

Crude Oil Marketwire

Volume 44 / Issue 132 / July 7, 2023

Key benchmarks (\$/barrel)

| | , | | Mid | Change |
|--------------------------|---------|-------------|--------|--------|
| (PGA page 2210) | | | | 0 |
| Dubai (Sep) | PCAAT00 | 77.84-77.86 | 77.850 | +0.550 |
| Dubai (Oct) | PCAAU00 | 76.79-76.81 | 76.800 | +0.230 |
| Dubai (Nov) | PCAAV00 | 76.03-76.05 | 76.040 | +0.170 |
| MEC (Sep) | AAWSA00 | 77.84-77.86 | 77.850 | +0.550 |
| MEC (Oct) | AAWSB00 | 76.79-76.81 | 76.800 | +0.230 |
| MEC (Nov) | AAWSC00 | 76.03-76.05 | 76.040 | +0.170 |
| Brent/Dubai (Sep) | AAJMS00 | -0.96/-0.94 | -0.950 | -0.600 |
| (PGA page 1212) | | | | |
| Brent (Dated) | PCAAS00 | 77.93-77.95 | 77.940 | +2.355 |
| Dated North Sea Light | AAOFD00 | 77.93-77.95 | 77.940 | +2.355 |
| Dated Brent (CIF) | PCAKM00 | | 79.005 | +2.330 |
| Brent (Sep) | PCAAQ00 | 77.73-77.75 | 77.740 | +2.350 |
| Brent (Oct) | PCAAR00 | 77.39-77.41 | 77.400 | +2.270 |
| Brent (Nov) | PCARR00 | | 77.000 | +2.180 |
| Sulfur de-escalator | AAUXL00 | | 0.20 | |
| Oseberg QP (Jul) | AAXDW00 | | 1.6079 | |
| Oseberg QP (Aug) | AAXDX00 | | 1.3083 | |
| Ekofisk QP (Jul) | AAXDY00 | | 1.2021 | |
| Ekofisk QP (Aug) | AAXDZ00 | | 1.0796 | |
| Troll QP (Jul) | ATFNB00 | | 2.3165 | |
| Troll QP (Aug) | ATFNA00 | | 1.8663 | |
| (PGA page 210) | | | | |
| Platts AGS | AGSAA00 | | 76.120 | +2.060 |
| WTI FOB USGC Decades Avg | ADECA00 | | 76.130 | +2.060 |
| WTI (Aug) | PCACG00 | 73.85-73.87 | 73.860 | +2.060 |
| WTI (Sep) | PCACH00 | 73.76-73.78 | 73.770 | +1.980 |
| WTI (Oct) | AAGIT00 | 73.43-73.45 | 73.440 | +1.880 |
| Light Houston Sweet | AAXEW00 | | 75.710 | +2.060 |
| Light Houston Sweet M2 | AAYRY00 | | 75.570 | +1.980 |
| LOOP Sour (Aug) | AALSM01 | | 75.410 | +1.660 |
| LOOP Sour (Sep) | AALSM02 | | 74.520 | +1.780 |
| LOOP Sour (Oct) | AALSM03 | | 73.740 | +1.680 |
| Bakken | AAXPP00 | | 75.170 | +2.150 |
| Eagle Ford Marker | AAYAJ00 | | 73.660 | +1.550 |
| ACM* (Aug) | AAQHN00 | 75.20-75.22 | 75.210 | +1.660 |
| ACM* (Sep) | AAQH000 | 74.31–74.33 | 74.320 | +1.780 |
| ACM* (Oct) | AAQHP00 | 73.53-73.55 | 73.540 | +1.680 |

^{*}Americas Crude Marker.

Forward Dated Brent (\$/barrel) (PGA page 1250)

| | | | Mid | Change |
|---------------------------|---------|-------------|--------|--------|
| North Sea Dated strip | AAKWH00 | 77.92-77.93 | 77.925 | +2.360 |
| Mediterranean Dated strip | AALDF00 | 77.95-77.96 | 77.955 | +2.385 |
| 33-63 Day Dated strip | AALEJ00 | 77.33-77.35 | 77.340 | +2.260 |
| BTC Dated strip | AAUFI00 | 77.90-77.91 | 77.905 | +2.375 |
| 15-45 Day Dated strip | AALGM00 | 77.77-77.78 | 77.775 | +2.355 |
| 30-60 Day Dated strip | AAXRK00 | 77.37-77.39 | 77.380 | +2.265 |
| North Sea CIF Dtd strip | AAHXE00 | | 77.910 | +2.355 |
| 23-63 Day Dated Strip | ADBRA00 | | 77.415 | +2.270 |
| | | | | |

Brent/WTI spreads and EFPs (PGA page 218)

| | | | IVIIU | Change |
|-----------------|---------|------------|-------|--------|
| Brent/WTI 1st | AALAU00 | 4.93/4.95 | 4.940 | +0.100 |
| Brent/WTI 2nd | AALAV00 | 4.86/4.88 | 4.870 | +0.110 |
| Brent/WTI 3rd | AALAY00 | | 4.780 | +0.090 |
| Brent EFP (Sep) | AAGVX00 | 0.16/0.18 | 0.170 | +0.040 |
| Brent EFP (Oct) | AAGVY00 | 0.17/0.19 | 0.180 | +0.050 |
| Brent EFP (Nov) | AAMVY00 | | 0.180 | +0.050 |
| WTI EFP (Aug) | AAGVT00 | -0.01/0.01 | 0.000 | 0.000 |
| WTI EFP (Sep) | AAGVU00 | -0.01/0.01 | 0.000 | 0.000 |
| WTI EFP (Oct) | AAGVV00 | -0.01/0.01 | 0.000 | |
| | | | | |

Middle East (\$/barrel)

| IVIII Last (\$/ barre | ÷() | | | |
|-----------------------|---------|-----------------|--------|--------|
| (PGA page 2210) | | | Mid | Change |
| Oman (Sep) | PCABS00 | 77.84-77.86 | 77.850 | +0.450 |
| Oman (Oct) | AAHZF00 | 76.79-76.81 | 76.800 | +0.130 |
| Oman (Nov) | AAHZH00 | 76.03-76.05 | 76.040 | +0.070 |
| Upper Zakum (Sep) | AAOUQ00 | 77.83-77.87 | 77.850 | +0.550 |
| Murban (Sep) | AAKNL00 | 77.97-78.01 | 77.990 | +0.170 |
| Murban (Oct) | MBNSA00 | | 76.940 | -0.150 |
| Murban (Nov) | MBNSB00 | | 76.180 | -0.210 |
| Al Shaheen | AAPEV00 | 77.87-77.91 | 77.890 | +0.570 |
| | | Spread vs Dubai | | |
| Dubai | DBDDC00 | | 1.810 | +0.380 |
| Oman | DBDOC00 | | 1.810 | +0.280 |
| Murban | AARBZ00 | | 1.950 | 0.000 |
| Al Shaheen | AAPEW00 | 1.80-1.90 | 1.850 | +0.400 |
| Upper Zakum | DBDUZ00 | | 1.810 | +0.380 |
| | Q | uality Premiums | | |
| Murban QP | AASVA00 | | 0.0000 | |
| (PGA page 2658) | | | | |
| Dubai Swap (Aug) | AAHBM00 | 76.78-76.82 | 76.800 | +0.230 |
| Dubai Swap (Sep) | AAHBN00 | 76.02-76.06 | 76.040 | +0.170 |
| Dubai Swap (Oct) | AAHBO00 | 75.37-75.41 | 75.390 | +0.100 |

Urals Mediterranean vs Urals Rotterdam



Market Commentary

Mid Changa

Platts Middle East Sour Crude Daily Market Analysis

- Saudi Aramco issues August OSPs to Asia
- Kuwait's Al-Zour refinery starts its third CDU

Buyers in Asia on July 7 are expected to reduce their August term nominations for Saudi crude oil after Saudi Aramco had increased its August official selling price differentials for Asia-bound Arab Light, Medium and Heavy grades by 20 cents/b.

The August OSP differentials of Aramco's key Arab Light, Medium and Heavy grades were set at premiums

(continued on page 3)

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Asia Pacific and Middle East crude assessments (\$/barrel)

| | A DI | | (Asia MOC) | | | | (Asia MOC) | | | ! | (<u>Asia close)</u> | | | <u>(London close</u> | <u>3)</u> |
|----------------|----------------|------------|-------------|--------|--------|---------|---------------|---------|--------|---------|----------------------|--------|------------|----------------------|-----------|
| | API Gravity | Code | | Mid | Change | Code | | Mid | Change | Code | Mid | Change | Code | Mid | Change |
| Condensate | | | | | | | | | | (F | PGA page 2212) | | (| PGA page 2213) | |
| | | | | | | | Diff to Dubai | | | | Asian Dated I | | _ | , 0 | |
| NW Shelf | 61.9 | PCAGX00 | 62.95-62.99 | 62.970 | -0.040 | | 2 to 2 aba. | | | AAPAI00 | -13.250 | +0.050 | AAPAH00 | 64.200 | +2.34 |
| chthys FC | 48.9 | ICFCA00 | 02.00 02.00 | 70.370 | -0.040 | | | | | ICFCB00 | -5.850 | +0.050 | 7011711100 | 0 11200 | 1 2.0 1 |
| DFC | 56.82 | ADFCA00 | 69.62-69.66 | 69.640 | +0.220 | ADFCB00 | -6.45/-6.35 | -6.400 | +0.050 | ADFCC00 | -6.580 | +0.310 | ADFCD00 | 70.480 | +2.53 |
| Qatar LSC | 56.9 | AARBB00 | 69.02-69.06 | 69.040 | +0.220 | AARBD00 | -7.05/-6.95 | -7.000 | +0.050 | AARBC00 | -7.180 | +0.310 | AARBA00 | 69.880 | +2.53 |
| South Pars | 57.4 | AARAV00 | 64.77-64.81 | 64.790 | +0.220 | AARAX00 | -11.30/-11.20 | -11.250 | +0.050 | AARAW00 | -11.430 | +0.310 | AARAU00 | 65.630 | +2.53 |
| | | | | | | | Diff to ICP | | | | | | | | |
| Senipah | 54.4 | AAEOE00 | 60.90-60.94 | 60.920 | -0.040 | AAEOK00 | -8.30/-8.20 | -8.250 | +0.050 | AAPBE00 | -15.300 | +0.050 | AAPBD00 | 62.150 | +2.34 |
| | 04.4 | AAEUE00 | 00.90-00.94 | 00.920 | -0.040 | AAEUNUU | -0.30/-0.20 | -0.230 | TU.000 | | | | | | TZ.34 |
| ight crude | | | | | | | | | | (F | GA page 2214) | | (| PGA page 2215) | |
| | | | | | | | Diff to ICP | | | Diff to | Asian Dated I | Brent | | | |
| Cossack | 47.7 | PCAGZ00 | 70.15-70.19 | 70.170 | -0.040 | | | | | AAPAC00 | -6.050 | +0.050 | AAPAB00 | 71.400 | +2.34 |
| Tapis | 45.2 | PCACB00 | 79.80-79.84 | 79.820 | -0.090 | | | | | AAOZW00 | 3.600 | | AAOZV00 | 81.050 | +2.29 |
| Belida | 45.1 | PCAFL00 | 64.75-64.79 | 64.770 | -0.040 | PCAFM00 | -4.85/-4.75 | -4.800 | 0.000 | AAPBQ00 | -11.450 | +0.050 | AAPBP00 | 66.000 | +2.34 |
| Kutubu | 44.3 | PCAFJ00 | 68.50-68.54 | 68.520 | -0.040 | | | | | AAPAE00 | -7.700 | +0.050 | AAPAD00 | 69.750 | +2.34 |
| Attaka | 42.3 | PCAAJ00 | 64.65-64.69 | 64.670 | -0.040 | PCAAK00 | -5.75/-5.65 | -5.700 | 0.000 | AAPBC00 | -11.550 | +0.050 | AAPBB00 | 65.900 | +2.34 |
| Ardjuna | 38 | PCACQ00 | 70.20-70.24 | 70.220 | -0.090 | PCACR00 | -1.80/-1.70 | -1.750 | | AAPBG00 | -6.000 | | AAPBF00 | 71.450 | +2.29 |
| Banyu Urip | 32 | PCAFQ00 | | 80.320 | -0.090 | PCAQQ00 | | 2.250 | 0.000 | AAPBU00 | 4.100 | | AAPBR00 | 81.550 | +2.29 |
| | | | | | | | Diff to Dubai | | | | | | | | |
| Sakhalin Blend | 45.5 | AARBN00 | 63.02-63.06 | 63.040 | +0.670 | AARCN00 | -13.05/-12.95 | -13.000 | +0.500 | AARDN00 | -13.180 | +0.760 | AAREN00 | 63.880 | +2.98 |
| ESP0 M1 | 34.8 | AARWF00 | 68.77-68.81 | 68.790 | +0.170 | AASEU00 | -7.30/-7.20 | -7.250 | 0.000 | | | | | | |
| ESPO M2 | 34.8 | AAWFE00 | 68.02-68.06 | 68.040 | +0.100 | AAWFG00 | -7.40/-7.30 | -7.350 | 0.000 | | | | | | |
| Sokol | 39.7 | AASCJ00 | 67.02-67.06 | 67.040 | +0.670 | AASCK00 | -9.05/-8.95 | -9.000 | +0.500 | AAPA000 | -9.180 | +0.760 | AAPAN00 | 67.880 | +2.98 |
| Kikeh | 34.9 | AAWUH00 | 82.55-82.59 | 82.570 | -0.090 | | | | | AA0ZY00 | 6.350 | 0.000 | AAOZX00 | 83.800 | +2.29 |
| Miri Light | 32.3 | PCABQ00 | 82.25-82.29 | 82.270 | -0.090 | | | | | AAPAS00 | 6.050 | 0.000 | AAPAR00 | 83.500 | +2.29 |
| Labuan | 32 | PCABL00 | 84.00-84.04 | 84.020 | -0.090 | | | | | AAPAQ00 | 7.800 | 0.000 | AAPAP00 | 85.250 | +2.29 |
| Kimanis | 38.6 | AASCL00 | | 83.720 | -0.090 | | | | | AASCM00 | 7.500 | 0.000 | AASCN00 | 84.950 | +2.29 |
| Medium crude | | | | | | | | | | (F | GA page 2216) | | (| PGA page 2217) | |
| | | | | | | - | | | | | Asian Dated I | | _ | 1 0 | |
| Su Tu Den | 36.8 | AARAR00 | 81.50-81.54 | 81.520 | -0.090 | | | | | AARAS00 | 5.300 | 0.000 | AARAQ00 | 82.750 | +2.29 |
| Bach Ho | 40.7 | PCAHY00 | 82.55-82.59 | 82.570 | -0.090 | | | | | AAPAK00 | 6.350 | 0.000 | AAPAJ00 | 83.800 | +2.29 |
| Nanhai | 40.7 | PCAFR00 | 71.55-71.59 | 71.570 | -0.090 | | | | | AAPAG00 | -4.650 | 0.000 | AAPAF00 | 72.800 | +2.29 |
| Nile Blend | 33.9 | AAPLC00 | 73.95-73.99 | 73.970 | -0.090 | | | | | AAPAM00 | -2.250 | 0.000 | AAPAL00 | 75.200 | +2.29 |
| Daging | 32.2 | PCAAZ00 | 73.00-73.04 | 73.020 | -0.090 | | | | | AAPAW00 | -3.200 | 0.000 | AAPAV00 | 74.250 | +2.29 |
| | 02.2 | 1 0/1/1200 | 70.00 70.04 | 70.020 | 0.000 | | | | | | | | | | 12.20 |
| leavy crude | | | | | | | | | | - | PGA page 2218) | | (| PGA page 2219) | |
| | 0.5 | | 7,55 7,50 | 7, | 0.470 | | Diff to ICP | | | | Asian Dated I | | | 75.000 | |
| Dar Blend | 25 | AARAB00 | 74.55-74.59 | 74.570 | | | | | | AARAC00 | -1.650 | -0.050 | AARAA00 | 75.800 | +2.24 |
| Shengli | 24.2 | PCABY00 | 76.10-76.14 | 76.120 | -0.140 | | 0.05/0.75 | 0.70- | | AAPAY00 | -0.100 | -0.050 | AAPAX00 | 77.350 | +2.24 |
| Duri | 20.8 | PCABA00 | 79.45-79.49 | 79.470 | | PCABB00 | 2.65/2.75 | 2.700 | 0.000 | AAPBM00 | 3.250 | -0.050 | AAPBL00 | 80.700 | +2.24 |
| √incent | 18.3 | AARAK00 | | 81.170 | -0.140 | | | | | AARAL00 | 4.950 | -0.050 | AARAJ00 | 82.400 | +2.24 |

| | | Diff to Dubai | | Diff to Asi | an Dated Brent | |
|--|--------|---------------|--------------|-------------|----------------|---|
| US Delivered - Asia Spot Crudes | | | | | | |
| WTI Midland (DES Singapore) wtmsA00 78.690 | -0.100 | WTMSD00 | 3.300 -0.200 | WTMSB00 | 2.850 +0.030 | _ |
| WTI Midland (DES Yeosu) WTMYA00 79.190 | -0.100 | WTMYD00 | 3.800 -0.200 | WTMYB00 | 3.350 +0.030 | |
| Brazil Delivered-Asia Spot Crudes | | | | | | |
| Tupi (DES Qingdao) LUQDA00 79.440 | -0.100 | LUQDD00 | 4.050 -0.200 | LUQDB00 | 3.600 +0.030 | |

Middle East spot assessments (\$/barrel) (PGA page 2220)

| | | | Mid | Change | | <u>Spread vs Dubai</u> Mid | Cha | inge | | Spread vs OSP | Mid | Change |
|--------------------|---------|-------------|--------|--------|---------|----------------------------|-------|--------|-------|---------------|--------|--------|
| Umm Lulu | AUFAA00 | | 78.140 | +0.170 | DBDUL00 | 2.10 | 0 0. | 000 | | | | |
| Das Blend | AAXOF00 | 77.27-77.31 | 77.290 | +0.170 | DBDDS00 | 1.25 | 0 0. | 000 | | | | |
| Qatar Land | AAKNP00 | 76.58-76.62 | 76.600 | +0.150 | QALDA00 | 0.56 | 0 -0. | 020 AA | KUJ00 | 0.25/0.35 | 0.300 | 0.000 |
| Qatar Marine | AAKNR00 | 76.73-76.77 | 76.750 | +0.500 | QAMDA00 | 0.71 | 0 +0. | 330 AA | KUH00 | 0.25/0.35 | 0.300 | +0.150 |
| Banoco Arab Medium | AAKNT00 | 77.48-77.52 | 77.500 | +0.500 | | | | AA | KUD00 | -1.00/-0.90 | -0.950 | +0.100 |
| Basrah Medium M1 | BSMAM01 | - | 77.550 | +0.550 | | | | BS | MBM01 | | 0.700 | +0.150 |
| Basrah Medium M2 | BSMAM02 | - | 76.500 | +0.450 | | | | BS | MBM02 | | 0.400 | +0.100 |
| Basrah Heavy M1 | AALZC00 | - | 74.450 | +0.550 | | | | AA | LZJ00 | | 0.700 | +0.150 |
| Basrah Heavy M2 | AALZD00 | - | 73.400 | +0.450 | | | | AA | LZK00 | | 0.400 | +0.100 |

of \$3.20/b, \$2.65/b and \$1/b to the Oman/Dubai average, respectively, according to a company notice issued July 6.

