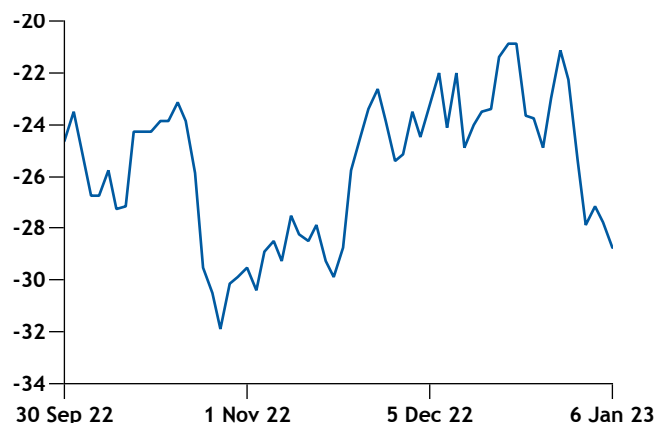
## BRAZIL

Delivered LPG Brazil		\$/t	
	Mid		±
Propane Santos	521.7606		-1.6237
Propane-butane 90:10 Santos	527.2458		-1.8595
Propane-butane 70:30 Santos	538.2161		-2.3312
Propane-butane 50:50 Santos	549.1865		-2.8027
Propane Suape	503.9262		-1.2553
Propane-butane 90:10 Suape	509.4114		-1.4911
Propane-butane 70:30 Suape	520.3817		-1.9628
Propane-butane 50:50 Suape	531.3521		-2.4343

Enterprise butane % of USGC 87 gasoline %



Edmonton propane vs Sarnia propane ¢/USG



## US EXPORTS

Discussions for spot loading February cargoes continued to increase Friday, with an early February cargo sold at 8¢/USG and offers discussed above that level thereafter.

Spot cargo availability remains a bit tight as Gulf coast terminals work through earlier fog delays seen at the end of December.

Further declines in freight on a Houston-Chiba basis allowed for improved netbacks on paper to Asia. February AFEI/LST paper traded at a wider \$180/t Friday.

The Panama Canal Authority estimated a slightly longer three-day wait both northbound and southbound Friday. The Houston and Galveston office of the US National Weather Service noted conditions are favorable for sea fog from tonight through Sunday morning.

## EUROPE/ASIA

### Northwest Europe

The trading week drew to a close with BP again seeking a ToT cargo at the back of the current 10-25 days forward assessment timeframe, now 27-31 January.

The major bid first at 50pc \$510/t and 50pc January cif ARA -\$1/t and last up at \$514/t and -\$1/t worth \$516.75/t basis Flushing with January assessed at \$520.50/t. The bid was stronger versus underlying swaps than Thursday's but was viewed as still unlikely to tempt a seller at present with large cargo value again assessed at flat to front month paper. On Monday, February delivery dates will begin to come under assessment where the market is viewed as slightly tight across the month as a whole. Renewed petrochemical demand is filling the gap left by a lack of typical seasonal heating demand due to above average temperatures across the continent.

### Asia-Pacific

Asian prices fell on the back of weaker swaps values. February Argus Far East Index (AFEI) propane swaps lost \$6.75/t to settle at \$570.5/t at timestamp, brushing off a nearly \$0.4/bl gain in front-month Brent values.

The afternoon window saw increased trading activity. Itochu returned to bid for 23,000t propane for first-half February arrival basis Chiba at February AFEI +\$26/t, while Mabanafit competed with a higher bid at February AFEI +\$28/t without attracting counteroffers. Sinochem posted a bid for 46,000t

### WTI comparisons: Percentage of crude

	Mont Belvieu %	Conway %	Mont Belvieu / Conway spread %
Propane	41.8	41.4	+0.4
Propane LST	41.8		+0.4
Normal butane	57.5	58.3	-0.8
Isobutane	61.9	76.3	-14.4
Isobutane LST	61.9		-14.4
Natural gasoline	85.4	87.0	-1.6

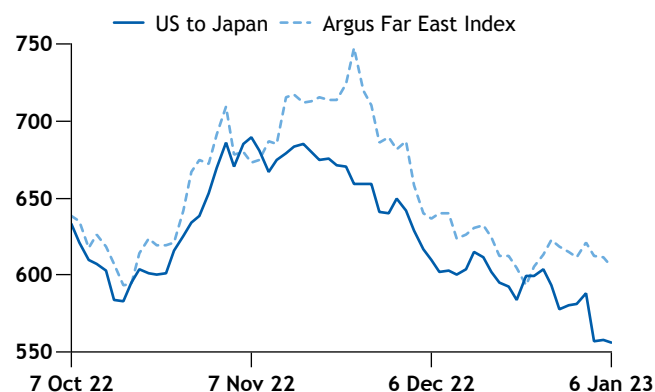
Mont Belvieu grades are Enterprise except where noted

Ice daily weighted averages	Timing	¢/USG
Mont Belvieu ethane	Jan	27.280
Mont Belvieu propane	Jan	73.410
Conway propane	Jan	73.130

propane for 13-25 February arrival within Singapore-Japan range at February AFEI +\$15/t. Cash premiums have moved higher on the back of recent sales into China where Fujian Meide was heard to have procured 46,000t propane for first-half February delivery at February CP +\$50s/t which equated February AFEI +\$35-38/t on Wednesday.