"With the Arab Light OSP differential to Oman/ Dubai set at \$3.20/b, this would mean that Saudi OSPs are set at extreme premiums compared to the spot market." a crude trader said.

The differential of Arab Extra Light crude was steady on the month at Oman/Dubai average plus \$2.55/b, while the differential of Arab Super Light grade was reduced by 40 cents/b to a premium of \$4.35/b to the Oman/Dubai average.

This may be on account for lesser existing demand for light crude grades, as well as competing arbitrage cargoes in the market, said another crude trader.

"Lighter grades are much weaker, and there is more US WTI Midland crude coming into the market," the trader added.

In other news, Kuwait's Al-Zour refinery had started its final crude distillation unit 3 with production at 120,000 b/d, according to a company spokesman.

With this, current production at the Al-Zour refinery totals 410,000 b/d, as CDU 1 and CDU 2 outputs are both at 145,000 b/d.

The refinery had aimed to reach full production capacity of 205,000 b/d at each CDU by the end of the year, the company source stated.

Asian market parity prices (\$/barrel) (PGA page 2280)

| | (Asia clo | ose) | (London | close) |
|-----------|-----------|----------------------|---------|---------------|
| | | Mid Change | | Mid Change |
| Minas | PCAB000 | 72.230 -0.095 | AAPAZ00 | 73.460 +2.285 |
| Cinta | PCAAX00 | 62.425 -0.040 | AAPBJ00 | 63.655 +2.340 |
| Widuri | PCAFE00 | 60.475 -0.155 | AAPBN00 | 61.705 +2.225 |
| Cambay | AMPPA00 | 75.520 +0.210 | | |
| Ravva | AMPPB00 | 80.640 +0.300 | | |
| Rajasthan | AMPPC00 | 75.785 -0.135 | | |

Asian Crude Indices (\$/barrel) (PGA page 2206)

| 16:30 Singapore | <u>In</u> t | terim Asian Close | Diff to Dated Brent | | <u>Final London Close</u> | |
|-------------------------|-------------|-------------------|---------------------|---------|---------------------------|--|
| Asian Dated Brent (ADB) | AAXPG00 | 77.095 | | | | |
| ADB Strip Asia | AARBV00 | 76.220 | | AARBX00 | 77.450 | |
| ADB Strip Middle East | AARBW00 | 76.220 | | AARBY00 | 77.060 | |
| ADB Strip M3 | ADBS003 | 75.840 | | | | |

For definitions see http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/Crude-oil-methodology.pdf

Platts Mideast Sour Crude Daily Rationales & Exclusions

Dubai Mo01 < PCAAT00> assessment rationale: The September cash Dubai assessment on July 7 took into consideration bids and offers for cash Dubai partials that traded at \$77.85/b towards the end of the Platts Market on Close assessment process.

Oman Blend Mo01 < PCABS00> assessment rationale: The September cash Oman assessment on July 7 took into consideration values heard in the broader market.

Exclusions: No market data was excluded from the Middle East sour crude Market on Close assessment process.

Platts is part of S&P Global Commodity Insights.

Platts Oil Mideast Sour Crude Convergences

None reported

Platts Middle East Sour Crude Bids, Offers, Trades

Bids:

PLATTS DUBAI: SEP23: VITOL BIDS 25KB AT \$77.80 PLATTS DUBAI: SEP23: PETROCHINA BIDS 25KB

AT \$77.70

PLATTS DUBAI: SEP23: MITSUI BIDS 25KB AT \$77.50 PLATTS DUBAI: SEP23: GUNVOR NO LONGER BIDS AFTER TRADE

PLATTS DUBAI: SEP23: EQUINOR NO LONGER BIDS AFTER TRADE

Offers:

PLATTS DUBAI: SEP23: EXXONMOBIL OFFERS 25KB AT \$77.89 AND WITHDRAWS DURING EXTENSION PLATTS DUBAI: SEP23: RELIANCE OFFERS 25KB AT \$77.90

PLATTS DUBAI: SEP23: PETROCHINA OFFERS 25KB AT \$77.90

PLATTS DUBAI: SEP23: UNIPEC OFFERS 25KB AT \$77.90

PLATTS DUBAI: SEP23: VITOL OFFERS 25KB AT \$77.95

PLATTS DUBAI: SEP23: GUNVOR OFFERS 25KB AT \$78.10

PLATTS DUBAI: SEP23: BP NO LONGER OFFERS AFTER TRADE

PLATTS DUBAI: SEP23: TRAFIGURA NO LONGER OFFERS AFTER TRADE

Trades:

PLATTS DUBAI: SEP23: BP SELLS TO GUNVOR* 25KB AT \$77.85 (08:29:20)

PLATTS DUBAI: SEP23: PETROCHINA SELLS TO EQUINOR* 25KB AT \$77.85 (08:29:22)

PLATTS DUBAI: SEP23: MITSUI SELLS TO GUNVOR* 25KB AT \$77.85 (08:29:27)

PLATTS DUBAI: SEP23: BP SELLS TO EQUINOR* 25KB AT \$77.85 (08:29:27)

PLATTS DUBAI: SEP23: PETROCHINA SELLS TO GUNVOR* 25KB AT \$77.85 (08:29:31)

PLATTS DUBAI: SEP23: TRAFIGURA SELLS TO EQUINOR* 25KB AT \$77.85 (08:29:31)

PLATTS DUBAI: SEP23: GUNVOR BUYS FROM BP* 25KB AT \$77.85 (08:29:35)

PLATTS DUBAI: SEP23: GUNVOR BUYS FROM TRAFIGURA* 25KB AT \$77.86 (08:29:38)

North Sea spot crude assessments (\$/barrel) (PGA page 1212)

| | | | Mid | Change | <u>Spread</u> | d vs fwd Dated Brent | Mid | Change |
|---------------------------|---------|-------------|--------|--------|---------------|-----------------------|-------|--------|
| Dated Brent Diff | | | | | AAXEZ00 | 0.01/0.02 | 0.015 | -0.005 |
| BNB | AAVJA00 | 78.09-78.11 | 78.100 | +2.360 | AAVJB00 | 0.17/0.18 | 0.175 | 0.000 |
| Forties | PCADJ00 | 78.12-78.14 | 78.130 | +2.370 | AAGWZ00 | 0.20/0.21 | 0.205 | +0.010 |
| Oseberg | PCAEU00 | 79.68-79.69 | 79.685 | +2.365 | AAGXF00 | 1.75/1.77 | 1.760 | +0.005 |
| Ekofisk | PCADI00 | 79.44-79.46 | 79.450 | +2.410 | AAGXB00 | 1.52/1.53 | 1.525 | +0.050 |
| Troll | AAWEX00 | 80.46-80.47 | 80.465 | +2.365 | AAWEY00 | 2.53/2.55 | 2.540 | +0.005 |
| FOB N Sea WTI Midland | ALNDA00 | | 77.950 | +2.340 | ALNDB00 | | 0.025 | -0.020 |
| Statfjord | PCAEE00 | 79.67-79.68 | 79.675 | +2.360 | AAGXD00 | 1.74/1.76 | 1.750 | 0.000 |
| Flotta Gold | PCACZ00 | 78.67-78.68 | 78.675 | +2.360 | AAGXH00 | 0.74/0.76 | 0.750 | 0.000 |
| Duc | AAWEZ00 | 78.92-78.93 | 78.925 | +2.360 | AAWFL00 | 0.99/1.01 | 1.000 | 0.000 |
| Grane Blend | PCALA00 | | 79.625 | +2.360 | PCALB00 | | 1.700 | 0.000 |
| Johan Sverdrup | AJSVA00 | | 79.510 | +2.360 | AJSVB00 | | 1.585 | 0.000 |
| Statfjord (CIF) | AASAS00 | 80.75-80.77 | 80.760 | +2.355 | AASAT00 | 2.84/2.86 | 2.850 | 0.000 |
| Gullfaks (CIF) | AASAU00 | 81.05-81.07 | 81.060 | +2.355 | AASAV00 | 3.14/3.16 | 3.150 | 0.000 |
| Alvheim (CIF) | ALVHA00 | | 81.260 | +2.355 | ALVHB00 | | 3.350 | 0.000 |
| Asgard (CIF) | ASGCA00 | | 79.210 | +2.355 | ASGCB00 | | 1.300 | 0.000 |
| North Sea basket | AAGIZ00 | 78.83-78.85 | 78.840 | +2.375 | | | | |
| North Sea Dated Strip | AAKWH00 | 77.92-77.93 | 77.925 | +2.360 | | | | |
| European Sour Crude Index | CSBEA00 | | 79.503 | +2.360 | CSBEB00 | | 1.578 | 0.000 |
| | | | | | Spread v | s fwd CIF Dated Brent | ţ | |
| Dated Brent (CIF) | AAVJG00 | | 79.005 | +2.330 | AAVJF00 | | 1.095 | -0.025 |
| BNB (CIF) | PCAKP00 | | 80.185 | +2.360 | AAVJC00 | | 2.275 | +0.005 |
| Forties (CIF) | PCAKR00 | | 79.580 | +2.370 | AAHXC00 | | 1.670 | +0.015 |
| Oseberg (CIF) | PCAKT00 | | 80.995 | +2.355 | AAHXD00 | | 3.085 | 0.000 |
| Ekofisk (CIF) | PCAKV00 | | 80.610 | +2.400 | AAHXB00 | | 2.700 | +0.045 |
| Troll (CIF) | AAXJ000 | | 81.785 | +2.360 | AAXJN00 | | 3.875 | 0.005 |
| WTI Midland (CIF) | WMCRD00 | | 79.005 | +2.330 | WMCRB00 | | 1.095 | -0.025 |
| North Sea CIF Dated Strip | AAHXE00 | | 77.910 | +2.355 | | | | |

Freight Adjustment Factors

| (\$/barrel) | | Change | |
|-----------------------|---------|----------------|--|
| Sullom Voe-Rotterdam | FSVRM00 | 1.6794 -0.0030 | |
| Hound Point-Rotterdam | FHPRM00 | 1.1664 -0.0020 | |
| Sture-Rotterdam | FSTRM00 | 1.0608 -0.0018 | |
| Teesside-Rotterdam | FTSRM00 | 0.9392 -0.0016 | |
| Mongstad-Rotterdam | FMGRM00 | 1.0680 -0.0018 | |
| North Sea-Rotterdam | FSFRM00 | 1.0633 -0.0018 | |
| (%) | | | |
| FAF Weighting | FAFWA00 | 0.80 | |

European US Spot Crude Assessments (\$/barrel) (PGA page 1238)

| | | Mid | Change | Spread vs fwd Dated Brent | Mid | Change |
|-------------------------------|---------|--------|--------|---------------------------|-------|--------|
| WTI Midland (DAP Rotterdam) | AWTIC00 | 78.770 | +2.275 | AWTID00 | 1.355 | +0.005 |
| WTI Midland (DAP Augusta) | AWTIA00 | 79.420 | +2.275 | AWTIB00 | 2.005 | +0.005 |
| Eagle Ford 45 (DAP Rotterdam) | AEFAC00 | 77.870 | +2.275 | AEFAD00 | 0.455 | +0.005 |
| Eagle Ford 45 (DAP Augusta) | AEFAA00 | 78.520 | +2.275 | AEFAB00 | 1.105 | +0.005 |

PLATTS DUBAI: SEP23: BP SELLS TO EQUINOR* 25KB AT \$77.85 (08:29:40)

PLATTS DUBAI: SEP23: MITSUI SELLS TO GUNVOR* 25KB AT \$77.85 (08:29:42)

PLATTS DUBAI: SEP23: GUNVOR BUYS FROM BP* 25KB AT \$77.85 (08:29:46)

PLATTS DUBAI: SEP23: BP SELLS TO EQUINOR* 25KB AT \$77.85 (08:29:51)

PLATTS DUBAI: SEP23: RELIANCE SELLS TO GUNVOR* 25KB AT \$77.85 (08:29:54)

PLATTS DUBAI: SEP23: GUNVOR BUYS FROM TRAFIGURA* 25KB AT \$77.85 (08:29:55)

PLATTS DUBAI: SEP23: EQUINOR BUYS FROM BP* 25KB AT \$77.85 (08:30:00)

This assessment commentary applies to the following market data codes: Dubai M1 < PCAAT00>, Oman M1 < PCABS00>

Platts Dubai Derivatives Bids Summary

BIDS ON CLOSE

NO BIDS REPORTED WITHDRAWALS

NO WITHDRAWALS REPORTED

Platts' End-of-Day assessments for Dubai derivatives prices can be found on PPA2606.

Platts Oil Paper Bids, Offers and Trade Page Index found on <PGA4000>

Platts has defined standards for entities it considers to be related and verifies through a variety of inputs whether counterparties in reported trades meet these criteria.

Platts Dubai Derivatives Offers Summary

OFFERS ON CLOSE

NO OFFERS REPORTED WITHDRAWALS

Dated Brent/BFOE swaps (\$/barrel) (PGA page 1214)

| Week | | Week Date | | Brent CFD* | Mid | Change | | Dated Brent swap | Mid | Change |
|------------|-------|-----------|---------|------------|-------|--------|---------|------------------|--------|--------|
| CFD Week 1 | (Oct) | Jul 10-14 | PCAKA00 | 0.62/0.64 | 0.630 | +0.030 | AAJNV00 | 78.02/78.04 | 78.030 | +2.300 |
| CFD Week 2 | (Oct) | Jul 17-21 | PCAKC00 | 0.67/0.69 | 0.680 | +0.125 | AAJOS00 | 78.07/78.09 | 78.080 | +2.395 |
| CFD Week 3 | (Oct) | Jul 24-28 | PCAKE00 | 0.59/0.61 | 0.600 | +0.150 | AAJOU00 | 77.99/78.01 | 78.000 | +2.420 |
| CFD Week 4 | (Oct) | Jul 31-04 | PCAKG00 | 0.44/0.46 | 0.450 | +0.110 | AAJOW00 | 77.84/77.86 | 77.850 | +2.380 |
| CFD Week 5 | (Oct) | Aug 07-11 | AAGLU00 | 0.29/0.31 | 0.300 | +0.090 | AAJPC00 | 77.69/77.71 | 77.700 | +2.360 |
| CFD Week 6 | (Oct) | Aug 14-18 | AAGLV00 | 0.17/0.19 | 0.180 | +0.060 | AAJPE00 | 77.57/77.59 | 77.580 | +2.330 |
| CFD Week 7 | (Oct) | Aug 21-25 | AALCZ00 | 0.08/0.10 | 0.090 | +0.050 | AALAW00 | 77.48/77.50 | 77.490 | +2.320 |
| CFD Week 8 | (Oct) | Aug 28-01 | AALDA00 | 0.00/0.02 | 0.010 | +0.030 | AALAX00 | 77.40/77.42 | 77.410 | +2.300 |

Brent Swaps Weeks 1 to 8 are differentials to Brent Mo02 (Oct) PCAAR00 found on page 1.

Dated Brent/Brent Frontline Swaps (DFL) (\$/barrel) (PPE page 1614)

| | | Swaps | Change | | DFL | Change | |
|-------------------------|---------|--------|--------|---------|-------|--------|--|
| Balance month* (Jul 23) | BDLBM00 | 77.900 | +2.330 | ABWFZ00 | 0.350 | +0.030 | |
| Month 1 (Aug 23) | BDLM001 | 77.450 | +2.290 | AAEAA00 | 0.250 | +0.080 | |
| Month 2 (Sep 23) | BDLM002 | 77.060 | +2.220 | AAEAB00 | 0.260 | +0.100 | |
| Month 3 (Oct 23) | BDLM003 | 76.660 | +2.130 | AAEAC00 | 0.260 | +0.100 | |
| Month 4 (Nov 23) | BDLM004 | 76.250 | +2.040 | AAEAD00 | 0.240 | +0.070 | |

Change

Inter-Month Spread

Cash BFOE intraday assessments (\$/barrel) (PGA page 1216)

Cash BEOF

| | | Casii Broe | Change | | 1 | inter-Month Spreau | |
|-------------------|---------|------------|--------|---------|---------|--------------------|--|
| 10:30 London Time | | | | | | | |
| BF0E M1 (Sep) | PBCAAM1 | 76.760 | -0.180 | | | | |
| BFOE M2 (Oct) | PBCAAM2 | 76.480 | -0.170 | Sep/Oct | PBAM1M2 | 0.280 | |
| BFOE M3 (Nov) | PBCAAM3 | 76.090 | -0.190 | Oct/Nov | PBAM2M3 | 0.390 | |
| 12:30 London Time | | | | | | | |
| BF0E M1 (Sep) | PBCABM1 | 76.840 | -0.110 | | | | |
| BFOE M2 (Oct) | PBCABM2 | 76.550 | -0.130 | Sep/Oct | PBBM1M2 | 0.290 | |
| BFOE M3 (Nov) | PBCABM3 | 76.170 | -0.140 | Oct/Nov | PBBM2M3 | 0.380 | |
| 14:30 London Time | | | | | | | |
| BF0E M1 (Sep) | PBCACM1 | 76.300 | -0.110 | | | | |
| BFOE M2 (Oct) | PBCACM2 | 76.020 | -0.130 | Sep/Oct | PBCM1M2 | 0.280 | |
| BFOE M3 (Nov) | PBCACM3 | 75.640 | -0.140 | Oct/Nov | PBCM2M3 | 0.380 | |
| 16:30 London Time | | | | | | | |
| BF0E M1 (Sep) | PCAAQ00 | 77.740 | +2.350 | | | | |
| BFOE M2 (Oct) | PCAAR00 | 77.400 | +2.270 | | | | |
| BFOE M3 (Nov) | PCARR00 | 77.000 | +2.180 | | | | |
| 19:30 London Time | | | | | | | |
| BF0E M1 (Sep) | PBCADM1 | NA | _ | | | | |
| BFOE M2 (Oct) | PBCADM2 | NA | _ | Sep/Oct | PBDM1M2 | NA | |
| BFOE M3 (Nov) | PBCADM3 | NA | _ | Oct/Nov | PBDM2M3 | NA | |
| | | | | | | | |

^{*}Balance month swaps are assessed from the 1st through the 20th of the month.

NO WITHDRAWALS REPORTED

Platts' End-of-Day assessments for Dubai derivatives prices can be found on PPA2606.

Platts Oil Paper Bids, Offers and Trade Page Index found on <PGA4000>

Platts has defined standards for entities it considers to be related and verifies through a variety of inputs whether counterparties in reported trades meet these criteria.

Platts Dubai Derivatives Trades Summary

TRADES SUMMARY

NO TRADES REPORTED

Platts' End-of-Day assessments for Dubai derivatives prices can be found on PPA2606.

Platts Oil Paper Bids, Offers and Trade Page Index found on <PGA4000>

Platts has defined standards for entities it considers to be related and verifies through a variety of inputs whether counterparties in reported trades meet these criteria.

Platts Dubai Derivatives Exclusions

Exclusions: No market data was excluded from the July 7, 2023 Dubai derivatives assessment process.

Platts Asia Pacific Sweet Crude Daily **Market Analysis**

- Offers for Asia-delivered Brazilian crude moved higher
- US crude import to Taiwan rises 34% in May

Offers for Brazilian's Tupi grade or similar, for delivery to Asia, were heard to have moved higher at premiums of \$4s/b to Platts Dated Brent crude assessment, traders said July 7.

Urals/ESPO spot assessments (\$/barrel) (PGA page 1220)

| | | | Mid | Change | <u>Spr</u> | ead vs fwd Dated Brent | Mid | Change |
|--------------------------|---------|----------------|--------|--------|------------|------------------------|---------|--------|
| Urals (Rotterdam) | PCAFW00 | 61.21-61.24 | 61.225 | +2.885 | AAGXJ00 | -16.74/-16.72 | -16.730 | +0.500 |
| Urals (Mediterranean) | PCACE00 | 61.63-61.66 | 61.645 | +2.885 | AAGXX00 | -16.32/-16.30 | -16.310 | +0.500 |
| Urals FOB Novo Suez | AAGZS00 | 58.94-58.97 | 58.955 | +2.885 | AAHPH00 | -19.01/-18.99 | -19.000 | +0.500 |
| Urals FOB Novo Afra | AAOTH00 | 58.04-58.07 | 58.055 | +2.885 | AAOTI00 | -19.91/-19.89 | -19.900 | +0.500 |
| Urals (Ex-Baltic) | AAGZT00 | 58.94-58.97 | 58.955 | +2.885 | AAHPI00 | -19.01/-18.99 | -19.000 | +0.500 |
| Urals (Primorsk) | AAWVH00 | 58.94-58.97 | 58.955 | +2.885 | AAWVI00 | -19.01/-18.99 | -19.000 | +0.500 |
| Urals RCMB (Recombined) | AALIN00 | 61.61-61.65 | 61.630 | +2.855 | | | | |
| ESPO (FOB Kozmino) | AARWD00 | 69.44-69.46 | 69.450 | +2.150 | AARWE00 | -7.62/-7.60 | -7.610 | -0.070 |
| KEBCO | KBCOA00 | | 79.255 | +2.385 | KBCOB00 | | 1.300 | 0.000 |
| Urals (DAP India) | DWCUA00 | | 69.750 | +2.290 | DWCUB00 | | -7.700 | 0.000 |
| KEBCO/Russian Urals | AKEBA00 | | 17.610 | -0.500 | | | | |
| | | Number of days | | | | | | |
| Observed Delivery Factor | AODFA00 | 6 | | | | | | |

Urals Med/NWE CFD assessments (\$/barrel)

| | | <u>Urals CFD</u> | Mid | Change |
|----------------------------------|---------|------------------|---------|--------|
| Mediterranean (PPE page 1617) | | | | |
| Urals Med CFD (Jul) | AAMDU00 | -16.32/-16.30 | -16.310 | +0.500 |
| Urals Med CFD (Aug) | AAMEA00 | -16.32/-16.30 | -16.310 | +0.500 |
| Urals Med CFD (Sep) | UMCM003 | -16.32/-16.30 | -16.310 | +0.500 |
| Northwest Europe (PPE page 1617) | | | | |
| Jrals NWE CFD (Jul) | UNCM001 | -16.74/-16.72 | -16.730 | +0.500 |
| Jrals NWE CFD (Aug) | UNCM002 | -16.74/-16.72 | -16.730 | +0.500 |
| Jrals NWE CFD (Sep) | UNCM003 | -16.74/-16.72 | -16.730 | +0.500 |
| Mediterranean (PPE page 1617) | | | | |
| CPC Blend CFD (Jul) | AAOFX00 | | -1.800 | 0.000 |
| CPC Blend CFD (Aug) | AAOFY00 | | -1.900 | +0.050 |
| CPC Blend CFD (Sep) | AAOFZ00 | | -1.750 | +0.050 |
| | | | | |

Mediterranean spot crude assessments (\$/barrel)

| | | | Mid | Change | Spread vs fwd Dated Brent | | Mid | Change |
|--------------------------------------|---------|-------------|--------|--------|---------------------------|---------------|---------|--------|
| Azeri and BTC (PGA page 1222) | | | | | | | | |
| Azeri Lt CIF | AAGZX00 | 81.74-81.77 | 81.755 | +2.475 | AAHPM00 | 3.84/3.86 | 3.850 | +0.100 |
| Azeri Lt FOB Ceyhan Suez | AAUFM00 | 80.71-80.74 | 80.725 | +2.530 | AAUFN00 | 2.81/2.83 | 2.820 | +0.155 |
| Azeri Lt FOB Ceyhan Afra | AAUFK00 | 80.28-80.31 | 80.295 | +2.500 | AAUFL00 | 2.38/2.40 | 2.390 | +0.125 |
| Azeri Lt FOB Supsa | AATHM00 | 79.31-79.34 | 79.325 | +2.475 | AATHN00 | 1.41/1.43 | 1.420 | +0.100 |
| BTC FOB Ceyhan | AAUFH00 | 80.50-80.52 | 80.510 | +2.515 | AAUFJ00 | 2.60/2.61 | 2.605 | +0.140 |
| Black Sea (PGA page 1220) | | | | | | | | |
| Siberian Light CIF | AAGZW00 | 63.63-63.66 | 63.645 | +2.885 | AAHPK00 | -14.32/-14.30 | -14.310 | +0.500 |
| CPC Blend CIF | AAGZU00 | 75.94-75.97 | 75.955 | +2.525 | AAHPL00 | -1.96/-1.94 | -1.950 | +0.150 |
| CPC Blend FOB Suez | AALVX00 | 73.39-73.41 | 73.400 | +2.525 | AALVZ00 | -4.51/-4.50 | -4.505 | +0.150 |
| CPC Blend FOB Afra | AAOFV00 | 72.64-72.66 | 72.650 | +2.525 | AAOFW00 | -5.26/-5.25 | -5.255 | +0.150 |
| Additional War Risk Premium | AWARA00 | | 1.000 | | | | | |
| Middle East & North Africa (PGA pag | e 1234) | | | | | | | |
| Suez Blend | PCACA00 | 76.09-76.12 | 76.105 | +2.385 | AAGYD00 | -1.86/-1.84 | -1.850 | 0.000 |
| Es Sider | PCAC000 | 77.99-78.02 | 78.005 | +2.375 | AAGYH00 | 0.09/0.11 | 0.100 | 0.000 |
| Kirkuk | AAEJD00 | 75.14-75.17 | 75.155 | +2.385 | AAGYF00 | -2.81/-2.79 | -2.800 | 0.000 |
| Iranian Light FOB Kharg Island (Med) | AILKA00 | | 78.205 | +2.355 | AILKB00 | | 0.250 | -0.030 |
| Iranian Heavy FOB Kharg Island (Med | AIHKA00 | | 76.505 | +2.355 | AIHKB00 | | -1.450 | -0.030 |
| Saharan Blend | AAGZY00 | 78.54-78.57 | 78.555 | +2.425 | AAHPN00 | 0.64/0.66 | 0.650 | +0.050 |

It was last heard that Brazilian barrels — which could consist of a combination of Tupi with other similar grades such as Buzios or/and Sapi — could have been placed into China for September delivery at a premium of around mid-\$3/b against the August Platts Dated Brent crude assessment.

"Offers [are] on the high side. The price for Brazilian crude is getting strength from US and mostly Europe," said a Singapore-based crude oil trader.

Another trader noted that it remains to be seen if traded levels will move much higher.

"Sellers can ask at high level but trade may eventually be lower," said a North Asian crude trader.

On the arbitrage market as a whole, some Asian refiners may consider purchasing more arbitrage barrels amid the narrowing of the Brent/Dubai spread and a downtrend in freight rates, traders said.

Front-month Brent/Dubai EFS averaged at 97.5 cents/b so far in July, down from \$1.08/b average in June which was the lowest in over two years, S&P Global Commodity Insights data showed.

"Arb [Arbitrage barrels we] need to watch. If freights continue to come off, [Brent/Dubai] spreads continue narrow, this will facilitate buying of arbitrage barrels including [US] WTI Midland," said a third trader.

In other news, Taiwan imported 31.2 million barrels of crude oil in May, up 33.9% on the month and 4.3% on the year, latest data from its Ministry of Economic Affairs' Bureau of Energy showed.

The US was Taiwan's top supplier in the month, with volumes hitting a historic high of 10.3 million barrels, up 84% on the month and 70.5% on the year.

In May, Taiwan's crude throughput was 903,000 b/d, up 14.4% on the month, but down 2.3% on the year.

The territory's crude supply in the month also grew 29.9% on the month, and 4.5% on the year, to 1.01 million b/d.

In tenders, the outcome of Pertamina's tender, which it issued on behalf of TPPI, seeking condensate for September delivery remained unclear.

West African spot crude assessments (\$/barrel) (PGA page 1230)

| | | | Mid Change | | <u>Spread</u> | Spread vs fwd Dated Brent | | Change |
|-----------------------------------|---------------|-------------|------------|--------|---------------|---------------------------|--------|--------|
| WAF Index | AWAFA00 | | 78.630 | +2.565 | AWAFB00 | | 1.250 | +0.300 |
| Nigeria Spot Crude Assessments | | | | | | | | |
| Bonny Light | PCAIC00 | 78.41-78.45 | 78.430 | +2.565 | AAGXL00 | 1.04/1.06 | 1.050 | +0.300 |
| Qua Iboe | PCAID00 | 78.46-78.50 | 78.480 | +2.565 | AAGXN00 | 1.09/1.11 | 1.100 | +0.300 |
| Forcados | PCABC00 | 78.61-78.65 | 78.630 | +2.565 | AAGXP00 | 1.24/1.26 | 1.250 | +0.300 |
| Agbami | AAQZB00 | 75.61-75.65 | 75.630 | +2.565 | AAQZC00 | -1.76/-1.74 | -1.750 | +0.300 |
| Escravos | AAEIZ00 | 79.06-79.10 | 79.080 | +2.565 | AAGXR00 | 1.69/1.71 | 1.700 | +0.300 |
| Brass River | AAEJB00 | 77.31-77.35 | 77.330 | +2.565 | AAGXV00 | -0.06/-0.04 | -0.050 | +0.300 |
| Akpo | PCNGA00 | 75.61-75.65 | 75.630 | +2.565 | PCNGB00 | -1.76/-1.74 | -1.750 | +0.300 |
| Bonga | PCNGC00 | 78.96-79.00 | 78.980 | +2.565 | PCNGD00 | 1.59/1.61 | 1.600 | +0.300 |
| Usan | AAXUQ00 | | 74.480 | +2.565 | AAXUR00 | | -2.900 | +0.300 |
| Erha | AAXU000 | | 78.980 | +2.565 | AAXUP00 | | 1.600 | +0.300 |
| Egina | AFONA00 | | 80.730 | +2.565 | AFONB00 | | 3.350 | +0.300 |
| Angola spot crude assessments (\$ | /barrel) (PGA | page 1232) | | | | | | |
| Cabinda | PCAFD00 | 78.71-78.75 | 78.730 | +2.565 | AAGXT00 | 1.34/1.36 | 1.350 | +0.300 |
| Nemba | AAQYZ00 | 76.81-76.85 | 76.830 | +2.565 | AAQZA00 | -0.56/-0.54 | -0.550 | +0.300 |
| Dalia | AAQYX00 | 77.36-77.40 | 77.380 | +2.415 | AAQYY00 | -0.01/0.01 | 0.000 | +0.150 |
| Girassol | AASNL00 | 79.76-79.80 | 79.780 | +2.265 | AASJD00 | 2.39/2.41 | 2.400 | 0.000 |
| Hungo | AASLJ00 | 76.76-76.80 | 76.780 | +2.565 | AASJF00 | -0.61/-0.59 | -0.600 | +0.300 |
| Kissanje | AASLK00 | 77.51-77.55 | 77.530 | +2.365 | AASJE00 | 0.14/0.16 | 0.150 | +0.100 |
| Pazflor | PCNGG00 | 77.36-77.40 | 77.380 | +2.415 | PCNGH00 | -0.01/0.01 | 0.000 | +0.150 |
| Plutonio | PCNGI00 | 76.26-76.30 | 76.280 | +2.365 | PCNGJ00 | -1.11/-1.09 | -1.100 | +0.100 |
| Ghana spot crude assessments (P | GA page 1230) | | | | | | | |
| Jubilee | AAXUS00 | | 77.930 | +2.565 | AAXUT00 | | 0.550 | +0.300 |
| Republic of Congo spot crude ass | essments | | | | | | | |
| Djeno | PCNGE00 | 75.76-75.80 | 75.780 | +2.565 | PCNGF00 | -1.61/-1.59 | -1.600 | +0.300 |
| Chad spot crude assessments | | | | | | | | |
| Doba | AAXUU00 | | 75.330 | +2.565 | AAXUV00 | | -2.050 | +0.300 |
| | | | | | | | | |

West Africa market parity prices (\$/barrel) (PGA page 1270)

| | | iviid Chai | inge Spread vs two Dat | ed Brent Mid Change |
|-------------------|---------|-------------|------------------------|---------------------|
| Abo Blend | AAXTL00 | 78.180 +2.5 | 595 ABOOM00 | 0.800 +0.330 |
| Aje | APIRP00 | 78.460 +2.4 | 460 APIRA00 | 1.080 +0.195 |
| Amenam Blend | AAXTI00 | 77.360 +2.5 | 510 AMENA00 | -0.020 +0.245 |
| Antan Blend | APIRQ00 | 80.380 +2.5 | 520 APIRB00 | 3.000 +0.255 |
| Asaramatoru | AAXTV00 | 78.005 +2.4 | 490 ASARA00 | 0.625 +0.225 |
| CJ Blend | APIRR00 | 79.260 +2.5 | 595 APIRC00 | 1.880 +0.330 |
| EA Blend | AAXTJ00 | 79.345 +2.6 | 670 AEABL00 | 1.965 +0.405 |
| Ebok | APIRS00 | 74.690 +2.4 | 440 APIRD00 | -2.690 +0.175 |
| Eremor | APIRT00 | 77.005 +2.0 | 385 APIRE00 | -0.375 +0.120 |
| Ima | APIRU00 | 79.655 +2.2 | 240 APIRF00 | 2.275 -0.025 |
| Jones Creek Blend | APIRV00 | 77.260 +2.5 | 530 APIRG00 | -0.120 +0.265 |
| Okono Blend | APIRW00 | 79.140 +2.5 | 585 APIRH00 | 1.760 +0.320 |
| Okoro | APIRX00 | 77.850 +2.5 | 515 APIRI00 | 0.470 +0.250 |
| Okwori | APIRY00 | 79.440 +2.6 | 600 APIRJ00 | 2.060 +0.335 |
| Otakikpo | APIRZ00 | 77.625 +2.4 | 410 APIRK00 | 0.245 +0.145 |
| Oyo | APRIA00 | 77.590 +2.5 | 590 APIRL00 | 0.210 +0.325 |
| Pennington | APRIB00 | 76.745 +2.5 | 515 APIRM00 | -0.635 +0.250 |
| Rabi Light | ARABA00 | 76.520 +2.4 | 415 ARABB00 | -0.860 +0.150 |
| Sankofa | APRIC00 | 74.410 +2.4 | 415 APIRN00 | -2.970 +0.150 |
| | | | | |

Mid Change

Spreadive find Dated Brent Mid Change

There were some expectation that the company could consider Australia's North West Shelf condensate in the tender, which closed July 3 and was valid until July 5.

Separately, it was heard that Pertamina has issued, on behalf of TPPI, a tender seeking heavy naphtha for delivery over Sept. 15-20 or 21-25. The tender closes July 10, with validity until July 12.

Platts Asia Light Sweet Crude Daily Rationale & Exclusions

ESPO FOB Kozmino Mo01 Spore vs Dubai Mo01 <AASEU00> assessment rationale: The ESPO M1 September assessment on July 7 took into consideration latest trade indications heard in the broader market.

Exclusions: No market data was excluded from the Asia-Pacific Crude Market on Close assessment process. Platts is part of S&P Global Commodity Insights.

Platts Asia Light Sweet Crude Bids, Offers, Trades

Bids: NIL Offers: NIL Trades: NIL

This assessment commentary applies to the following market data code: ESPO M1 vs Dubai M2 <AASEU00>

Platts North Sea Crude Daily Market Analysis

- Johan Sverdrup differentials eclipse light sweet Ekofisk
- NWE, Mediterranean refinery downtime at seasonal lows

Support gathered for light sweet crudes throughout the North Sea and wider Atlantic Basin July 7, although

West Africa market parity prices (continued)

| | | Mid Change | Spread vs fwd Dated Brent | Mid Change |
|------------|---------|---------------|---------------------------|---------------|
| TEN | AAXTW00 | 76.220 +2.400 | ATENM00 | -1.160 +0.135 |
| Ukpokiti | APRID00 | 78.860 +2.555 | APIRO00 | 1.480 +0.290 |
| Yoho Light | AAXTK00 | 79.420 +2.530 | AYOHO00 | 2.040 +0.265 |
| Zafiro | AAXTU00 | 80.660 +2.575 | AZAFB00 | 3.280 +0.310 |

US West Coast Crude Assessments (\$/barrel) (PGA page 214)

| ıa | ng |
|----|----|
| | ıa |

| | | | | Sprea | d to NYMEX WTI CMA | Mid | Change | |
|----------------|---------|-------------|-------------------------|---------|--------------------|-------|--------|--|
| ANS/Long Beach | PCAAD00 | 80.04-80.08 | 80.060 +1.840 | AAGWX00 | 6.75/6.77 | 6.760 | 0.000 | |
| | | | Spread to ICE BRENT CMA | | | | | |
| ANS/Long Beach | | | | AANSA00 | | 2.404 | +0.002 | |

US spot crude assessments (\$/barrel) (PGA pages 210 & 214)

| | | | Mid Change |
|-----------------|---------|-------------|---------------|
| Mars (Aug) | AAMBR00 | 75.50-75.52 | 75.510 +1.660 |
| Mars (Sep) | AAMBU00 | 74.61-74.63 | 74.620 +1.780 |
| Mars (Oct) | AAMBX00 | 73.83-73.85 | 73.840 +1.680 |
| Mars/WTI (Aug) | AAGWH00 | 1.64/1.66 | 1.650 -0.400 |
| Mars/WTI (Sep) | AAKTH00 | 0.84/0.86 | 0.850 -0.200 |
| Mars/WTI (Oct) | AAMBO00 | 0.39/0.41 | 0.400 -0.200 |
| LOOP/WTI (Aug) | AALOM01 | | 1.550 -0.400 |
| LOOP/WTI (Sep) | AALOM02 | | 0.750 -0.200 |
| LOOP/WTI (Oct) | AALOM03 | | 0.300 -0.200 |
| LOOP/Mars (Aug) | AALPM01 | | -0.100 0.000 |
| LOOP/Mars (Sep) | AALPM02 | | -0.100 0.000 |
| LOOP/Mars (Oct) | AALPM03 | | -0.100 0.000 |
| WTI-Delta | AAEJK00 | 0.18/0.20 | 0.190 +0.110 |
| P-Plus WTI | PCACI00 | 3.56/3.58 | 3.570 +0.110 |
| P-5 WTI* | AAFEN00 | | NA NANA |

*P-5 WTI is a crude oil postings-based index. Posted prices by the following companies are used in the index: ConocoPhillips, Plains, Energy Transfer, Shell, and Valero. The index will not be calculated until all postings are submitted each day. If a posting is submitted the following day the P-5 WTI Average will update in the database

| | | | Mid Change | <u>Spi</u> | <u>read vs 1st line WTI</u> | Mid | Change |
|-----------------|---------|-------------|---------------|------------|-----------------------------|--------|--------|
| WTI (Midland) | PCACJ00 | 75.50-75.52 | 75.510 +2.060 | AAGVZ00 | 1.64/1.66 | 1.650 | 0.000 |
| WTS (1st month) | PCACK00 | 74.50-74.52 | 74.510 +2.060 | AAGWB00 | 0.64/0.66 | 0.650 | 0.000 |
| WTIMEH | AAYRG00 | | 75.710 +2.060 | AAYRH00 | | 1.850 | 0.000 |
| Bonito | PCAIE00 | 75.35-75.37 | 75.360 +1.660 | AAGWF00 | 1.49/1.51 | 1.500 | -0.400 |
| SGC | AASOI00 | 75.30-75.32 | 75.310 +1.360 | AASOJ00 | 1.44/1.46 | 1.450 | -0.700 |
| Poseidon | AABHK00 | 75.20-75.22 | 75.210 +1.660 | AAGWL00 | 1.34/1.36 | 1.350 | -0.400 |
| LLS (1st month) | PCABN00 | 76.75-76.77 | 76.760 +2.110 | AAGWN00 | 2.89/2.91 | 2.900 | +0.050 |
| HLS (1st month) | PCABD00 | 76.35-76.37 | 76.360 +2.210 | AAGWP00 | 2.49/2.51 | 2.500 | +0.150 |
| Wyoming Sweet | PCACM00 | 73.35-73.37 | 73.360 +1.960 | AAGWR00 | -0.51/-0.49 | -0.500 | -0.100 |
| Thunder Horse | AAWZK00 | 76.90-76.92 | 76.910 +1.660 | AAWZL00 | 3.04/3.06 | 3.050 | -0.400 |
| | | | | | | | |

tightness in sour barrels ensured the sweet/sour spread remained narrow.