### US propane delivered Asia vs FEI

USD/t



## OLEFINS SPOT MARKETS

### Ethylene

US spot ethylene prices increased slightly to end the week. January EPC ethylene traded once at 19.5¢/lb to set the daily assessment 0.50¢/lb above the prior day. Argus February EPC ethylene at a 0.125¢/lb carry based on spread discussions. A second quarter through third quarter paper ethylene strip traded at 19.25¢/lb.

January Choctaw, Louisiana, ethylene traded four times at 18¢/lb, setting the daily assessment 0.25¢/lb above the prior day. February Choctaw, Louisiana, ethylene discussions did not emerge. A notional bid and offer placed the assessment for February Choctaw at 18.25¢/lb.

### Propylene

US spot PGP prices rose amid moderate market engagement. January PGP was bid as high as 36.5¢/lb, but generated no selling interest. A notional offer placed the daily assessment for January PGP at 36.75¢/lb. February PGP negotiations were hushed, and the daily assessment remains at a 0.25¢/lb carry to January. February Texas “Other” PGP traded at 36.5¢/lb. A third quarter paper deal traded at 36¢/lb and a fourth quarter paper PGP traded at 38.5¢/lb.

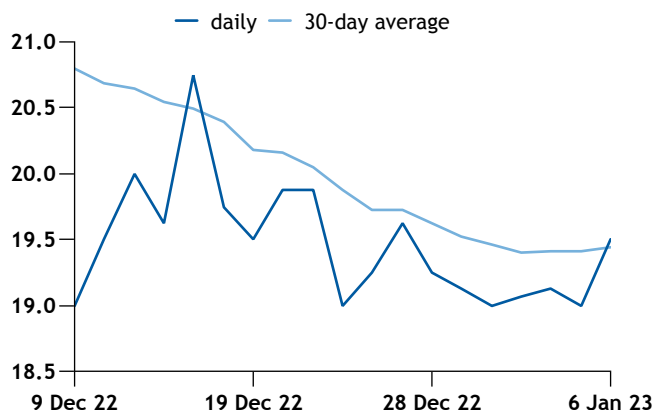
US spot railed RGP was bid at 26¢/lb for January, but no deals emerged. RGP pipeline conversations were quiet. Assessments for January and February RGP pipeline remain unchanged at 15.75¢/lb.

US ethylene prices				¢/lb
	Timing	Low	High	Mid
Mont Belvieu EPC ethylene	Jan	19.500	19.500	19.500
	Feb	19.375	19.875	19.625
Choctaw ethylene	Jan	18.000	18.000	18.000
	Feb	18.000	18.500	18.250
Mont Belvieu EPC VWA	Jan			19.500
Mont Belvieu EPC MTD volume mn lb	Jan			48.000
Mont Belvieu EPC MTD average	Jan			19.151
Mont Belvieu EPC 30-day rolling avg				19.441
Mont Belvieu EPC 45-day rolling avg				19.675

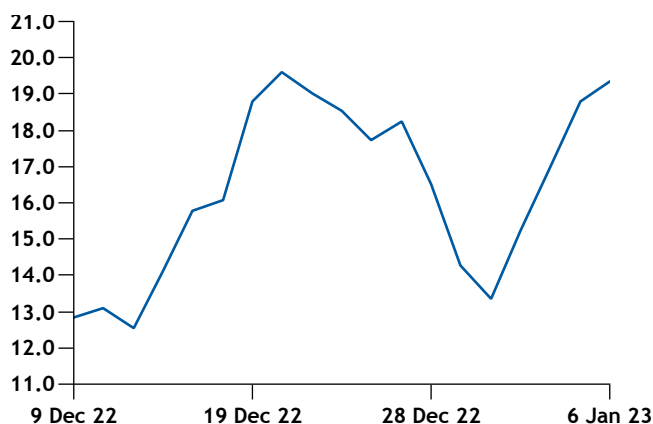
US propylene prices				¢/lb
	Timing	Low	High	Mid
US Gulf coast PGP	Jan	36.500	37.000	36.750
	Feb	36.750	37.250	37.000
US Gulf coast RGP	Jan	15.500	16.000	15.750
	Feb	15.500	16.000	15.750
US Gulf coast PGP VWA	Jan			36.750
US Gulf coast PGP volume mn lb	Jan			18.000
RGP alkylation value		69.300	70.900	70.100

Volume-weighted averages		¢/lb
		Mid
Ethylene		
VWA		19.500
VWA 30-day		19.509
VWA 45-day		19.458
VWA MTD		19.151
Propylene		
VWA		36.750
VWA 30-day		32.378
VWA 45-day		30.915