A downstream environment featuring healthy refining cracks, low maintenance and high runs was giving support to light sweet grades that had previously floundered for July-loading. Jet fuel and gasoline cracks remained elevated in comparison to previous trading cycles, despite softening slightly through the week.

Furthermore, refining downtime in Northwest Europe and the Mediterranean is low heading into a summer season with minimal scheduled maintenance, according to a research note from S&P Global analysts.

"The week ended July 7 saw the lowest point in the year at around 260,000 b/d of downtime. We expect downtime to remain at about the same outage level for the following week," they said.

Meanwhile, the recent strength in the medium sour segment showed few signs of abating as differentials in Johan Sverdrup eclipsed the light sweet Ekofisk for the first time since Platts began assessing the grade in December 2019, driven by heightened supply tightness.

In swaps markets, recent gains stalled somewhat on the day though backwardation in Brent CFDs remained robust, reflecting the strengthening light sweet outlook while balance-month Dated to Frontline contracts crept up by 3 cents/b at the London Close.

Platts North Sea Dated Brent, BFOE, CFD Assessment Rationales & Exclusions

Dated Brent < PCAAS00 > assessment rationale:

Of the six grades in the Dated Brent basket Forties and WTI Midland were seen in the Platts Market on Close assessment process.

Brent, Forties, Oseberg, Ekofisk and Troll were assessed unchanged July 17-Aug. 6 with flat structures rolled over back-end dates amid steady fundamentals and in the absence of indications testing the July 6 assessments.

FOB WTI Midland was assessed lower reflecting a lower

US spot crude assessments (continued)

| | | | | | | Spread vs 2nd lin | <u>e WTI</u> | |
|------------------------------|----------|--------------------|-----------|--------|------------|---------------------|----------------|--------|
| WTI MEH (2nd month) | AAXXE00 | | 75.570 | +1.980 | AAYYA00 | | 1.800 | 0.000 |
| WTI Midland (2nd month) | AAYZA00 | | 75.370 | +1.980 | AAXXF00 | | 1.600 | 0.000 |
| WTS (2nd month) | AAURG00 | 73.86-73.88 | 73.870 | +2.030 | AAURH00 | 0.09/0.11 | 0.100 | +0.050 |
| LLS (2nd month) | AAURC00 | 76.36-76.38 | 76.370 | +1.780 | AAURD00 | 2.59/2.61 | 2.600 | -0.200 |
| HLS (2nd month) | AAURE00 | 75.96-75.98 | 75.970 | +1.880 | AAURF00 | 2.19/2.21 | 2.200 | -0.100 |
| | | | | | | Spread vs NYMEX W | /TI CMA | |
| WCS ex-Cushing | AAWTY00 | 70.46-70.48 | 70.470 | +1.750 | AAWTZ00 | -3.21/-3.19 | -3.200 | -0.200 |
| WCS ex-Nederland | AAYAY00 | | 71.620 | +1.750 | AAYAX00 | | -2.050 | -0.200 |
| Bakken Williston | AAXPP00 | | 75.170 | +2.150 | AASRX00 | | 1.500 | +0.200 |
| Bakken Guernsey | AASRR00 | 73.36-73.38 | 73.370 | +1.950 | AASRV00 | -0.31/-0.29 | -0.300 | 0.000 |
| Bakken Clearbrook | AASRU00 | 76.91-76.93 | 76.920 | +1.950 | AASRW00 | 3.24/3.26 | 3.250 | 0.000 |
| Bakken USGC Pipe | ABAKA00 | | 75.970 | +2.050 | ABAKB00 | | 2.300 | +0.100 |
| | | FOB USGC | | | FOB U | SGC Spread vs NYN | MEX WTI Strip | |
| Platts AGS | AGSAA00 | | 76.120 | +2.060 | AGSAC00 | | 2.400 | +0.090 |
| Bakken | ABAKC00 | | 76.120 | +2.060 | ABAKD00 | | 2.400 | +0.090 |
| Eagle Ford Crude | AAYAT00 | | 75.220 | +2.060 | AAYAU00 | | 1.500 | +0.090 |
| Eagle Ford Condensate | AAYAR00 | | 73.720 | +2.060 | AAYAS00 | | 0.000 | +0.090 |
| WTI | AAYBA00 | | 76.120 | +2.060 | AAYAZ00 | | 2.400 | +0.090 |
| | | | | | WTI FO | DB USGC vs WTI ME | H (by decade) | |
| WTI FOB USGC First Decade | ADECB00 | | 76.160 | +2.060 | ADECD00 | | 0.450 | 0.000 |
| WTI FOB USGC Second Decade | ADECE00 | | 76.110 | +2.060 | ADECG00 | | 0.400 | 0.000 |
| WTI FOB USGC Third Decade | ADECH00 | | 76.110 | +2.060 | ADECJ00 | | 0.400 | 0.000 |
| WTI FOB USGC Decades Average | ADECA00 | | 76.130 | +2.060 | | | | |
| | FOB USGO | Spread vs Dated Br | ent Strip | | WTI FOB US | SGC vs Dated Brent | Basis (by dec | ade) |
| Platts AGS | AGSAB00 | | -2.610 | -0.020 | ADECC00 | | -2.240 | +0.030 |
| Bakken | ABAKE00 | | -2.610 | -0.020 | ADECF00 | | -2.290 | +0.030 |
| Eagle Ford Crude | AEFCA00 | | -3.510 | -0.020 | ADECI00 | | -2.290 | +0.030 |
| Eagle Ford Condensate | AEFCB00 | | -5.010 | -0.020 | | | | |
| WTI | AWTUA00 | | -2.610 | -0.020 | | | | |
| | Globa | Benchmarks at US (| Close | | WTI FOB U | JSGC vs ICE Brent E | Basis (by deca | ide) |
| Americas Dated Brent | AAQBF00 | 78.890-78.910 | 78.900 | +2.080 | ADECK00 | | -1.990 | +0.110 |
| | | | | | ADECL00 | | -2.040 | +0.110 |
| | | | | | ADECM00 | | -2.040 | +0.110 |
| | | | | | | | | |

CIF Rotterdam assessment and freight adjustment factor on the day. CIF WTI Midland was assessed in a 3 cents/day contango structure July 19-Aug. 3 using a traded offer Aug. 3-4. Aug. 4-5 was assessed in a 5 cents/day contango structure using an outstanding bid Aug. 5-7. Aug. 7-9 was assessed in a flat structure. WTI Midland was the most competitive grade in the Dated Brent assessment July 17-Aug. 1. Brent was the most competitive grade Aug. 2-9.

BFOE (PCAAQ00-PCAAR00,PCARR00> assessment rationale: September Cash BFOE was assessed using an outstanding bid. October Cash BFOE was assessed using a September/October EFP roll heard during the

day. November Cash BFOE was assessed using an October/November EFP roll heard during the day.

Carood vo 2nd line WITI

CFD (PCAKA00-AALDA00) assessment rationale: July 10-14 was assessed using a July 10-14 versus July 17-21 CFD roll heard during the day. July 17-21 was assessed using a July 17-21 versus July 24-28 CFD roll heard during the day. July 24-28 was assessed using an outstanding bid. July 31-Aug. 4 was assessed using multiple traded offers. Aug. 7-11 was assessed using an Aug. 7-11 versus July 31-Aug. 4 CFD roll heard during the day.

Johan Sverdrup FOB North Sea (AJSVA00, AJSVB00) assessment rationale: Johan Sverdrup was assessed unchanged across the 10-day to month-

ahead assessment period reflecting steady sour market fundamentals on the day and in the absence of indications testing the July 6 assessment.

Exclusions: None

Platts is part of S&P Global Commodity Insights

Platts North Sea Dated Brent, BFOE, CFD Bids, Offers, Trades

Bids:

NORTH SEA: TRAFI Bids WTI Midland, CIF Rotterdam, Aug. 04 - Aug. 08, at Dtd 1.24; MERCURIASA Bids Forties, FOB Hound Point, Jul. 26 - Jul. 28, at Dtd 0.00

CASH BFOE: PLATTS CASH BFOE: SEP23:

MERCURIA BIDS 100KB AT \$77.73

BRENT CFDS: PLATTS BRENT DIFF: JUL10-JUL14

(SEP): MERCURIA BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: JUL10-JUL14 (SEP):

PETROCHINA BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: JUL10-JUL14 (SEP): UNIPEC BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: JUL10-JUL14 (SEP): DV TRADING BIDS 100KB AT \$0.15

PLATTS BRENT DIFF: JUL10-JUL14 (SEP): DARE

BIDS 100KB AT \$0.15

PLATTS BRENT DIFF: JUL10-JUL14 (SEP):

TRAFIGURA BIDS 100KB AT \$0.15

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): DV

TRADING BIDS 100KB AT \$0.31

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

EXXONMOBIL BIDS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): UNIPEC

BIDS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

FREEPOINT BIDS 100KB AT \$0.28

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

PETROCHINA BIDS 100KB AT \$0.27

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): DARE BIDS 100KB AT \$0.25

US domestic crude assessments London close (\$/barrel) (PGA page 1240)

| Spread | to |
|--------|----|
|--------|----|

| | | | Mid | Change | NYMEX | light sweet crude | Mid | Change |
|---------------|--------------------|----------------------------|--------|------------------|--------------------|------------------------|----------------|--------|
| WTI (Aug) | AAQAR00 | 72.80-72.82 | 72.810 | +2.320 | AAQAS00 | -0.01/0.01 | 0.000 | 0.000 |
| WTI (Sep) | AAQAT00 | 72.79-72.81 | 72.800 | +2.250 | AAQAU00 | -0.01/0.01 | 0.000 | 0.000 |
| WTI (Oct) | AAQAV00 | 72.52-72.54 | 72.530 | +2.160 | AAQAW00 | -0.01/0.01 | 0.000 | 0.000 |
| | | | | | | Spread to | | |
| | | | | | same | -month cash WTI | Mid | Change |
| WTI MEH (Aug) | AAYRZ00 | | 74.710 | +2.370 | AAYTA00 | | 1.900 | +0.050 |
| WTI MEH (Sep) | AAXYD00 | | 74.650 | +2.300 | AAYWA00 | | 1.850 | +0.050 |
| 110 (4) | | | | | | | | |
| LLS (Aug) | AAQBB00 | 75.70-75.72 | 75.710 | +2.370 | AAQBC00 | 2.89/2.91 | 2.900 | +0.050 |
| LLS (Aug) | AAQBB00 AAQBD00 | 75.70-75.72 75.39-75.41 | | +2.370 +2.050 | AAQBC00 AAQBE00 | 2.89/2.91 2.59/2.61 | 2.900 2.600 | +0.050 |
| | | | 75.400 | | | | | |

Americas close (\$/barrel) (PGA page 210)

| Mid | Chang |
|-----|-------|
| Mid | Chang |

Americas Dated Brent AAQBF00 78.89–78.91 78.900 +2.080

Americas Dated Brent reflects market value for Dated Brent at 2:30pm Eastern Time.

US crude assessments Singapore close (\$/barrel) (PGA page 2208)

| | | Mid Change |
|-----------------------|---------|---------------|
| LOOP Sour (Aug) | AAZDA00 | 74.000 +0.740 |
| LOOP Sour (Sep) | AAZDB00 | 72.970 +0.150 |
| LLS (Aug) | AAZDC00 | 74.900 +0.240 |
| LLS (Sep) | AAZDD00 | 74.820 +0.300 |
| Southern Green Canyon | AAZDE00 | 74.200 +0.740 |
| WTI MEH (Aug) | AAZDF00 | 73.900 +0.040 |
| WTI MEH (Sep) | AAZDG00 | 73.820 0.000 |

CFR North Asia Assessments Singapore Close (\$/barrel) (PGA page 2202)

| | | Mid Change |
|------------------------------|---------|---------------|
| Dubai CFR North Asia | PCAQA00 | 79.720 +0.440 |
| Oman CFR North Asia | PCAQJ00 | 79.710 +0.340 |
| Upper Zakum CFR North Asia | PCAQB00 | 79.680 +0.440 |
| Qatar Marine CFR North Asia | PCAQC00 | 78.590 +0.390 |
| Murban CFR North Asia | PCAQE00 | 79.750 +0.060 |
| Basrah Medium CFR North Asia | BASNA00 | 78.390 +0.340 |
| ESPO CFR North Asia | PCAQD00 | 71.360 +0.170 |
| Forties CFR North Asia | PCAQF00 | 80.790 -0.195 |
| Dalia CFR North Asia | PCAQG00 | 79.505 -0.045 |
| WTI MEH CFR North Asia | PCAQH00 | 79.130 -0.030 |
| LOOP Sour CFR North Asia | PCAQI00 | 78.180 +0.690 |

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

MERCURIA BIDS 100KB AT \$0.25

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

TRAFIGURA BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: JUL24-JUL28 (SEP):

EXXONMOBIL BIDS 100KB AT \$0.25

PLATTS BRENT DIFF: JUL24-JUL28 (SEP):

PETROCHINA BIDS 100KB AT \$0.25

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): UNIPEC

BIDS 100KB AT \$0.25

PLATTS BRENT DIFF: JUL24-JUL28 (SEP):

MERCURIA BIDS 100KB AT \$0.25

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): ONYX

BIDS 100KB AT \$0.22

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): DV

TRADING BIDS 100KB AT \$0.21

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): DARE

BIDS 100KB AT \$0.18

PLATTS BRENT DIFF: JUL24-JUL28 (SEP):

TRAFIGURA BIDS 100KB AT \$0.15

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): DV

TRADING BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): DARE

BIDS 100KB AT \$0.20

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): MCE BIDS

100KB AT \$0.15

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): DARE

BIDS 100KB AT \$0.43

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): ONYX

BIDS 100KB AT \$0.43

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): DV

TRADING BIDS 100KB AT \$0.42

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): UNIPEC

BIDS 100KB AT \$0.40

PLATTS BRENT DIFF: JUL31-AUG4 (OCT):

MERCURIA BIDS 100KB AT \$0.35

Offers:

NORTH SEA: GLENCOREUK Offer Forties, FOB

Hound Point, Jul. 18 - Jul. 20, at Dtd 0.35;

VITOL Offer Forties, FOB Hound Point, Jul. 26 - Jul. 28, at Dtd 0.60

Canadian spot crude cargo assessments (\$/barrel) (PGA page 230)

| | | | Mid Change | Spread vs two Dated Brent | Mid Change |
|------------|---------|-------------|---------------|---------------------------|--------------|
| Hebron | AHEBA00 | | 78.190 +2.810 | AHEBC00 | 0.850 +0.550 |
| Terra Nova | AAJUH00 | 77.72-77.76 | 77.740 +2.410 | AAJUJ00 0.39/0.41 | 0.400 +0.150 |
| Hibernia | AAJKK00 | 78.57-78.61 | 78.590 +2.710 | AAJKM00 1.24/1.26 | 1.250 +0.450 |
| White Rose | AAVJX00 | 78.77-78.81 | 78.790 +2.410 | AAVJY00 1.44/1.46 | 1.450 +0.150 |

The published spreads for Canadian cargo assessments reflect the market value at which these grades are trading versus Dated Brent around loading time. The spreads and fixed price assessments reflect a typical forward loading window of 33-63 days forward. For further explanation see www.platts.com.

Canadian spot crude assessments (\$/barrel) (PGA page 230)

| | | | Mid | Change | <u>S</u> | oread vs Canada basis | Mid | Change |
|----------------------|---------|-------------|--------|--------|----------|-----------------------|---------|--------|
| Lloyd Blend | AALRK00 | 62.86-62.88 | 62.870 | +1.150 | AALRP00 | -10.81/-10.79 | -10.800 | -0.800 |
| Mixed Sweet | AALRR00 | 72.46-72.48 | 72.470 | +1.600 | AALRV00 | -1.21/-1.19 | -1.200 | -0.350 |
| Light Sour Blend | AALRX00 | 71.51-71.53 | 71.520 | +1.800 | AALSD00 | -2.16/-2.14 | -2.150 | -0.150 |
| Midale | AAUCC00 | 69.41-69.43 | 69.420 | +1.800 | AAUCE00 | -4.26/-4.24 | -4.250 | -0.150 |
| Condensates | AALSF00 | 68.31-68.33 | 68.320 | +1.600 | AALSJ00 | -5.36/-5.34 | -5.350 | -0.350 |
| Syncrude Sweet Prem. | AASOK00 | 76.91-76.93 | 76.920 | +1.400 | AASOM00 | 3.24/3.26 | 3.250 | -0.550 |
| WCS Hardisty | AAPPN00 | 62.16-62.18 | 62.170 | +1.150 | AAPPP00 | -11.51/-11.49 | -11.500 | -0.800 |
| Cold Lake Hardisty | AASZX00 | 62.01-62.03 | 62.020 | +1.150 | AASZZ00 | -11.66/-11.64 | -11.650 | -0.800 |
| WTI CMA (1st mo) | AAVSN00 | | 73.670 | +1.950 | | | | |

Latin American assessments (\$/barrel) (PGA page 280)

| | | | | | D | iff to | Diff to | 5 Futures | Diff t | o Dated |
|-----------------------------------|---------|-------------|--------|--------|---------|---------|---------|-----------|---------|----------|
| | | | Mid | Change | WT | l strip | Bre | nt strip | Brer | nt strip |
| Escalante | PCAGC00 | 76.13-76.18 | 76.155 | +1.920 | PCAG000 | 2.500 | AAXBS00 | -1.900 | AAXAX00 | -2.150 |
| Medanito | AMTOA00 | | 73.155 | +1.920 | AMTOC00 | -0.500 | AMTOB00 | -4.900 | AMTOD00 | -5.150 |
| Santa Barbara | AAITD00 | 76.68-76.73 | 76.705 | +2.085 | AAITJ00 | 3.050 | AAXBU00 | -1.350 | AAXAZ00 | -1.600 |
| Loreto | PCAGH00 | 67.28-67.33 | 67.305 | +2.435 | PCAGQ00 | -6.350 | AAXBV00 | -10.750 | AAXBG00 | -11.000 |
| Oriente | PCADE00 | 68.18-68.23 | 68.205 | +2.435 | PCAGU00 | -5.450 | AAXBW00 | -9.850 | AAXBH00 | -10.100 |
| Napo | AAMCA00 | 66.18-66.23 | 66.205 | +2.435 | AAMCD00 | -7.450 | AAXBX00 | -11.850 | AAXBI00 | -12.100 |
| Tupi | ATUPA00 | | 78.655 | +2.020 | ATUPC00 | 5.000 | ATUPB00 | 0.600 | ATUPD00 | 0.350 |
| Marlim | AAITF00 | 73.78-73.83 | 73.805 | +2.820 | AAITL00 | 0.150 | AAXBY00 | -4.250 | AAXBJ00 | -4.500 |
| Castilla Blend | AAVEQ00 | 70.93-70.98 | 70.955 | +2.820 | AAVEQ01 | -2.700 | AAXBZ00 | -7.100 | AAXBK00 | -7.350 |
| Vasconia | PCAGI00 | 73.93-73.98 | 73.955 | +1.820 | PCAGR00 | 0.300 | AAXCB00 | -4.100 | AAXBN00 | -4.350 |
| Mesa 30 | AAITB00 | 75.53-75.58 | 75.555 | +1.670 | AAITH00 | 1.900 | AAXCC00 | -2.500 | AAXB000 | -2.750 |
| Liza | ALIZA00 | | 78.555 | +1.970 | ALIZD00 | 4.900 | ALIZC00 | 0.500 | ALIZB00 | 0.250 |
| Latin America WTI strip | AAXBP00 | | 73.655 | | | | | | | |
| Latin America Futures Brent strip | AAXBQ00 | | 78.055 | | | | | | | |
| Latin America Dated Brent strip | AAXBR00 | | 78.305 | | | | | | | |
| | | | | | | | | | | |

Latin America market parity prices (\$/barrel) (PGA page 270)

| | | Mid | Change |
|----------|---------|--------|-----------|
| Maya | AAYMP00 | 70.662 | 32 +2.356 |
| Merey 16 | AMERA00 | 69.454 | 54 +2.266 |

Platts euro-denominated assessments (€/barrel) (PGA page 1252)

Mid Change

| European crude oil benchmarks | | | |
|-------------------------------|---------|---------------|---------------|
| Dated Brent | AAPYR00 | 71.180-71.190 | 71.185 +1.586 |
| Dated Brent (CIF) | PCAKN00 | | 72.157 +1.554 |
| Urals (Mediterranean) | AAPYS00 | 56.290-56.320 | 56.302 +2.195 |
| US crude oil benchmarks | | | |
| WTI (Aug) | AAPYT00 | 66.490-66.510 | 66.499 +1.591 |
| WTI MEH (Aug) | AAYSA00 | | 68.235 +1.624 |
| Mars (Aug) | AAPYU00 | 68.000-68.020 | 68.006 +1.072 |
| | | | |

Euro/US\$ forex rate: 1.0949. Platts Euro denominated crude oil assessments are based on market values and a Euro/US\$ forex rate at 4:30 PM local London time.

CASH BFOE: None

BRENT CFDS: PLATTS BRENT DIFF: JUL10-JUL14 (SEP): PETRACO OFFERS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL10-JUL14 (SEP): DARE OFFERS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL10-JUL14 (SEP): DV TRADING OFFERS 100KB AT \$0.40

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): BP OFFERS 100KB AT \$0.35

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): DARE OFFERS 100KB AT \$0.35

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): ONYX OFFERS 100KB AT \$0.39

PLATTS BRENT DIFF: JUL17-JUL21 (SEP):

FREEPOINT OFFERS 100KB AT \$0.40

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): ENI OFFERS 100KB AT \$0.40

PLATTS BRENT DIFF: JUL17-JUL21 (SEP): DV TRADING OFFERS 100KB AT \$0.50

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): BP OFFERS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): DARE OFFERS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL24-JUL28 (SEP):

FREEPOINT OFFERS 100KB AT \$0.30

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): DV TRADING OFFERS 100KB AT \$0.35

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): DV TRADING OFFERS 100KB AT \$0.44

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): MCE OFFERS 100KB AT \$0.45

PLATTS BRENT DIFF: AUG7-AUG11 (OCT): DARE OFFERS 100KB AT \$0.65

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): PETRACO OFFERS 100KB AT \$0.46

PLATTS BRENT DIFF: JUL31-AUG4 (OCT):

FREEPOINT OFFERS 100KB AT \$0.50

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): DARE OFFERS 100KB AT \$0.55

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): DV TRADING OFFERS 100KB AT \$0.60

Ruble-denominated Russian assessments (Rb/barrel) (PGA page 1224)

| | | | Mid | Change | |
|------------------------------|---------|-------------------|----------|----------|--|
| Russian crude oil benchmarks | | | | | |
| Urals FOB Novorossiysk | AAUJP00 | 5388.590-5391.330 | 5389.961 | +296.001 | |
| Urals FOB Baltic | AAUJQ00 | 5388.590-5391.330 | 5389.961 | +296.001 | |
| Urals FOB Novorossiysk 80kt | AAUJR00 | 5306.310-5309.050 | 5307.678 | +295.483 | |
| Urals CIF Mediterranean | AAUJS00 | 5634.520-5637.270 | 5635.894 | +297.548 | |
| Urals CIF Rotterdam | AAUJT00 | 5596.120-5598.870 | 5597.496 | +297.307 | |

US\$/Ruble forex rate: 91.4250. Platts Ruble denominated crude oil assessments are based on market values and a US\$/Ruble forex rate at 4:30 PM local London time

Platts CAD-denominated Canada spot crude assessments (C\$/cu m) (PGA page 232)

| | | | iviid | Change |
|--------------------|---------|-----------------|---------|---------|
| Lloyd Blend | AALRM00 | 524.578-524.745 | 524.661 | +6.088 |
| Mixed Sweet | AALRT00 | 604.692-604.858 | 604.775 | +9.323 |
| Light Sour Blend | AALRZ00 | 596.764-596.931 | 596.847 | +11.057 |
| Midale | AAUCD00 | 579.239-579.406 | 579.322 | +11.177 |
| Condensates | AALSH00 | 570.059-570.226 | 570.143 | +9.560 |
| Syncrude Sweet | AASOL00 | 641.828-641.994 | 641.911 | +7.390 |
| WCS Hardisty | AAPP000 | 518.736-518.903 | 518.820 | +6.128 |
| Cold Lake Hardisty | AASZY00 | 517.484-517.651 | 517.568 | +6.136 |
| | | | | |

Daily US\$ vs EURO exchange rate (PGA page 1151)

| | | Mid | Change | |
|--------------|---------|--------|--------|--|
| July 7, 2023 | AAFCW00 | 1.0949 | +0.009 | |

Asia close Brent and WTI spot assessments (\$/barrel) (PGA page 2210)

| | | | Mid | Change |
|-------------|---------|-------------|--------|--------|
| Brent (Sep) | PCAJG00 | 76.88-76.92 | 76.900 | -0.050 |
| Brent (Oct) | PCAJI00 | 76.56-76.60 | 76.580 | -0.110 |
| Brent (Nov) | PCAJ000 | | 76.190 | -0.140 |
| WTI (Aug) | AAFFU00 | 72.03-72.07 | 72.050 | -0.010 |
| WTI (Sep) | AAFFW00 | 72.00-72.04 | 72.020 | -0.100 |
| WTI (Oct) | AAFFY00 | 71.76-71.80 | 71.780 | -0.150 |

Oman OSPs and derivatives (\$/barrel) (PGA pages 2658 & 2210)

| | | | IVIIU | Change |
|-----------------------|---------|-------------|--------|--------|
| Oman/Dubai Swap (Aug) | AAIHJ00 | -0.02/0.02 | 0.000 | -0.100 |
| Oman/Dubai Swap (Sep) | AAIHL00 | -0.02/0.02 | 0.000 | -0.100 |
| Oman/Dubai Swap (Oct) | AAIHN00 | -0.02/0.02 | 0.000 | -0.100 |
| Oman Swap (Aug) | AAHZP00 | 76.78-76.82 | 76.800 | +0.130 |
| Oman Swap (Sep) | AAHZR00 | 76.02-76.06 | 76.040 | +0.070 |
| Oman Swap (Oct) | AAHZT00 | 75.37-75.41 | 75.390 | 0.000 |
| | | | | |

Daily OPEC Basket Price (\$/barrel) (PGA page 207)

| | Mid | Change |
|---------------------|--------|--------|
| uly 6, 2023 AAEUQ00 | 77.560 | +0.960 |

Trades:

NORTH SEA: BP*-TRAFI WTI Midland, CIF Rotterdam, Aug. 02 - Aug. 06, at Dtd 1.25, [15:23:49]

CASH BFOE: PLATTS CASH BFOE: SEP23: GUNVOR BUYS FROM PETROINEOS* 100KB AT \$77.67 (15:29:39) PLATTS CASH BFOE: SEP23: PETROINEOS SELLS TO MERCURIA* 100KB AT \$77.73 (15:29:43)

PLATTS CASH BFOE: SEP23: GUNVOR BUYS FROM PETROINEOS* 100KB AT \$77.73 (15:29:51)

PLATTS CASH BFOE: SEP23: HARTREE SELLS TO MERCURIA* 100KB AT \$77.73 (15:29:53)

BRENT CFDS: PLATTS BRENT DIFF: JUL24-JUL28 (SEP): VITOL SELLS TO PETROCHINA* 100KB AT \$0.24 (15:27:00)

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): PETRACO SELLS TO PETROCHINA* 100KB AT \$0.25 (15:29:32)

PLATTS BRENT DIFF: JUL24-JUL28 (SEP): BP SELLS TO MERCURIA* 100KB AT \$0.25 (15:29:40) PLATTS BRENT DIFF: JUL24-JUL28 (SEP): TRAFIGURA BUYS FROM PETRACO* 100KB AT \$0.27 (15:29:58)

PLATTS BRENT DIFF: JUL31-AUG4 (OCT): TOTAL
BUYS FROM BP* 100KB AT \$0.45 (15:28:37)
PLATTS BRENT DIFF: JUL31-AUG4 (OCT): TOTAL
BUYS FROM PETRACO* 100KB AT \$0.45 (15:28:38)
PLATTS BRENT DIFF: JUL31-AUG4 (OCT): TOTAL
BUYS FROM PETROCHINA* 100KB AT \$0.45 (15:28:39)
PLATTS BRENT DIFF: JUL31-AUG4 (OCT): TOTAL
BUYS FROM BP* 100KB AT \$0.45 (15:29:43)

This assessment commentary applies to the following market data codes: Dated Brent <PCAAS00> CFD Week 1 <PCAKA00> CFD Week 2 <PCAKC00> Brent Mo01 <PCAAQ00> CFD Week 3 <PCAKE00> Brent Mo02 <PCAAR00> CFD Week 4 <PCAKG00> Brent Mo03 <PCARR00> CFD Week 5 <AAGLU00> CFD Week 6 <AAGLV00> CFD Week 8 <AALCZ00> CFD Week 8 <AALDA00> Johan Sverdrup FOB North Sea <AJSVA00> Johan Sverdrup FOB North Sea Dtd Strip <AJSVB00>

Futures Settlements

| | ements | | Change | Law | Himb | \/ala* | On an interest | , | NT*** |
|------------------------|------------------------|-----------------------|----------|--------|--------|-----------------|----------------|-----------|---------|
| NIVA4EVII di O | | ettlement | Change | Low | High | Volume* | Open interest | ı | N I ^^^ |
| NYMEX Light Sweet | | | | 74.40 | 70.00 | 00005/ | 00/054 | | |
| Aug 23 | NMCL001 | 73.86 | +2.06 | 71.19 | 73.92 | 336354 | 304951 | | |
| Sep 23 | NMCL002 | 73.77 | +1.98 | 71.22 | 73.82 | 167034 | 313806 | | |
| Oct 23 Nov 23 | NMCL003 | 73.44 | +1.88 | 71.01 | 73.49 | 92312 | 174837 | | |
| Total | NMCL004 NMCL000 | 73.05 | +1.77 | 70.77 | 73.11 | 40872 899183 | 80186 | VAIOL DOG | 19122 |
| | | | | | | 099103 | | XNCLP00 | 19122 |
| CE Brent (\$/barrel) | | | | | | | | | |
| Sep 23 | ICLL001 | 78.47 | +1.95 | 76.03 | 78.54 | 361890 | 497762 | | |
| Oct 23 | ICLL002 | 78.08 | +1.86 | 75.75 | 78.15 | 168624 | 373574 | | |
| Nov 23 | ICLL003 | 77.62 | +1.78 | 75.39 | 77.68 | 87019 | 214799 | | |
| Dec 23 | ICLL004 | 77.17 | +1.70 | 75.03 | 77.23 | 146304 | 297411 | V71 I D00 | 00/01 |
| otal | ICLL000 | | | | | 983678 | | XILLP00 | 26491 |
| CE WTI (\$/barrel) (Po | | | | | | | | | |
| Aug 23 | ICIC001 | 73.86 | +2.06 | 71.21 | 73.92 | 41195 | 68347 | | |
| Sep 23 | ICIC002 | 73.77 | +1.98 | 71.26 | 73.82 | 51989 | 99302 | | |
| Oct 23 | ICIC003 | 73.44 | +1.88 | 71.05 | 73.47 | 36509 | 58039 | | |
| Nov 23 | ICIC004 | 73.05 | +1.77 | 70.80 | 73.10 | 17998 | 28072 | | |
| otal | ICIC000 | | | | | 185017 | | XIICP00 | 11603 |
| CE BWAVE (\$/barrel | | 14) | | | | | | | |
| BWAVE data refer to p | | | | | | | | | |
| Sep 23 | XIBW001 | 76.13 | | | | | | | |
| Oct 23 | XIBW002 | 75.84 | | | | | | | |
| OME Oman crude (\$ | /barrel)** (PG | A pages 702 & | 2710) | | | | | | |
| Sep 23 | XD0A001 | 77.89 | +0.57 | | | 2999 | | | |
| Sep 23 | DMOQ001 | 79.31 | +1.60 | 77.44 | 79.31 | 3083 | 3355 | | |
| Oct 23 | DMOQ002 | 78.44 | +1.61 | 76.98 | 78.44 | 753 | 13 | | |
| Nov 23 | DMOQ003 | 77.90 | +1.61 | 77.90 | 77.90 | 751 | 10 | | |
| Dec 23 | DMOQ004 | 77.47 | +1.61 | 77.47 | 77.47 | 0 | 0 | | |
| Total Volume | DMOQ000 | | | | | 4460 | | XDOQP00 | C |
| FAD Murban crude (| \$/barrel) (PG/ | | | | | | | | |
| Sep 23 | AMIFA00 | 77.970 | | | | | | | |
| Murban vs Dubai*** | AMIFB00 | 1.930 | | | | | | | |
| NYMEX ULSD (\$/gal) | (PGA page 705 | 5) | | | | | | | |
| Aug 23 | NMH0001 | 2.5591 | +0.0797 | 2.4807 | 2.5628 | 38928 | 66972 | | |
| Sep 23 | NMH0002 | 2.5420 | +0.0735 | 2.4688 | 2.5456 | 35298 | 52482 | | |
| Oct 23 | NMH0003 | 2.5289 | +0.0662 | 2.4620 | 2.5315 | 21874 | 37173 | | |
| Nov 23 | NMH0004 | 2.5151 | +0.0610 | 2.4546 | 2.5170 | 8636 | 29046 | | |
| Total | NMHO000 | | | | | 131899 | | XNHOP00 | 2797 |
| NYMEX RBOB unlead | ded gasoline (| \$/gal) (PGA p | age 705) | | | | | | |
| Aug 23 | NMRB001 | 2.5893 | +0.0455 | 2.5387 | 2.5991 | 43872 | 88727 | | |
| Sep 23 | NMRB002 | 2.5089 | +0.0481 | 2.4571 | 2.5136 | 43363 | 82839 | | |
| Oct 23 | NMRB003 | 2.2768 | +0.0482 | 2.2214 | 2.2780 | 24441 | 50947 | | |
| Nov 23 | NMRB004 | 2.2134 | +0.0468 | 2.1593 | 2.2148 | 14092 | 28296 | | |
| otal Volume | NMRB000 | | | | | 153311 | | XNRBP00 | 5657 |
| IYMEX Natural Gas | (\$/MMBtu) (P | GA page 705) | | | | | | | |
| Aug 23 | NMNG001 | 2.582 | -0.027 | 2.536 | 2.675 | 98733 | 166887 | | |
| Sep 23 | NMNG002 | 2.570 | -0.029 | 2.526 | 2.665 | 41191 | 287642 | | |
| Oct 23 | NMNG003 | 2.660 | -0.030 | 2.618 | 2.752 | 32266 | 106299 | | |
| Nov 23 | NMNG004 | 3.073 | -0.026 | 3.023 | 3.152 | 17308 | 86828 | | |
| Total Volume | NMNG000 | | | | | 239090 | | XNNGP00 | 2716 |

Platts WTI Midland Crude DAP Europe Assessment Rationale & Exclusions

WTI Crude DAP Europe <AWTICO0> assessment rationale: WTI DAP Rotterdam was assessed unchanged between July 27 and Aug. 4, with a 0.5 cent/day contango structure rolled over back-end dates in the absence of indications testing the July 6 assessment. There were no bids, offers or trades in the Platts Market on Close assessment process.

WTI Crude DAP Augusta AWTIA00 assessment rationale: WTI DAP Augusta was assessed unchanged owing to the steadiness of the DAP Rotterdam differential. There were no bids, offers or trades in the MOC.