Mont Belvieu spot ethylene prices ¢/lb



Propane-propylene spread ¢/lb

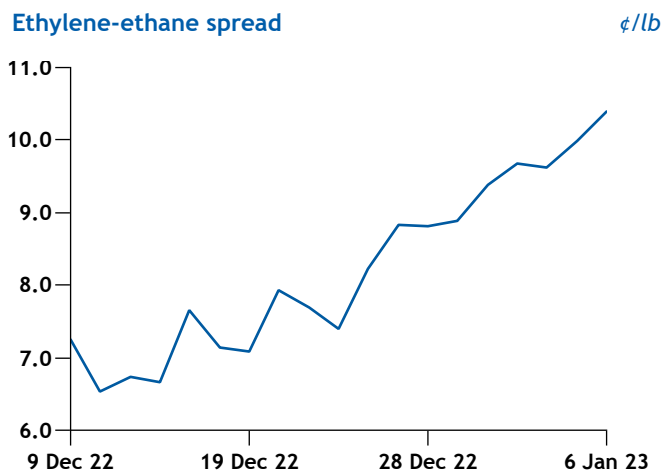


## OLEFINS SPOT MARKETS

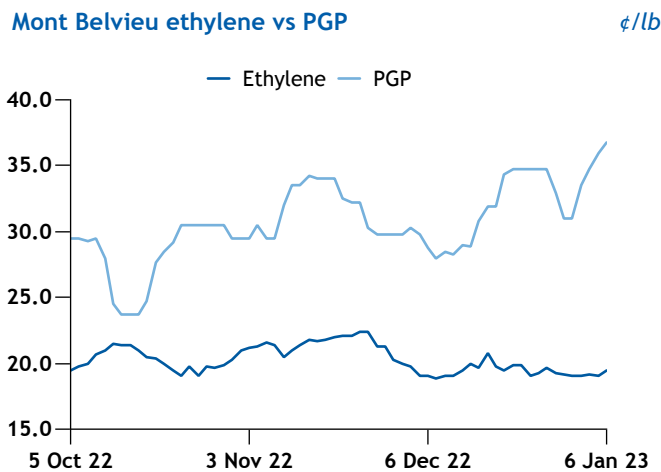
Global swaps			\$/t
US	Ethane	Propane	
Jan			383.56
Feb			391.07
Mar			394.34
Northwest Europe	Propane	Naphtha	
Jan			617.00
Feb			614.00
Mar			610.75
Asia-Pacific	Propane	Naphtha	
Jan			598.50
Feb			594.45
Mar			589.05

Olefins spot trades, week to date			
Date	Product	Price €/lb	Delivery
6 Jan	Ethylene Choctaw	18.000	Jan
6 Jan	Ethylene Mont Belvieu EPC	19.500	Jan
6 Jan	Ethylene Choctaw	18.000	Jan
6 Jan	Ethylene Choctaw	18.000	Jan
6 Jan	Ethylene Choctaw	18.000	Jan
5 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
5 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
5 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
5 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
5 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
5 Jan	PGP Gulf Coast	36.000	Jan
4 Jan	Ethylene Mont Belvieu EPC	18.750	2Q23
4 Jan	Ethylene Choctaw	17.000	Jan
4 Jan	Ethylene Mont Belvieu EPC	18.750	2Q23
4 Jan	Ethylene Mont Belvieu EPC	18.875	2Q23
4 Jan	Ethylene Mont Belvieu EPC	18.750	2Q23
4 Jan	Ethylene Mont Belvieu EPC	18.750	2Q23
4 Jan	Ethylene Mont Belvieu EPC	18.750	2Q23
4 Jan	Ethylene Mont Belvieu EPC	19.000	2Q23
4 Jan	PGP Gulf Coast	35.000	Jan
4 Jan	PGP Gulf Coast	34.500	Jan
4 Jan	PGP Gulf Coast	34.500	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.125	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.000	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.125	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.125	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.125	Jan
3 Jan	Ethylene Mont Belvieu EPC	19.125	Jan
3 Jan	Ethylene Mont Belvieu EPC	18.625	2Q23
3 Jan	Ethylene Choctaw	17.000	Jan