Exclusions: None

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Platts WTI Midland Crude DAP Europe Bids, Offers, Trades

Bids: None Offers: None Trades: None

Futures Settlements (continued)

| | | Settlement | Change | Low | High | Volume* | Open interest | F | NT*** |
|--------------------|-------------------|-----------------|------------------|--------|--------|---------|---------------|---------|-------|
| ICE low sulfur gas | soil (\$/mt) (PGA | page 704) | | | | | | | |
| Jul 23 | ICL0001 | 744.00 | +23.50 | 730.50 | 752.00 | 29160 | 38524 | | |
| Aug 23 | ICL0002 | 732.75 | +25.50 | 716.25 | 740.00 | 88459 | 141853 | | |
| Sep 23 | ICL0003 | 728.25 | +25.00 | 712.50 | 735.25 | 64844 | 93126 | | |
| Oct 23 | ICL0004 | 726.50 | +24.25 | 711.25 | 732.75 | 32381 | 89422 | | |
| Total Volume | ICL0000 | | | | | 300525 | | XILOP00 | 2735 |
| CE Midland WTI | American Gulf (| Coast (\$/barre | l) (PGA page 70- | 4) | | | | | |
| Aug 23 | IHOU001 | 75.73 | +2.06 | 73.10 | 75.75 | 2451 | 8250 | | |
| Sep 23 | IH0U002 | 75.54 | +2.00 | 73.01 | 75.55 | 1116 | 4990 | | |
| Oct 23 | IH0U003 | 75.14 | +1.87 | 72.73 | 75.14 | 804 | 4387 | | |
| Nov 23 | IHOU004 | 74.78 | +1.80 | 74.78 | 74.78 | 216 | 4071 | | |

^{*}Volume, open interest and PNT reflect prior trading day. PNT reflect volume for Privately Negotiated Trades or off-exchange. **Oman settlements are Post Close settlements. ***IFAD Murban spread to 1st Line (Sep 23) Platts Dubai crude futures. ****Privately Negotiated Trade values found on PGA page 710

Futures at Platts' Market on Close (\$/barrel) (PGA page 703)

| | Singap | ore* | Lond | on* | Houston* | | |
|-----------|---------|-------|---------|-------|----------|-------|--|
| ICE Brent | | | | | | | |
| Sep | XILLA01 | 76.77 | AAYES00 | 77.57 | AAQBG00 | 78.53 | |
| Oct | XILLA02 | 76.45 | AAYET00 | 77.22 | AAQBH00 | 78.15 | |
| Nov | | | AAXZY00 | 76.82 | AAXZZ00 | 77.68 | |
| Dec | | | AAYAM00 | 76.42 | AAYAL00 | 77.23 | |
| Oman | | | | | | | |
| Sep | XD0A001 | 77.89 | | | | | |
| Volume | XDOAV01 | 2999 | | | | | |

| Singap | ore* | Lond | on* | Hous | ton* |
|---------|-------------|---------------|-------------------|---------|---|
| WTI | | | | | |
| XNCLA01 | 72.05 | AASCR00 | 72.81 | NYCRM01 | 73.90 |
| XNCLA02 | 72.02 | AASCS00 | 72.80 | NYCRM02 | 73.82 |
| | | | | NYCRM03 | 73.47 |
| | | | | NYCRM04 | 73.10 |
| | WTI XNCLA01 | XNCLA01 72.05 | WTI 72.05 AASCRØØ | WTI | WTI XNCLA01 72.05 AASCR00 72.81 NYCRM01 XNCLA02 72.02 AASCS00 72.80 NYCRM02 NYCRM02 NYCRM03 NYCRM03 |

*Singapore and London MOC close at precisely 16:30 local time while Houston MOC closes at precisely 13:30 local time. MOC times are usually earlier on the day preceding major local holidays.

Platts

S&P Global Commodity Insights

Crude Oil Marketwire

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Reported spot cash transactions (PGA page 3)

| Trans. Date | Cargo / Spread Dates | Cargo Range CFD V | e / | CFD Roll Week | Crude Grade(s) | Reported Status | Outright / Diff. Price (\$/barrel) | Basis | Barrels | Seller | Buyer |
|-------------|----------------------------|-------------------------|-----|------------------|---------------------------------------|--------------------|--|----------------|---------|------------|---------------|
| Platts Amer | icas | | | | | | | | | | |
| 07/07/2023 | August | | | | Bakken Clearbrook | Heard | 3.25 | NYMEX WTI CMA | | | |
| 07/07/2023 | August | | | | Bakken Williston (DAPL) | Heard | 1.50 | NYMEX WTI CMA | | | |
| 07/07/2023 | August | | | | C5 Fort Saskatchewan | Heard | -5.35 | NYMEX WTI CMA | | | |
| 07/07/2023 | | | | | Mars | Heard | 1.65 | Cash WTI | | | |
| 07/07/2023 | August | | | | Mars | Heard | 1.65 | Cash WTI | | | |
| 7/07/2023 | August | | | | Medanito | Heard | -5.00 | | | | |
| 07/07/2023 | August | | | | Mixed Sweet (MSW) Edmonton | Heard | -1.20 | NYMEX WTI CMA | | | |
| 07/07/2023 | August | | | | Saddle Horn Light (SHL) | Heard | -0.40 | Cash WTI | | | |
| 07/07/2023 | August | | | | Syncrude Sweet Premium (SSP) Edmonton | Heard | 3.25 | NYMEX WTI CMA | | | |
| 07/07/2023 | | | | | WCS Hardisty | Heard | -11.50 | NYMEX WTI CMA | | | |
| 7/07/2023 | August | | | | West Texas Light (WTL) | Heard | -0.85 | WTI Midland | | | |
| 7/07/2023 | August | | | | West Texas Light (WTL) | Heard | -0.90 | WTI Midland | | | |
| 7/07/2023 | | | | | WTI MEH | Heard | 1.90 | Cash WTI | | | |
| 07/07/2023 | | | | | WTI MEH | Heard | 1.90 | Cash WTI | | | |
| 7/07/2023 | August | | | | WTI MEH | Heard | 1.95 | Cash WTI | | | |
| 7/07/2023 | | | | | WTI MEH | Heard | 1.85 | Cash WTI | | | |
| Platts Asia | | | | | | | | | | | |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Mitsui | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Mitsui | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Petrochina | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.86 | | 25,000 | Trafigura | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Trafigura | Gunvor |
| 77/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Petrochina | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Reliance | Gunvor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | Trafigura | Equinor |
| 7/7/2023 | September | | | | Dubai Partial | Done | 77.85 | | 25,000 | BP | Gunvor |
| Platts EMEA | • | | | | Dabai i ai tiat | Done | 77.00 | | 20,000 | DI | Guilvoi |
| 17/07/2023 | | 24 | 28 | | Brent CFD | Done | 0.24 | Cash BFOE Sep | 100000 | Vitol | PetroChina |
| | July/August | 31 | 4 | | Brent CFD | Done | 0.24 | Cash BFOE Oct | 100000 | BP | TotalEnergies |
| 07/07/2023 | , , | 24 | 28 | | Brent CFD | Done | 0.43 | Cash BFOE Sep | 100000 | Petraco | Trafigura |
| | July/August | 31 | 4 | | Brent CFD | Done | 0.27 | Cash BFOE Oct | 100000 | Petraco | TotalEnergies |
| | July/August July/August | 31 | 4 | | Brent CFD | Done | 0.45 | Cash BFOE Oct | 100000 | Petraco | TotalEnergies |
| 7/07/2023 | | 24 | 28 | | Brent CFD | Done | 0.45 | Cash BFOE Sep | 100000 | BP | Mercuria |
| 7/07/2023 | | 24 | 28 | | Brent CFD | Done | 0.25 | Cash BFOE Sep | 100000 | Petraco | PetroChina |
| | | 31 | | | Brent CFD | Done | 0.25 | Cash BFOE Oct | 100000 | BP | TotalEnergies |
| | July/August | ٥١ | 4 | | Cash BFOE | | | Casii DFUE UCL | 100000 | | |
| | September | | | | | Done | 77.73 | | | Petrolneos | Mercuria |
| | September | | | | Cash BFOE | Done | 77.73 | | 100000 | Hartree | Mercuria |
| | September | | | | Cash BF0E | Done | 77.73 | | 100000 | Petrolneos | Gunvor |
| | September | | | | Cash BFOE | Done | 77.67 | D | 100000 | Petrolneos | Gunvor |
| 07/07/2023 | August | 2 | 6 | | WTI Midland | Done | 1.25 | Dated Brent | 700000 | BP | Trafigura |

Please note that all deals that are stated as "Done" were reported and published through the Platts Market on Close assessment process. Deals that are stated as "Reported" were not reported through the MOC, and may reflect transactions that were reported before or after the MOC process. Platts seeks to confirm non-MOC information to the fullest extent possible prior to publication.

This assessment commentary applies to the following market data codes: WTI Midland DAP basis Rotterdam <AWTICOO> WTI Midland DAP basis Rotterdam vs Fwd Dated Brent <AWTIDOO> WTI Midland DAP basis Augusta <AWTIAOO> WTI Midland DAP basis Augusta vs Fwd Dated Brent <AWTIBOO>

Platts Mediterranean & Black Sea Sweet Crude Daily Commentary

- Kazakhstan focused on infrastructure weakness after oil, power outages
- Mixed views emerging on potential impact of CPC Blend maintenance in August

Kazakh officials were making a renewed push to address infrastructure weakness after the latest in a series of power cuts impacted the CPC crude oil export pipeline and a swath of oil facilities, highlighting major gaps in Central Asian energy provision.

The country's oil production appeared to be recovering, based on energy ministry data, after a July 3 outage at the aging MAEK combined heat and power plant led to multiple disruptions, including at pumping stations along the CPC pipeline route and at onshore oil fields.

In a July 6 update, the Caspian Pipeline Consortium said the line, which exports around 80% of the country's crude production via the Russian port of Novorossiisk, was fully operational, with all four pumping stations on the Kazakh portion of the route back in action.

"The equipment at the CPC installations is intact, currently all pumping stations are operating as normal," a CPC spokesperson said.

Kazakh oil output for July 5 was estimated by the energy ministry's oil and gas information center at 224 million mt, or around 1.7 million barrels, still around 10% below week-earlier levels, but an improvement on a 20% reduction the day before.

Kazakhstan is economically reliant on oil exports via the 1.5-million-b/d CPC route across southern Russia, which appear to have been largely maintained despite outages at pumping stations. The route features more than two dozen crude storage tanks at various locations, with the crude taking a week or more to reach Novorossiisk, helping smooth out short-term issues.

The Chevron-led operator of the country's highestproducing field, Tengiz, said its production had continued as normal, even as the pipeline operator announced a series of outages at pumping stations.

The relatively light, low-sulfur CPC Blend is soughtafter in the Mediterranean and, at times of favorable arbitrage, in Asia. Platts assessed CPC Blend at a \$2.10/b discount to Dated Brent benchmark on July 6.

In other news, mixed views were emerging on the planned maintenance at Kazakhstan's Tengiz field in August. Some traders said the impact of the maintenance was likely to be below the initial 150,000-b/d estimate. However, other traders suggested the impact on CPC Blend supply could be larger than first thought.

"It is expected that the impact will be greater [than 150,000 b/d] so there will be even less [CPC Blend] availability in August," one trader said.

Platts is part of S&P Global Commodity Insights

Platts NWE and Med Urals Sour Crude Daily Market Analysis

- Saudi Aramco raises August OSPs to Asia
- Urals discount to Dated Brent continues to narrow

Asian buyers are expected to cut nominations from Saudi Arabia after oil group Saudi Aramco's decision to again raise its official selling prices for most of its Asiabound grades, market sources said, with the latest increase leaving the kingdom's crudes looking "very expensive."

Aramco raised OSP differentials for August sour crude bound for Asia for the key Arab Light and Medium grades, as well as Heavy grade, by 20 cents/b on the month, to premiums of \$3.20/b, \$2.65/b and \$1/b to the Oman/Dubai average respectively, according to a company notice issued July 6.

This marks the second consecutive month of increase in OSP differentials for these grades.

Many traders had been expecting a rollover of the Arab Light and Extra Light grades, mirroring the Dubai crude structure. However, a few refiners had expected a slight increase given Saudi Arabia's extension of its production cuts beyond July.

"With the Arab Light OSP differential to Oman/ Dubai set at \$3.20/b, this would mean that Saudi OSPs are set at extreme premiums compared to the spot market." a crude trader said.

With the OSP differentials seen as relatively expensive, following on from Aramco's hike of its July OSP differentials last month, some market participants expect refiners to cut their August nominations for Arab Light crude.

"This is very expensive, buyers should be nominating less," said an Asia-based crude trader.

Saudi Arabia remained China's top crude supplier in June, providing 1.5 million b/d to Chinese buyers, with Russia coming in second at 1.1 million b/d.

China has reduced its imports of Russian crude through Q2 2023, with June's imports representing the lowest volume since March.

However, market participants suggest that the increase in Saudi OSPs could turn buyers more in favor of discounted Russian crude oil.

Differentials have been on the rise for Russia's flagship Urals crude on the back of a tightening sour crude market and OPEC+ voluntary production cuts.

Platts assessed Urals on a FOB Primorsk basis at a \$19.50/b discount to Dated Brent July 6, the lowest discount since Feb. 28, 2022 — shortly after Moscow's invasion of Ukraine.

However, Russian Urals crude remains more discounted than prior to the war, when discounts were less than \$10/b to Dated Brent. Since the conflict started, Urals has at times traded at a discount of more than \$40/b.

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Platts EMEA Urals and Med Brent Crude Daily Rationales & Exclusions

Urals CIF Augusta differential <AAGXX00> assessment rationale: Urals CIF Augusta was assessed 50 cents/b higher. There were no bids or offers in the Platts Market on Close assessment process. The Urals CIF Augusta differential was assessed using a net forward to the Urals FOB Aframax and Suezmax assessment. The FOB differentials were assessed 50 cents/b higher as shrinking Urals supplies stemming from OPEC+ output cuts, tighter sour supply in light of suspended Iraqi crude exports and strong Turkish demand despite headwinds arising from Western sanctions raised differentials.

Urals CIF Med <PCACE00> assessment rationale:

The Urals CIF Mediterranean assessment reflected the value of the Mediterranean Dated Brent Strip (AALDF00) plus the Urals CIF Augusta differential assessment (AAGXX00).

Urals RCMB (Recombined) <AALIN00> assessment rationale: The Urals RCMB (Recombined) assessment reflected the value of the Platts Dated Brent assessment (PCAAS00) plus the Urals CIF Augusta differential assessment (AAGXX00).

Urals CIF Rdam <PCAFW00> assessment rationale: Urals CIF Rotterdam was assessed 50 cents/b higher. There were no bids or offers in the MOC. The Urals CIF Rotterdam differential was assessed as a net forward to the Urals FOB Baltic assessment. The FOB differentials were assessed 50 cents/b higher as shrinking Urals supplies stemming from OPEC+ output cuts and strong Indian and Chinese demand offsetting an embargoed European market raised differentials.

Med Dated Brent Strip 13-28 Day <AALDF00>

assessment rationale: The Mediterranean Dated Brent Strip reflected the value of Forward Dated Brent 13-28 days ahead of the day of publication. Forward Dated Brent is assessed as a function of Platts assessments of second-month Cash BFOE (PCAAR00) and BFOE CFD differentials (PCAKA00, PCAKC00, PCAKE00, PCAKG00, AAGLU00, AAGLV00, AALCZ00).

CPC Blend CIF Augusta vs BTC Dtd Strip <AAHPL00> assessment rationale: CPC Blend was assessed 15 cents/b higher. Firm CPC Blend demand in Europe supported differentials, with values heard from traders between around a \$1.80-\$2/b discount to Dated Brent for August-loading cargoes. Disruption to Kazakh oil production due to power outages did not seem to have significantly affected CPC Blend crude supply. Raised Saudi Aramco August OSPs also added strength to CPC Blend differentials.

Exclusions: None

Platts is part of S&P Global Commodity Insights

Platts EMEA Urals & Med Brent Crude Bids, Offers, Trades

Bids: None Offers: None Trades: None

This assessment commentary applies to the following market data codes: Urals CIF Med <PCACE00>> Urals CIF Rdam <PCAFW00> ESPO FOB Kozmino Mo01 London <AARWD00> CPC CIF Augusta Diff <AAHPL00>

Platts West African Crude Daily Commentary

- Sources report higher offered levels across WAF
- Doba August-loading program fully traded

In the West African crude market July 7, differentials across most of the complex continue to move up on strong spot trading for August-loading cargoes.

"[Trading has] been hot, particularly through the end of last week and the start of this week," one West African trader said. "We've done a good job of getting differentials up, though some re-offered levels are now eye-watering so we shall see if things slow."

Sources previously reported that an August-loading Nigerian Qua Iboe stem had traded above a \$2/b premium to Dated Brent, with a refining source saying cargoes of the grade had recently been offered at a \$3/b premium to the benchmark.

"Middle distillates in Europe look strong. It looks like a lot of sellers have priced in this bullishness [in their offers] and then some," a second West African trader said.

Currently, most length in the WAF market was coming from equity holders that would be able to "swallow" barrels into their own systems if unable to offload on the spot market, according to the first trader.

A third trader was in agreement over the general sentiment across the complex, saying: "You can't deny that the market is stronger than compared to July," though they were cautious to emphasize that recent Angolan activity had been limited to re-offers. "I think it remains to be seen what level of strength is there," they said.

Ghana's Jubilee crude had traded above a \$1.25/b premium to Dated Brent for August on a combination of factors, including softer freight rates, market structure and more expensive competing crudes across the Atlantic basin, sources said.

All four of Chad's Doba crude cargoes scheduled to load in August had traded, according to the first and third traders.

Platts West African Crude Daily Rationale & Exclusions

The four crudes in the Nigerian basket were assessed 30 cents/b higher owing to previously heard indications and constructive sentiment from market participants through the day.

There were no bids, offers or trades in the Platts Market on Close assessment process.

Qua Iboe FOB Nigeria < PCAID00>

Bonny Light FOB Nigeria London < PCAICOO>

Forcados FOB Nigeria < PCABCOO>

Bonga FOB Nigeria < PCNGC00>

Exclusions: None

Platts is part of S&P Global Commodity Insights

Platts West African Crude Bids, Offers, Trades

Bids: None Offers: None Trades: None

This assessment commentary applies to the following market data code: WAF Index <AWAFB00> The WAF Index is calculated using the following market data codes: Qua Iboe FOB Nigeria <PCAID00> Bonny Light FOB Nigeria London <PCAIC00> Forcados FOB Nigeria <PCABC00> Bonga FOB Nigeria <PCNGC00>

Platts US Pipeline Crude Daily Commentary

- Mars weakens from multiyear high, sour differentials remain elevated
- DOE issues notice to purchase 6 million barrels of US sour crude for Oct, Nov delivery

After reaching a near three-year high on July 6, medium sour crude Mars weakened on July 7, however, sour crude differentials remain relatively high amid tight sour supply global and repurchases for the US Strategic Petroleum Reserve.