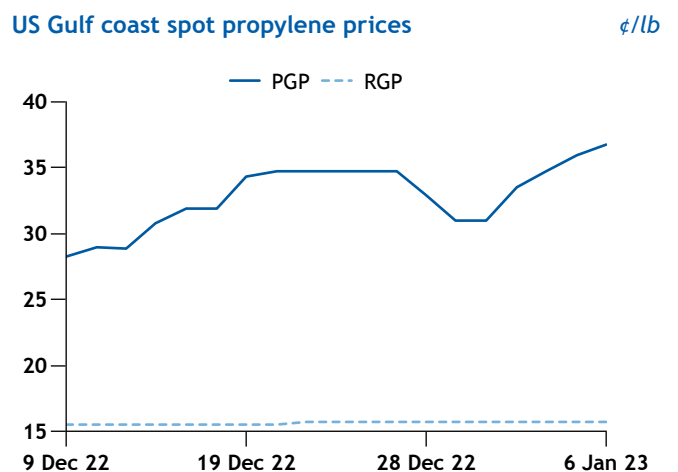
Ethylene-ethane spread



Mont Belvieu ethylene vs PGP

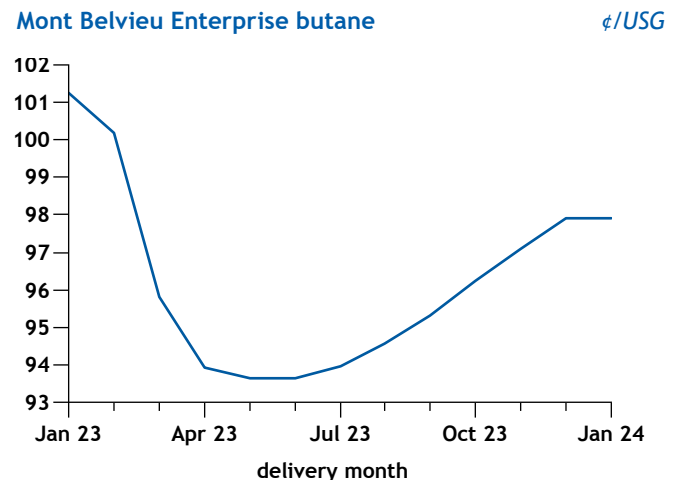
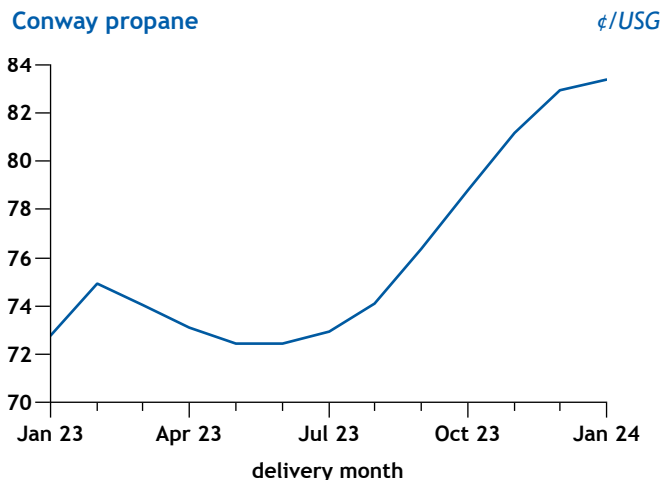
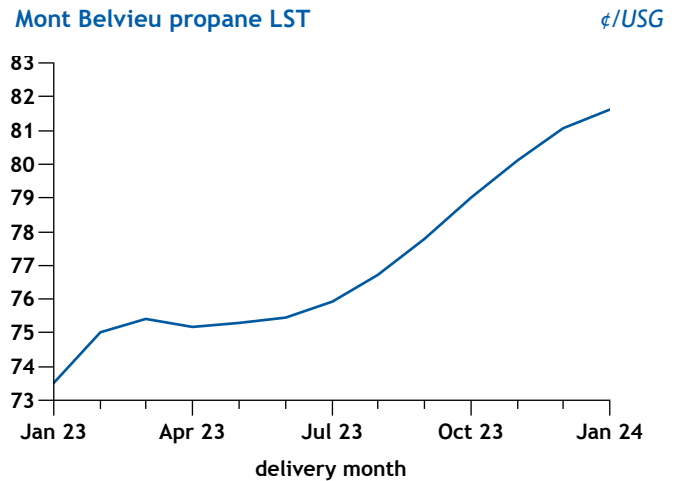
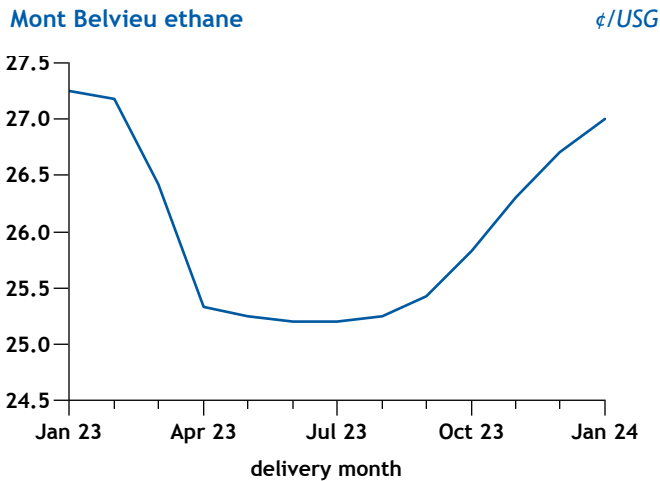


US Gulf coast spot propylene prices





## FORWARD CURVES



– Argus NGL Americas Forward Curves

## RELATED MARKETS

### Crude

WTI crude futures were little changed after US payroll data signaled the Federal Reserve's aggressive series of interest rate increases is working.