Platts assessed Mars crude 40 cents/b weaker on July 7 at a \$1.65/b premium to cash WTI, the value at which the grade was last heard to trade. Though weaker on the day, the grade remains at a particularly strong level. Through the first six months of 2023,

front-month Mars has averaged a \$1.06/b discount to cash WTI. Sour grades have found support as a broader tightness has emerged in the sour crude market following the decision early last month by Saudi Arabia to cut 1 million b/d of crude production in July, on top of 3.66 million b/d of collective OPEC+ quota reductions implemented since October 2022. As Saudi Arabia, and OPEC more broadly, produce many sour crude grades, such reductions in output can markedly tighten sour supply globally. Additional support for the grade has come from higher official selling prices for most Saudi export grades to all regions, as well as the ongoing effort by the US Department of Energy to refill the Strategic Petroleum Reserve after heavy drawdowns in 2022. On July 7, the DOE issues a Request for Proposal to buy 6 million barrels of US sour crude for October and November delivery, which would bring repurchases in 2023 to around 12 million barrels.

Southern Green Canyon crude, another Gulf of Mexico produced sour grade, was assessed a full 70 cents/b weaker on the day at a \$1.45/b premium to cash WTI, after the grade was last heard offered at a \$1.50/b premium.

While sour grades marched weaker on July 7, Light Louisiana Sweet crude was assessed 5 cents/b stronger at a \$2.90/b premium to cash WTI, following the last heard trade for the grade at that level. Similarly, Heavy Louisiana Sweet crude was assessed 15 cents/b stronger at a \$2.50/b premium to cash WTI, the value at which the grade was last heard to trade.

West Texas Intermediate crude at the Magellan East Houston terminal, meanwhile, was assessed unchanged on the day at a \$1.85/b premium to cash WTI, following the last heard trade for the grade at that level. The grade was heard to have traded as strong as a \$1.95/b premium to cash WTI earlier in the trade day before edging weaker.

Platts is a part of S&P Global Commodity Insights.

Platts US Gulf Coast Export Crude Daily Commentary

- WTI FOB values versus WTI MEH remain unchanged on day across August
- US crude exports estimated at 3.332 million b/d last week; cFlow

Platts American GulfCoast Select was assessed stronger on July 7 against the 15- to 45-days forward NYMEX WTI strip while against West Texas Intermediate crude at the Magellan East Houston terminal, Platts AGS was assessed little changed.

Platts AGS, which represents Midland-spec WTI crude for export out of the US Gulf Coast on an FOB basis, was assessed 9 cents/b stronger on July 7 against the forward NYMEX WTI strip at a \$2.40/b premium. Against the forward Dated Brent strip, Platts AGS edged 2 cents/b to a \$2.61/b discount.

For WTI FOB cargoes loading in the first decade, or first 10 days of August, values were assessed unchanged against WTI MEH at a 45 cents/b premium, while cargoes loading in the second and third decades of August were also assessed unchanged against WTI MEH at a 40 cents/b premium.

While traders have shifted to focusing more on the August loading cargo cycle, US crude exports over the first week of July are expected to have fallen to 3.332 million b/d, according to a report from Platts cFlow, ship and commodity tracking software from S&P Global Commodity Insights. This would put US crude exports down 768,000 b/d from the cFlow estimate for the week prior while down 569,000 b/d from the US Energy Information Administration's reported figure for the same period.

Preliminary data from cFlow shows continued strong export volumes to Europe, with flows to the region estimated at 1.988 million b/d last week. Flows to Asia were reported markedly low at just 325,000 b/d,

however, this data is preliminary and subject to change as the data is further analyzed.

Platts is a part of S&P Global Commodity Insights.

Platts Canadian Pipeline Crude Daily Commentary

- Canadian crude differentials weaken
- Refinery demand continues to underpin prices

Although Canadian crude values narrowed their discounts to the WTI CMA July 7, US refinery demand remained strong, keeping heavy Canadian crude differentials at some of their strongest values seen in over a year.

August Western Canadian Select at Hardisty, Alberta, dropped 80 cents/b on the day, with Platts assessing it at WTI CMA minus \$11.50/b, after it was heard to trade at that level.

Heavy Canadian crude at Cushing and at the US Gulf Coast also saw pressure on the day, with Platts assessing them each 20 cents/b weaker at WTI CMA minus \$3.20/b and WTI CMA minus \$2.05, respectively, based on market indications.

Sweeter Canadian crude differentials followed suit, weakening across the board. Platts assessed Syncrude Sweet Premium at Edmonton 55 cents/b weaker over the previous day at WTI CMA plus \$3.25/b, after it was heard to trade there, and Platts assessed Mixed Sweet at Edmonton 35 cents/b weaker over the previous day at WTI CMA minus \$1.20/b, after it was heard to trade there. Platts assessed Condensate at Fort Saskatchewan 35 cents/b weaker on the day at WTI CMA minus \$5.35/b, after it was heard to trade at that level.

Despite softening on the day, heavy Canadian crude prices remain among levels of strength not seen in over a year as demand stays elevated. Refinery downtime in North America continued to fall this week, with refinery closures decreasing 237,000 b/d to

approximately 582,000 b/d, according to S&P Global Commodity Insights. In addition, the US Department of Energy announced July 7 that it is looking to repurchase roughly 6 million barrels of sour crude for delivery in October and November to the Big Hill Strategic Petroleum Reserve site in Texas as it plans to refill the SPR.

Platts is part of S&P Global Commodity Insights.

Platts Latin American Crude Daily Commentary

- Platts assesses Colombia's Castilla higher by 90 cents/b amid stronger heavy crude prices, SPR purchases
- Production fallout from explosion on Pemex drilling platform unclear

Platts assessed differentials for Ecuadorian and Colombian heavy crudes stronger July 7 to reflect strength in the overall sour complex amid production cuts and news of US Strategic Petroleum Reserve purchases.

Differentials for Ecuadorian grades and Colombia's heavy Castilla have gotten support from the decision early last month by Saudi Arabia to cut 1 million b/d of crude production in July, on top of 3.66 million b/d of collective OPEC+ quota reductions implemented since October 2022, one trader active on the USGC said. At the same time, factors including Canadian wildfires have led to higher prices for heavy Canadian grades, with Platts assessing Western Canadian Select at Nederland, Texas, at a more than two-year high of WTI CMA minus \$1.85/b on July 6. The differential for WCS at Nederland weakened slightly July 7 and was assessed at a discount of \$2.05/b to the NYMEX WTI CMA, down 20 cents/b day on day.

Colombia's Castilla typically tracks the price of heavy Canadian crude on the USGC, the trader said. Platts assessed Castilla at a discount of \$7.10/b to ICE Brent, up 90 cents/b day on day, while also narrowing the spread between Colombia's heavy Castilla crude and the lighter Vasconia blend to \$3/b from \$4/b.

"Those spreads are going to tighten up," the trader said.

In other news, the US Department of Energy July 7 said it would buy 6 million barrels of sour crude for October and November delivery to continue refilling the SPR, a move seen as providing further support for heavy crude values on the USGC.

In Mexico, an explosion at a Pemex offshore drilling platform in the shallow water Gulf of Mexico caused a fire on July 7 and the evacuation of the over 300 workers, the Mexican state oil company said in a statement.

A fire broke at the Nohoch-A platform early in the morning, where there were 328 workers, Pemex said.

It is not clear how much production will be affected. However, according to the National Hydrocarbons Commission, Pemex produced 6,000 b/d of crude and 2 MMcf/d of gas at Nohoch in May.

The platform is located in the Cantarell production complex, which was once the largest production area in Mexico. But production at Cantarell has declined. According to S&P Global Commodity Insights, Cantarell produced 24,000 b/d of heavy oil in June.

Platts is part of S&P Global Commodity Insights.

Subscriber Notes

Platts extends feedback period on proposal to amend Canadian Condensate methodology

Platts, part of S&P Global Commodity Insights, is extending the feedback period on its proposal to amend the Canadian condensate (C5) methodology to reflect Fort Saskatchewan as the basis of the assessment.

Platts is extending the feedback period to July 21, for any potential change to be effective Aug. 28.

Platts specifically invites feedback on the most common trading basis for Canadian condensate in the Edmonton area, specifically Fort Saskatchewan, and more information about how the different streams are valued and trade in the market.

Platts understands that there are many streams of Canadian condensate trading in the Edmonton area. Platts has proposed to reflect Fort Saskatchewan based on a historical analysis of bids, offers, and trades heard in the market, as well as feedback from market participants that it is the most liquidly traded. Under this proposal, Platts may normalize bids, offers and trades from any other location or stream of condensate back to a Fort Saskatchewan basis.

Please send all questions and comments to oilgroup@spglobal.com and pricegroup@spglobal.com by July 21.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts clarifies CPC Blend assessment methodology

Platts, part of S&P Global Commodity Insights, clarifies the CPC Blend assessment methodology relating to emerging market practices for the AWRP cost and the title and risk transfer following Russia's invasion of Ukraine.

AWRP

Platts understands that in current market practice the Additional War Risk Premium (AWRP), an additional insurance product that emerged in the market following Russia's invasion of Ukraine, is for the seller's account.

As such, for CPC delivered Augusta bids, offers and trades in the Platts Market on Close assessment process, Platts will reflect value with the AWRP cost being paid by the seller.

TITLE AND RISK

Platts understands that some buyers of delivered CPC Blend cargoes in the wider market are requesting delayed transfer of title and risk. Platts understands buyers are requesting that the title and risk passes at the point the vessel has passed through the Dardenelles, rather than at loadport.

Platts also understands that while this may not be market practice for every trade, many sellers are willing to agree to delayed title and risk transfer.

As such, Platts will publish bids and offers requiring delayed transfer of title and risk in the MOC, but these may be subject to normalization for assessment purposes.

CERTIFICATE OF ORIGIN

Platts previously announced on Sept. 23, 2022, that cargoes carrying a Russian certificate of origin (COO) would be excluded from CPC Blend assessments from Oct. 3, 2022. As such, bids, offers and trades reported in the MOC will need to be performed upon with cargoes carrying a Kazakh-origin COO.

The subscriber note for that change can be found here:

https://www.spglobal.com/commodityinsights/ en/our-methodology/subscriber-notes/092322-plattsto-exclude-russian-origin-cargoes-from-cpc-blendassessments-amend-fob-netback-calculations

Please send all feedback, comments or questions to europe_crude@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts to launch CIF Rotterdam KEBCO, FOB Ust-Luga and Novorossiisk netback assessments

Platts, part of S&P Global Commodity Insights, will launch new KEBCO (Kazakh Export Blend Crude oil)

assessments, Aug. 1, 2023.

Platts received consistent market feedback in support of a KEBCO CIF Rotterdam assessment and FOB-netback values for KEBCO Ust-Luga and FOB Novorossiisk.

KEBCO FOB Ust-Luga value will be calculated as a freight netback from the KEBCO CIF Rotterdam assessment.

KEBCO FOB Novorossiisk will be calculated as a freight netback from the CIF Augusta assessment, also taking into account Turkish Strait delays and the Additional War Risk Premium (AWRP).

These assessments will be published as both differentials to the Med Dated Brent strip [AALDF00] and as outright values.

Platts launched a KEBCO CIF Augusta assessment, Nov. 1, 2022.

Please send all feedback, comments or questions to europe_crude@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available to the public upon request.

Platts to launch Russian Urals DAP India assessment as differential to Dubai

Platts, part of S&P Global Commodity Insights, will launch a differential for Russian Urals DAP India versus Dubai, Aug. 1, 2023.

The DAP (Delivered At Place) West Coast India (WCI) Russian Urals differential to M1 Dubai [PCAAT00] following market support for an assessment of Urals DAP WCI versus Dubai.

Platts launched DAP WCI Russian Urals assessments as both an outright value and as a differential to M1 forward Dated Brent, Jan. 18, 2023.

Please send all feedback, comments or

questions to <u>europe_crude@spglobal.com</u> and <u>pricegroup@spglobal.com</u>.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available to the public upon request.

Platts to add additional carbon intensity calculations, carbon offset premiums

Platts, part of S&P Global Commodity Insights, has decided to launch monthly carbon intensity calculations and daily carbon offset premium assessments for 13 additional crude oil fields, eight crude grades and 13 transportation routes, effective July 14, 2023.

Platts proposed to add these new assessments and calculations on June 1, which can be found here: https://www.spglobal.com/commodityinsights/en/our-methodology/subscriber-notes/060123-platts-proposes-additional-carbon-intensity-calculations-carbon-offset-premiums

These new values will be added to the list of Platts existing carbon intensity calculations, bringing the current total number of fields to 139, up from 126, and increasing transparency on carbon intensities in the global crude market.

The new fields will include:

- -Falah
- -Rashid
- -Upper Zakum
- -Lower Zakum
- -Al-Shaheen
- -Oman Basin
- -Hassi Messaoud
- -Khurais
- -Abu Hadriya
- -Umm Shaif
- -Nasr

- -El Bundug
- -Abu Al Bukhoosh

The new crude grades will include:

- -Dubai Grade
- -Oman Grade
- -Al-Shaheen Grade
- -Upper Zakum Grade
- -Das Blend Grade
- -Arab Light Grade
- -Saharan Blend Grade
- -Murban Grade

Platts upstream crude carbon intensity calculations measure the impact of greenhouse gas emissions in the production lifecycle from production to storage terminal. The methodology guide for Platts upstream carbon intensity, midstream carbon intensity, and carbon offset premiums is available here:

Specifications Guide Carbon Intensity Assessments.

In line with the methodology for the current carbon intensity scores of the 126 crude fields that Platts publishes, the CI of these 13 new field will be calculated using Stanford's Oil Production Greenhouse Gas Emissions Estimator (OPGEE) 2.0 model, combined with proprietary research and data from S&P Global.

Platts carbon intensity premiums for both the upstream and midstream calculations reflect the cost to offset emissions from each of the crudes, in addition to a separate premium reflecting the offsetting cost for each specific transportation route. Crude streams and different transportation routes have a variety of carbon intensities depending on where the crude comes from and the distance to the refinery.

Depending on the carbon intensity of each crude and carbon intensity of the route, the calculation is a \$/b indication of how much it would cost to use carbon removal credits to offset associated GHG emissions from the production of the crude, as well as the route in question.

The 13 new routes will include:

- Falah to Kiire

- Rashid to Kiire
- Upper Zakum to Zhoushan
- Lower Zakum to Sikka
- Al-Shaheen to Singapore
- Oman Basin to Tranmere
- Hassi Messaoud to Tranmere
- Khurais to Ain Sukhna
- Abu Hadriya to Ain Sukhna
- Umm Shaif to Sikka
- Nasr to Sikka
- El Bunduq to Sikka
- Abu Al Bukhoosh to Sikka

Please send any further feedback

to <u>Platts_Carbon@spglobal.com</u> and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts launches fallback demurrage mechanism for WTI Midland CIF Rotterdam cargoes basis USGC demurrage rates

Platts, part of S&P Global Commodity Insights, has launched a demurrage fallback mechanism for WTI Midland CIF Rotterdam cargoes traded in the Platts Market on Close assessment process that is based on US Gulf Coast (USGC) demurrage rates, effective June 23.

If no agreement can be reached between buyer and seller on demurrage costs, Platts proposes that counterparties use Platts Aframax USGC demurrage assessment (ADERD00) for the period 22-27 days prior to the delivery laycan. This time period is equivalent to what Platts understands the typical USGC Aframax fixing period to be of 5-10 days prior to USGC loading, assuming a 17-day sailing time to Rotterdam.

Platts understands that currently the standard market practice for demurrage on WTI Midland cargoes

to be commensurate with Aframax demurrage rates in the US Gulf Coast.

Please send all feedback, comments or questions to europe_crude@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts publishes outright value of Iraq's Basrah Medium Asia OSP to three decimal points from July 3, 2023

Platts, a part of S&P Global Commodity Insights, has started publishing the outright value of Iraq's Basrah Medium Asia crude oil official selling price to three decimal points from July 3, 2023.

Platts previously published the outright value of the grade's OSP to two decimal points. The outright value of the grade's OSPs is calculated by adding its OSP differential, as issued by Iraq's SOMO, to the corresponding monthly average of the OSP benchmark, which is Platts Dubai and Platts Oman.

Platts first announced the change in a subscriber note published May 19: https://www.spglobal.com/commodityinsights/en/our-methodology/subscribernotes/051923-platts-to-publish-outright-value-of-iraqs-basrah-medium-asia-osp-to-three-decimal-points-from-july-3-2023.

From July 3, the outright OSP of Basrah Medium Asia is published to three decimal points under the existing symbol BSMAD00. The Basrah Medium Asia outright OSP is published alongside the existing OSPs of SOMO's other crude oil grades on Platts Global Alert page 1059.

Please send all comments and queries to <u>asia_crude@spglobal.com</u> and <u>pricegroup@spglobal.com</u>.

For written comments, please provide a clear

indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts to include Seaway Texas City Terminal into Brent complex assessment process for June

Platts, part of S&P Global Commodity Insights, will include Seaway Texas City Terminal as a loading terminal for WTI Midland crude oil into its Dated Brent and Cash BFOE Market on Close assessment process for June deliveries.

Sellers would be able to nominate WTI Midland meeting Platts specification loaded from Seaway Texas City Terminal for inclusion into the Dated Brent/Cash BFOE assessment process starting with the June 2023 delivery period.

The terminal, in Texas City, Texas, is wholly owned by Seaway Crude Holdings LLC, L.P., a joint venture between Enterprise Seaway L.P. and Enbridge Holdings (Seaway) L.L.C.

The terminal has two docks which can fit up to a VLCC size vessel and 4 million barrels of storage capacity for crude oil.

Platts decision to include WTI Midland into the Brent complex, and clarification of the review process by which loading terminals are included in the assessment process, can be found here.

Please send all feedback to

PriceGroup@spglobal.com and Europe_Crude@spglobal.com.

For written comments, please provide a clear indication if they are not intended for publication by Platts for public viewing.

Platts amends weighted average flat rate for North Sea-Rotterdam route from July 3

Following the Worldscale Association update to flat rates for the port of Hound Point, Platts, part of S&P Global Commodity Insights, has amended the \$/mt

weighted average flat rate of the North Sea-Rotterdam Freight Adjustment Factor (FAF), effective July 3, 2023.

The North Sea-Rotterdam FAF is used to netback CIF Rotterdam WTI Midland values to FOB North Seaequivalent values for Dated Brent.

As a result of the recent Hound Point update, the weighted average flat rate has been updated to \$7.00/mt from July 3, up from \$6.93/mt.

The FAF is calculated from the 10-day rolling freight average of the Dirty Cross-UK/Continent 80,000 mt freight assessment as published in Platts Dirty Tankerwire and in the Platts Pricing Database under code TDUUW00.

Please send all comments or questions to europe_crude@spglobal.com and pricegroup@spglobal.com.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts reminds subscribers of Middle East crude cargo nomination procedures, laycans

Platts, part of S&P Global Commodity Insights, would like to remind participants in the Middle East Market on Close crude oil price assessment process that for cargoes of Dubai, Oman, Upper Zakum, Al Shaheen or Murban, loading dates starting in the last three calendar days of the month should not be nominated except by mutual agreement between the buyer and the seller.

For Al-Shaheen cargoes, sellers should pass loading dates to buyers as soon as possible and at the latest before the end of the last trading day of the month of trade execution.

For other grades, buyers typically nominate loading dates in the month after trade execution.