February Nymex WTI rose by 10¢/bl to \$73.77/bl, while March Ice Brent fell 12¢/bl to \$78.57/bl. Both benchmarks fell more than 8pc this week. The March Brent-March WTI spread narrowed to \$4.53/bl.

WTI at Houston was last discussed at a 90¢-\$1.10/bl

premium to the US crude benchmark at Nymex settlement, according to the *Argus* Crude Market Ticker. Premiums were up slightly from yesterday's 85¢/bl volume-weighted average.

The US added 223,000 nonfarm jobs in December, the fewest in two years, while average hourly earnings growth eased to 4.6pc from a year prior, according to the Labor Department, signs the Fed's course of rate hikes is succeeding in slowing job growth and inflation.

## Gasoline

Gasoline prices along the US Gulf coast made directionally mixed moves at the end of the week as stronger cash differentials were met with small declines in underlying Nymex RBOB futures.

Regional cash differentials were stronger across all grades amid scheduling of Colonial Pipeline's third cycle.

Conventional 87 finished gasoline (M4) differentials rose by 1.50¢/USG on the day following trade done at Nymex +0.75¢/USG and +4.25¢/USG. Outright prices edged lower by 0.75¢/USG to \$2.27/USG, down by 13.34¢/USG from week-ago levels. Chicago CBOB locations were assessed at parity on Friday amid concerns over rumored refinery restart delays in the region.

Chicago CBOB locations were deemed at parity according to valuations received by market participants, with Buckeye Complex CBOB changing hands at a 6¢/USG premium to the Nymex basis, while Wolverine pipeline CBOB traded at a 7¢/USG premium. This sent cash differentials up by 4.5¢/USG at each of the locations, West Shore/Badger, Wolverine pipeline and Buckeye Complex.

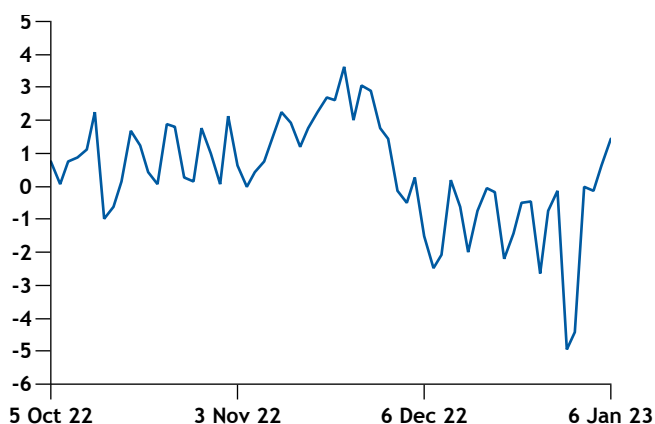
## Naphtha

Higher values for N+A naphtha into the gasoline blending sector were visible on Friday, but confirmed business was limited by prevailing dispersed activity.

Limited selling interest for heavy virgin naphtha (HVN) obscured prices, leaving differentials unchanged from a previously assessed level.

Cash prices for the Gulf coast waterborne conventional 13.5 RVP (GC WB M4) gasoline were down by 0.75¢/USG on the day while the February Nymex RBOB settled 2.25¢/USG lower.

Conway butane vs Enterprise butane ¢/USG



Petrochemical feedstock comparisons		
	¢/USG	\$/t
E/P mix	22.25	
Purity ethane	27.19	
Propane Enterprise	73.44	
Butane Enterprise	100.94	
Isobutane Enterprise	108.75	
Natural gasoline Enterprise	150.00	630.00
Paraffinic naphtha 80 min	152.25	605.96
Reformer naphtha 40 N+A	174.46	633.07
Diesel 10ppm Colonial	300.95	
Heating oil Colonial	201.45	

Ethylene cash margins		¢/lb
		Margins
Purity ethane		6.660
Propane Enterprise		-1.590
Normal butane Enterprise		-5.950
Light naphtha		-18.660
Heating oil Colonial		-45.400

Ethylene forward curves		¢/lb
Period		Price
Jan		19.500
Feb		19.625
Mar		19.750
2Q23		19.625
3Q23		19.500
4Q23		19.500

No fresh, firm bids, offers or deals were mentioned in the HVN arena in Friday. Selling interest for HVN had been featured in the February Nymex RBOB -40s¢/USG range but verified buying interest could not be pinned down.

### Argus Assessment Rationale Database

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

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

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

An offer for a Calcasieu-quality N+A naphtha barge was noted at February Nymex RBOB -43¢/USG early in the day, reportedly for 13-15 January timing.

By the afternoon, the Calcasieu-barge was heard traded into the gasoline blending market at or close to the offered level. The offer was similar to recent raffinate deals reported done around February Nymex RBOB -42¢/USG on Friday and -40¢/USG on Thursday for the same premium specification.

Prices for Calcasieu naphtha into gasoline blending is normally lose to HVN levels or above HVN on occasion, depending on blending economics.

Generic full-range N+A naphtha discussions were scarce. Prices for full-range were adjusted to a more typical 3¢/USG discount to HVN, without substantiation from confirmed deals.

Light naphtha trading was thin to end the week, with the only conclusive business noted on the Explorer.

Explorer injects for early January changed hands at a 2¢/USG premium to natural gasoline (C5).

Light fractionator C5 barges were offered at C5 +3.5¢/USG on a delivered basis while bids remained at C5 +1¢/USG, without conclusion.

Light sweet naphtha was offered up to C5 +8¢/USG, but there were no bids visible. Light sweet naphtha last traded at C5 +6.5¢/USG earlier this week.

## Natural gas

US natural gas futures ended slightly lower today, finishing at a fresh 12-month low, on expectations for mild weather through mid-January, despite lower-than-average inventories.

Spot prices at the Henry Hub fell today by 32.5¢/mmBtu to \$3.44/mmBtu, while gas at Transco zone 6 in New York was up by 31¢/mmBtu to \$3.50/mmBtu.

The 12-month strip dropped by 0.9pc to \$3.771/mmBtu, while the 2024-calendar strip was down by 0.3pc to \$3.961/mmBtu. Prompt-month prices finished the week down by 17pc from a week earlier on forecasts showing that mild weather would extend well into January, typically the coldest month of the winter heating season.

The weather outlook today showed another drop in expected heating demand during the next two weeks. Above-normal temperatures were expected to blanket most of the US on 11-15 January and the eastern two-thirds of the country on 16-20 January, according to the private forecaster Commodity Weather Group. Most of today's warmer changes to the outlook were for late next week and early the following week.

The unusually warm weather should crimp gas demand for

heating and curb withdrawals from gas storage.

US natural gas withdrawals have outpaced average levels this year because of a late December cold snap that resulted in the bulk of this winter's inventory decline. Inventories so far this winter have dropped by 753 Bcf (21.3bn m<sup>3</sup>), or 35pc larger than the five-year-average draw at this point in the season, according to the US Energy Information Administration (EIA).

Most of that decline, or about 58pc of the cumulative draw, occurred during the final two weeks of 2022. Withdrawals should begin to close the gap with average levels because of milder weather.

Total inventories as of 30 December were 2.891 Tcf – 6.7pc lower than the five-year average and 9.6pc lower than a year earlier. Low inventories can bolster prices by stoking concerns about spikes in demand or supply shortfalls.

Analysts were expecting next week's inventory report to show a draw that was just a fraction of the prior week's decline. The EIA has said that it expects withdrawals from gas storage to exceed average levels this winter thanks to colder weather, the typical seasonal decline in output and the return of the 2 Bcf/d Freeport LNG export terminal in Texas. That terminal shut in June because of an explosion but was expected to resume service this month, Freeport has said.

Some analysts, though, say they expect supply to outstrip demand in the coming year as output climbs and LNG exports stagnate.

## INDUSTRY NEWS

### P66 increases stake in DCP Midstream

Phillips 66 is increasing its stake in natural gas liquids subsidiary DCP Midstream to 86.8pc by acquiring DCP's publicly held common units for approximately \$3.8bn, or \$41.75/unit.

P66 said the transaction, which is expected to close in the second quarter, should generate an incremental \$1bn in earnings before taxes and will capture \$300mn in operational synergies with P66's existing midstream business. DCP is a joint venture between P66 and Enbridge and operates 57,000 miles of natural gas and NGL pipelines and gas processing plants in the US midcontinent.

By Amy Strahan

## North American rail volume drops in 2022

North American rail volume fell last year, driven lower by less consumer volume and lower grain and metals shipments.

US rail volume fell by 2.8pc last year, down compared with the same 52 weeks in 2021, Association of American Railroads (AAR) data show. Canadian rail volume dropped by 0.6pc from the year-earlier period. But Mexican rail volume rose by 4.4pc from 2021. US rail volume represents 73pc of North American rail freight. Canada comprises 21pc of traffic and Mexico 6pc of volume.

Total North American rail volume dropped last year by 1.9pc from 2021, AAR data show. Intermodal traffic fell by 3.8pc which offset a 0.1pc increase in carload traffic.

US and Canadian traffic dropped on lower commodity carloads as well as fewer intermodal shipments. In contrast, Mexican carload and intermodal traffic rose. Carload traffic is primarily commodity shipments including coal, crude and metals. Intermodal freight is mostly containers transferred between railroads, trucks and vessels, often containing consumer goods.

“Rail markets are always evolving, and 2022 was no exception,” AAR senior vice president John Gray said.

In the US, shipments of several major commodities dropped. That drop was only partly offset by an increase in coal shipments.

US “coal carloads grew solidly in 2022 largely because higher natural gas prices made coal-fired electricity generation more competitive,” Gray said. US coal volume rose by 2.7pc compared with 2021, while Canadian shipments increased by 9.1pc. Mexico’s small coal segment shrank by 11pc.

Those higher natural gas prices, along with “other market disruptors,” cut into chemicals traffic because gas is a key raw material for chemical manufacturing, Gray said. US chemicals volume was essentially flat with 2021, while Canadian loadings fell by 1.8pc. Chemicals loadings in Mexico rose by 11pc.

US grain carloads in 2022 were slightly higher than the annual average over the last decade, Gray said. But shipments were down compared with 2021 because grain volume that year was the busiest year for grain carloads since 2008.

US and Canadian grain volume fell by 4.2pc and 5.2pc respectively in 2022. Mexican grain car loadings fell by 13pc compared with 2021.

US shipments of metallic ores and metals fell by 6.6pc last year, while Canadian volume fell by 2.6pc. A 10pc increase in Mexican loadings did not offset the reduction in the rest of North America.

Canadian petroleum and petroleum products loadings climbed by 4.8pc last year, while Mexican volume increased by 40pc. US petroleum and petroleum products loadings fell by 7.6pc from 2021.

Meanwhile, US intermodal volume in 2022 was the sixth largest ever, according to AAR data. But volume was still down by 4.9pc compared with 2021. Canadian intermodal loadings fell by 0.7pc. Mexican intermodal shipments increased by 1.7pc.

*By Abby Caplan*

## US light vehicle sales at 4-month low in Dec

US light vehicles sales in December fell to a four-month low as sales of autos and light trucks both declined from the prior month, according to Bureau of Economic Analysis (BEA) data.

US sales of light vehicles in December declined to a seasonally adjusted annual rate of 13.3mn units, the lowest since August and down from a 14.2mn unit pace in November, BEA said. Sales were up from a 12.7mn annual unit pace in the previous December.

Light truck sales in December fell to a 10.53mn annual unit rate, down from a 11.06mn pace in November. Light truck sales were up from a 9.93mn unit rate in December 2021.

Sales of autos fell in December to a 2.79mn annual unit rate, dropping from a 3.16mn annual pace in November. As with light vehicles, auto sales were higher than the previous December, when sales were at a 2.78mn unit annual rate.

US auto production declined for a third month in November to 133,400 vehicles, the lowest output since February, according to the latest monthly BEA data. Automakers produced 149,800 units in October and 126,900 units in November 2021.

*By Jason Metko*

## Petchem head replaces Chavez at PdV

Venezuelan president Nicolas Maduro has replaced Asdrubal Chavez as president of state oil company PdV with head of state petrochemicals firm Pequiven.

Pedro Tellechea as the new PdV president “will consolidate the momentum of the national oil industry,” Maduro posted on social media today. Chavez “will soon have new responsibilities.”

He takes the post as PdV will be working more with Chevron under eased US sanctions that allow the US major to expand it expand its activities in the country, [including exporting crude](#).

In a series of tweets, Maduro also changed his foreign min-

ister for the third time in under a year, replacing Carlos Faria with Yvan Gil.

Chavez was one of the last remaining leaders in the government with direct ties to Maduro's predecessor and mentor, late former Venezuelan president Hugo Chavez.

Chavez worked at PdV in early 1992, when his first cousin Hugo Chavez attempted a coup d'etat that landed the then lieutenant colonel of the paratroopers in jail for two years. He eventually became president of Venezuela in 1999 until his death in 2013, when his hand-picked successor Maduro moved permanently into the presidency.

Tellechea has been head of Pequiven since August 2019.

"He won the workers of Pequiven over, he put an end to mistreatment and [political] persecution", a former Pequiven engineer told *Argus*.

The Asoquim chemical and petrochemical industry group also told *Argus* in 2022 that it had a good working relationship with Tellechea.

*By Carlos Camacho*

### Hyundai Chemical to shut cracker in February

South Korean petrochemical producer Hyundai Chemical is considering shutting its Daesan-based heavy residual cracker in February, probably for 3-5 months amid persistently eroding cracker production margins.

The producer is aiming to shut its 900,000 t/yr cracker with 450,000 t/yr propylene output, likely from first half of February to end of June. But the exact dates are still under discussion, according to market sources. Downstream units including a 850,000 t/yr polyethylene plant and 500,000 t/yr polypropylene line will also shut because of an absence of feedstock olefins during the cracker shutdown.

Most crackers in South Korea, if not all, are operating their crackers at a reduced rates because of thinning cracker margins since early last year. Cracker margins have been under pressure despite producers cutting cracker rates to reduce olefins output because of weak downstream demand and high feedstock prices. Average naphtha cracker-based margins in 2022, according to *Argus* calculations settled at a negative \$237/t, a far cry from \$96/t in 2021 and \$310/t in 2020.

Selected cracker operators in Asia are either mulling full shutdowns or extending their cracker turnarounds. South Korea's YNCC is [extending its No.3 Yeosu-based cracker shutdown](#) to end of February. Thailand's SCG is also extending its Rayong Olefins cracker shutdown in Map Ta Phut from September to at least mid-January. Taiwan's Formosa will likely keep its No.2 cracker in Mailiao shut for the first quarter of 2023. Philip-

pine's JG Summit is aiming to [shut its Batangas-based cracker again](#) in the first quarter of the year because of weak margins.

Hyundai Chemical is a joint venture between Hyundai Oilbank and Lotte Chemical. The company [started up its cracker in November 2021](#).

*By Becky Zhang and Toong Shien Lee*

### S Korea approves Kori 3 unit restart

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

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

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

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

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

*By Subethira Ahumugam*

### Saudi Arabia's Ar Razi shuts methanol unit

Saudi Arabia-based Ar Razi Saudi Methanol has shut its largest No.5 unit because of a technical issue.

The unit in Jubail, which can produce around 1.7mn t/yr of methanol, is expected to remain off line for around a week.

Ar Razi is a joint venture between Saudi Arabia's state-owned Sabic and the [Japan Saudi Arabia Methanol consortium](#).

The shutdown comes in the wake of a series of disruptions that has crimped global methanol supplies.

Kaltim Methanol Industri's 660,000 t/yr Bontang plant in Indonesia remains [shut for a 45-day maintenance turnaround](#) that began on 9 December. Malaysian state-owned refiner Petronas is expected to again shut its 1.65mn t/yr [No.2 methanol unit at Labuan](#) for a two-week maintenance later this month.

Enquiries from southeast Asia have emerged because of regional shortages, with some buyers seeking late January

arrival cargoes.

By Leanne Tan

## SFF acquires stake in LPG storage terminal

South Africa's competition watchdog has approved state-owned Strategic Fuel Fund's (SFF) acquisition of a 60pc stake in LPG firm Avedia Energy, which operates a 2,000t storage facility in Saldanha Bay on the country's west coast.

The competition body approved the merger on condition that SFF and Avedia provide third parties access to their LPG off-loading and storage facilities, along with a regulatory monitoring mechanism that ensures access is being granted.

Under the proposed transaction the SFF will gain access to a jetty, where LPG will be offloaded and then transported by pipeline to Avedia's storage terminal. Pipeline construction will start in April and the off-loading facility is expected to be fully operational by 2028.

The competition body said the merger will boost supply in a region that is almost entirely reliant on LPG imports and that suffers chronic shortages in the high-demand winter months when adverse weather often disrupts deliveries. Sunrise Energy operates the region's only import facility, which has capacity of 210,000 t/yr, after Avedia was ordered by port authority TNPA in February 2019 to halt its quayside unloading at Saldanha. Avedia subsequently entered business rescue in November 2020.

Sunrise's import facility links by pipeline to a 5,500t storage facility. Under its license conditions Sunrise has to offer open access, but a planned connection from its pipeline to Avedia's storage tanks has never materialised.

Sunrise has said the proposed SFF-Avedia merger could force it out of business. RBB Economics, which assessed the transaction on behalf of Sunrise, said Avedia's jetty system will offer several advantages over Sunrise's multi-buoy mooring (MBM). These include more predictable operation because the jetty system is less susceptible to weather disruptions, and lower import costs because a jetty system can also accommodate larger vessels.

RBB said Sunrise is unlikely to attract enough revenue to cover its operating expenses and debt obligations, which will force the firm to exit the market and mean the merger is unlikely to increase competition.

But Lungiswa Energy, which assessed the proposed transaction on behalf of Avedia, noted that LPG import tariffs are regulated by the National Energy Regulator of South Africa (Nersa), which dictates the fees that Sunrise and the SFF-Ave-

dia entity will be able to charge. Lungiswa questioned RBB's assertion that the jetty system will accommodate very large gas carriers (VLGCs) that typical have 45,000t capacity.

Lungiswa also sees significant unmet LPG demand. Even if the merged entity were able to supply to its maximum envisaged off-loading capacity of 192,000 t/yr by 2028, this would still leave between 55,000 t/yr and 89,000 t/yr for Sunrise Energy to supply, Lungiswa said. It noted this is a worst-case scenario for Sunrise.

"The merger will in fact add a loading competitor and maintain the existence of a storage competitor which is currently under threat of failure," Lungiswa said.

Avedia has said the merger as its only alternative to bankruptcy.

The acquisition will pave way for SFF to diversify its revenue stream in line with its strategic objectives, said the fund's chief executive officer Godfrey Moagi. The SFF is a subsidiary of the Central Energy Fund (CEF), and its primary function is

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to store and manage South Africa's strategic and privately-held crude inventories.

By Elaine Mills



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## METHODOLOGY

### Volume-weighted averages

Argus publishes current month volume-weighted averages of deals done at Mont Belvieu and Conway. These averages are provided as an additional tool for the industry to use for purposes of indexing transactions. The volume-weighted average methodology is used extensively for indexation in the natural gas, crude and clean products markets. The Argus averages are published as a single price, not as a range, to represent volume-weighted averages of the current month deals done throughout the entire trading day. Argus will only calculate volume-weighted averages where it has validated a minimum volume of trade for the term and location in question. For further details, see <http://www.argusmedia.com/Methodology-and-Reference>.

### Spread methodology

Spread assessments represent the traded spot market for spreads between two commodities. Spreads are expressed as x/y, where the buyer of the spread purchases commodity x and sells commodity y. Argus publishes both quality and locational spreads. Spreads are not calculated, but represent bona fide trades done in the spot spread market.



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