In either case, buyers and sellers should not nominate cargoes with loading dates commencing in the last three calendar days of a month. This is to avoid slippage risk — the risk that endmonth loading dates of a cargo will spill over into the next month with different pricing implications.

For example, a cargo loading in August, which has 31 days, should have its nominated laycan end no later than on Aug. 29, e.g. an Aug. 28-29 loading cargo.

Platts reflects partial cargoes of crude oil in its physical assessments for Dubai, Oman, Upper Zakum, Al-Shaheen and Murban crudes.

Under the partials mechanism, the seller declares a full 500,000-barrel cargo of crude oil to the buyer after a total of 20 partials have been traded for the same loading month between the companies.

For Dubai partials, the seller has the option to deliver a Dubai, Oman, Upper Zakum or Al-Shaheen cargo, or a Murban cargo with a quality premium, to the buyer.

Please send all comments, feedback and questions to <u>Asia_crude@platts.com</u> and <u>pricegroup@platts.com</u>.

For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts invites feedback on Global Crude Oil Market Parity Prices methodology

As part of its commitment to open and transparent pricing and product specifications, Platts, part of S&P Global Commodity Insights, would like to invite feedback on its Global Crude Oil Market Parity Prices methodology.

Platts Market Parity Prices (MPPs) provide a calculation of the equivalent market value of a given crude based on the value of its typical refined product yield, subtracting costs for transport and the refining process, and adjusting the resulting value based on its Gross Product Worth (GPW) benchmarked to a

reference basket of relevant crude grades that are actively traded in the regional spot market.

As part of this review, Platts is inviting feedback from stakeholders on possible amendments to the model, including addition of new reference grades; changes to the underlying refinery model and GPW yields used in the calculations; as well as updates to transportation and processing cost for the various grades.

More details on Platts MPP models and methodology are available at: https://www.spglobal.com/commodityinsights/PlattsContent/_assets/_files/en/our-methodology/methodology-specifications/market-parity-prices.pdf

Platts reviews all methodologies annually to ensure they continue to reflect the physical markets under assessment. Platts regularly assesses the relevance of methodologies through continuous contact with the market. Feedback on methodologies is always welcomed by Platts.

Platts is committed to providing advance notice in a clear time frame that gives users sufficient opportunity to analyze and comment on the impact of such proposed changes. Time frames vary depending on Platts analysis of the overall circumstances of a particular change.

Methodology changes that materially alter an assessment and require an update to the methodology specification are preceded by extensive bilateral discussions with market stakeholders and open public forums. Routine changes or clarifications generally do not materially alter an assessment. Platts holds open public forums in which material methodology changes and feedback are presented, and at which further feedback may be given.

Please send all comments, feedback, and questions to europe_crude@spglobal.com, Asia_Crude@spglobal.com, and pricegroup@spglobal.com.

For written comments, please provide a clear

indication if comments are not intended for publication by Platts for public viewing.

Platts will consider all comments received and will make comments not marked as confidential available upon request.

Platts launches WTI Midland FOB USGC assessments by monthly decade basis

Platts, a part of S&P Global Commodity Insights, has launched assessments on a monthly-decade basis for WTI Midland crude oil cargoes loading on an FOB basis out of the US Gulf Coast, effective July 5, 2023.

The prices are published as differentials to the Platts assessment of the first month WTI at the Magellan East Houston Terminal (WTI MEH) and the relevant underlying value of Dated Brent and ICE Brent at the US close for the loading period. Platts publishes the outright values of the three decades as well as a single outright value representing the average of the three decades.

TIMING AND BASIS

The prices reflect values for cargoes loaded within three segments of each calendar month: first decade: 1-10 of a month; second decade; 11-20 of a month; and third decade: 21-end of the month. The assessment month aligns with the US Gulf Coast pipeline schedule and rolls to the new months assessment the first business day following the 25th of each month. For example, from Jan. 26 to Feb. 25 the prompt month for US domestic pipeline barrels is March. During this time Platts would be publishing values for the first, second and third decades of March loadings, and they would be published against the March WTI MEH pipeline assessment and the March Dated Brent basis. On Feb. 26, the prompt month for US domestic pipeline barrels shifts to April, and Platts assessments would roll to publishing first, second and third decades for April loadings against the April WTI MEH pipeline assessment and the April Dated

Brent basis. The Dated Brent basis is formed using the relevant underlying prompt-month ICE Brent futures settle at the US close with the relevant Platts assessment of the Brent DFL financial differential at the time of loading. Dated Brent-related differentials reflect values relative to the value of Dated Brent that prevails at the time of loading. For example, on Feb. 1 Platts would be publishing the first, second and third decade assessments for March. The prompt ICE Brent futures contract for March loadings would be May, so the Dated Brent basis would be formed using the May ICE Brent settle with the March DFL differential. The ICE Brent basis reflects the value of the relevant contract month price of ICE Brent futures settles at the US close.

Specifications

The new assessments of WTI FOB values by domestic pipeline trade-month decades reflects the established specifications from the Platts WTI Midland FOB USGC assessment. The assessments, therefore,

reflect the value for an Aframax cargo of Platts WTI Midland-spec crude on an FOB basis loading from locations along the US Gulf Coast, including Corpus Christi, Texas City, Houston, Beaumont, Nederland, and Port Arthur. The most competitive location, on a cargosize normalized adjusted basis, will inform the value for the WTI FOB USGC assessment. The assessments reflect a typical volume of 700,000 barrels. Bids, offers, and trades that are smaller or larger than the cargo-size typical may be normalized to reflect the freight economics of the typical cargo size using that day's US to UK Aframax freight assessment (Platts symbol: TDUCF00). The assessments reflect WTI Midland crude supplied directly from the Permian Basin on one or more of the following designated pipelines: BridgeTex, Longhorn, Midland-to-Echo I/II, Cactus I/II/III, EPIC, Gray Oak, Permian Express, and Wink-to-Webster.

Crude reflected in this assessment must meet Platts' comprehensive, globally-accepted WTI Midland specifications, which can be found here: https://www.spglobal.com/commodityinsights/en/our-methodology/subscriber-notes/080320-platts-to-implement-comprehensive-platts-wti-midland-specifications.

Additionally, the assessments reflect value loading from terminals that have been approved by Platts for loading WTI Midland crude oil into its Dated Brent and Cash BFOE Market on Close assessment process. Loadings from non-approved terminals may be considered in the assessment, but normalized if appropriate.

Platts will continue to assess WTI Midland FOB USGC loading 15-to-45-days forward on an FOB basis. Please send any feedback or questions to americas_crude@spglobal.com and pricegroup@spglobal.com. For written comments, please provide a clear indication if comments are not intended for publication by Platts for public viewing. Platts will consider all comments received and will make comments not marked as confidential available upon request.

Commodity Insights Analytics US Yields & Netbacks Effective July 7, 2023 (\$/barrel)

US Gulf Coast (PGA page 0833)

| US GUIT COAST (PGA | page (1833) | | | | | | | | | |
|--------------------|-------------|-------|---------|------|----------|-------|---------|-------|---------|--------|
| | Crack | Yield | Freig | ght | Crack Ne | tback | Crude | Price | Crack M | largin |
| Agbami | AGGCY00 | 92.03 | AGGFA00 | 2.67 | AGGCN00 | 89.35 | AAQZB00 | 75.63 | AGGCM00 | 12.23 |
| Arab Berri | BEGCY00 | 92.04 | TDDAC00 | 1.32 | BEGCN00 | 90.72 | AAXCT00 | 84.81 | BEGCM00 | 5.91 |
| Arab Heavy | AHGCY00 | 84.94 | TDDAJ00 | 1.39 | AHGCN00 | 83.55 | AAXDI00 | 82.91 | AHGCM00 | 0.64 |
| Arab Light | LIGCY00 | 89.77 | TDDAR00 | 1.35 | LIGCN00 | 88.42 | AAXCU00 | 82.66 | LIGCM00 | 5.76 |
| Arab Medium | MEGCY00 | 86.24 | TDDAZ00 | 1.35 | MEGCN00 | 84.89 | AAXDN00 | 83.36 | MEGCM00 | 1.53 |
| Bakken | BKGCY00 | 91.91 | TDDRP00 | 7.78 | BKGCN00 | 84.12 | AAXPP00 | 75.17 | BKGCM00 | 8.95 |
| Basrah Medium | BLGCY00 | 84.67 | TDDBS00 | 2.48 | BLGCN00 | 82.19 | BSMAM01 | 77.55 | BLGCM00 | 7.14 |
| Bonny Light | YLGCY00 | 94.28 | TDDBX00 | 2.92 | YLGCN00 | 91.36 | PCAIC00 | 78.43 | YLGCM00 | 11.43 |
| Brent | BRGCY00 | 91.82 | TDDCB00 | 2.73 | BRGCN00 | 89.09 | AAVJA00 | 78.10 | BRGCM00 | 9.49 |
| Cabinda | CBGCY00 | 89.49 | TDDCF00 | 3.15 | CBGCN00 | 86.34 | PCAFD00 | 78.73 | CBGCM00 | 6.11 |
| Eagle Ford | EAGCY00 | 92.59 | | | | | AAYAT00 | 75.22 | EAGCM00 | 17.37 |
| Escalante | ECGCY00 | 84.77 | TDDCV00 | 4.41 | ECGCN00 | 80.36 | PCAGC00 | 76.16 | ECGCM00 | 3.66 |
| Forties | FTGCY00 | 91.30 | FTGFA00 | 2.57 | FTGCN00 | 88.73 | PCADJ00 | 78.13 | FTGCM00 | 9.10 |
| Isthmus | ISGCY00 | 90.48 | TDDDJ00 | 1.20 | ISGCN00 | 89.28 | PDAT009 | 71.23 | ISGCM00 | 18.05 |
| LLS | LLGCY00 | 94.04 | TDDQW00 | 0.55 | LLGCN00 | 93.49 | PCABN00 | 76.76 | LLGCM00 | 16.73 |
| Marlim | MLGCY00 | 88.10 | TDDGK00 | 3.42 | MLGCN00 | 84.68 | AAITF00 | 73.81 | MLGCM00 | 10.34 |
| Mars | MRGCY00 | 87.99 | TDDQY00 | 0.55 | MRGCN00 | 87.44 | AAMBR00 | 75.51 | MRGCM00 | 11.93 |
| Maya | MYGCY00 | 77.74 | TDDDP00 | 1.25 | MYGCN00 | 76.49 | PDATS09 | 68.03 | MYGCM00 | 8.46 |
| Mesa | MSGCY00 | 88.42 | TDDDV00 | 2.03 | MSGCN00 | 86.39 | AAITB00 | 75.56 | MSGCM00 | 10.84 |
| Olmeca | OLGCY00 | 92.22 | TDDDY00 | 1.21 | OLGCN00 | 91.02 | PDATT09 | 71.48 | OLGCM00 | 19.54 |
| Poseidon | PDGCY00 | 88.47 | PDGFA00 | 0.00 | PDGCN00 | 88.47 | AABHK00 | 75.21 | PDGCM00 | 13.26 |
| Saharan Blend | SHGCY00 | 92.27 | TDDRD00 | 2.01 | SHGCN00 | 90.26 | AAGZY00 | 78.56 | SHGCM00 | 10.21 |
| Syncrude | SYGCY00 | 94.22 | SYGFA00 | 8.52 | SYGCN00 | 85.70 | AASOK00 | 76.92 | SYGCM00 | 8.78 |
| Urals | URGCY00 | 89.24 | TDDFM00 | 2.91 | URGCN00 | 86.33 | AAWVH00 | 58.96 | URGCM00 | 25.88 |
| | | | | | | | | | | |
| WTI | WTGCY00 | 91.75 | | | | | AAYRG00 | 75.71 | WTGCM00 | 16.04 |
| | | | | | | | | | | |

US Gulf Coast (PGA page 0841)

| | Coke ' | Yield | Freig | ght | Coke Ne | tback | Crude | Price | Coke M | argin |
|------------------|---------|-------|---------|------|---------|-------|---------|-------|---------|-------|
| Arab Heavy | AHGOY00 | 88.14 | TDDAJ00 | 1.39 | AHGON00 | 86.75 | AAXDI00 | 82.91 | AHGOM00 | 3.84 |
| Arab Light | LIGOY00 | 91.21 | TDDAR00 | 1.35 | LIGON00 | 89.86 | AAXCU00 | 82.66 | LIGOM00 | 7.20 |
| Arab Medium | MEGOY00 | 87.67 | TDDAZ00 | 1.35 | MEGON00 | 86.31 | AAXDN00 | 83.36 | MEGOM00 | 2.95 |
| Basrah Heavy | BHGOY00 | 84.86 | BHGFA00 | 2.59 | BHGON00 | 82.27 | AALZC00 | 74.45 | BHGOM00 | 11.68 |
| Basrah Medium | BLGOY00 | 87.18 | TDDBS00 | 2.48 | BLGON00 | 84.70 | BSMAM01 | 77.55 | BLGOM00 | 9.66 |
| Cabinda | CBG0Y00 | 90.16 | TDDCF00 | 3.15 | CBGON00 | 87.01 | PCAFD00 | 78.73 | CBGOM00 | 6.78 |
| Castilla Blend | CSG0Y00 | 84.48 | CSGFA00 | 2.15 | CSGON00 | 82.33 | AAVEQ00 | 70.96 | CSGOM00 | 11.38 |
| | | | | | | | | | | |
| LLS | LLG0Y00 | 93.91 | TDDQW00 | 0.55 | LLGON00 | 93.36 | PCABN00 | 76.76 | LLGOM00 | 16.60 |
| Marlim | MLGOY00 | 88.63 | TDDGK00 | 3.42 | MLGON00 | 85.21 | AAITF00 | 73.81 | MLGOM00 | 10.87 |
| Mars | MRGOY00 | 89.61 | TDDQY00 | 0.55 | MRGON00 | 89.06 | AAMBR00 | 75.51 | MRGOM00 | 13.55 |
| Maya | MYGOY00 | 85.38 | TDDDP00 | 1.25 | MYGON00 | 84.12 | PDATS09 | 68.03 | MYGOM00 | 16.09 |
| Napo | NPG0Y00 | 82.80 | NPGFA00 | 4.89 | NPGON00 | 77.91 | AAMCA00 | 66.21 | NPGOM00 | 10.75 |
| Oriente | ORGOY00 | 88.05 | ORGFA00 | 4.61 | ORGON00 | 83.43 | PCADE00 | 68.21 | ORGOM00 | 14.33 |
| | | | | | | | | | | |
| Urals | URGOY00 | 90.27 | TDDFM00 | 2.91 | URGON00 | 87.36 | AAWVH00 | 58.96 | URGOM00 | 26.91 |
| Vasconia | VCGOY00 | 91.33 | VCGFA00 | 2.09 | VCGON00 | 89.24 | PCAGI00 | 73.96 | VCGOM00 | 15.28 |
| WCS ex-Hardisty | WHGOY00 | 86.30 | TDDRS00 | 8.50 | WHGON00 | 77.80 | AAPPN00 | 62.17 | WHGOM00 | 15.63 |
| WCS ex-Nederland | WNGOY00 | 86.30 | WCGFA00 | 0.00 | WNGON00 | 86.30 | AAYAY00 | 71.62 | WNGOM00 | 14.68 |
| WTS | WSG0Y00 | 92.15 | TDDRJ00 | 6.89 | WSGON00 | 85.26 | PCACK00 | 74.51 | WSGOM00 | 10.75 |

WSGCY00 90.13 TDDRJ00 6.89 WSGCN00 83.24 PCACK00 74.51 WSGCM00 8.73

WTS

Commodity Insights Analytics US Yields & Netback (\$/barrel) (continued)

US Midwest (PGA page 0823)

| | Crack | Yield | Freight | | Crack Netback | | Crude Price | | Crack Margir | |
|----------|---------|-------|---------|------|---------------|-------|-------------|-------|--------------|-------|
| Bakken | BKTCY00 | 87.35 | TDDR000 | 1.68 | BKTCN00 | 85.67 | AASRU00 | 76.92 | BKTCM00 | 8.75 |
| Syncrude | SYTCY00 | 87.94 | TDDFP00 | 8.20 | SYTCN00 | 79.74 | AASOK00 | 76.92 | SYTCM00 | 2.82 |
| WTI | WTTCY00 | 87.67 | TDDRG00 | 2.39 | WTTCN00 | 85.27 | PCACG00 | 73.86 | WTTCM00 | 11.41 |
| WTS | WSTCY00 | 87.08 | TDDRI00 | 3.08 | WSTCN00 | 84.00 | PCACK00 | 74.51 | WSTCM00 | 9.49 |

US West Coast (PGA page 0843)

| | Crack Yield | Freight | Crack Netback | Crude Price | Crack Margin |
|--------|----------------|---------------|----------------|----------------------|---------------|
| ANS | ANWCY00 107.58 | | | PCAAD00 80.06 | ANWCM00 27.52 |
| Bakken | ВКЖСҮ00 113.34 | TDDRT00 11.74 | BKWCN00 101.60 | AAXPP00 75.17 | BKWCM00 26.43 |
| | | | | | |
| | | | | | |
| | | | | | |

US Atlantic Coast (PGA page 0811)

| | Crack | Crack Yield | | Freight | | Crack Netback | | Crude Price | | Crack Margin | |
|---------------|---------|-------------|---------|---------|---------|---------------|---------|-------------|---------|--------------|--|
| Agbami | AGACY00 | 96.89 | AGAFA00 | 2.40 | AGACN00 | 94.49 | AAQZB00 | 75.63 | AGACM00 | 17.36 | |
| Arab Light | LIACY00 | 92.08 | TDDAU00 | 1.35 | LIACN00 | 90.72 | AAXCU00 | 82.66 | LIACM00 | 8.06 | |
| Bakken | BKACY00 | 97.90 | TDDRN00 | 7.20 | BKACN00 | 90.70 | AAXPP00 | 75.17 | BKACM00 | 15.53 | |
| Bonny Light | YLACY00 | 97.42 | TDDBZ00 | 2.63 | YLACN00 | 94.79 | PCAIC00 | 78.43 | YLACM00 | 14.86 | |
| Brent | BRACY00 | 95.08 | TDDCC00 | 2.56 | BRACN00 | 92.52 | AAVJA00 | 78.10 | BRACM00 | 13.46 | |
| Cabinda | CBACY00 | 93.68 | TDDCH00 | 2.86 | CBACN00 | 90.82 | PCAFD00 | 78.73 | CBACM00 | 10.59 | |
| CPC Blend | CPACY00 | 97.26 | CPAFA00 | 3.33 | CPACN00 | 93.93 | AALVX00 | 73.40 | CPACM00 | 19.57 | |
| Forties | FTACY00 | 97.37 | FTAFA00 | 2.46 | FTACN00 | 94.91 | PCADJ00 | 78.13 | FTACM00 | 15.82 | |
| Saharan Blend | SHACY00 | 98.04 | SHAFA00 | 1.68 | SHACN00 | 96.36 | AAGZY00 | 78.56 | SHACM00 | 16.31 | |
| Urals | URACY00 | 91.30 | URAFA00 | 2.24 | URACN00 | 89.06 | AAWVH00 | 58.96 | URACM00 | 28.61 | |
| | | | | | | | | | | | |

US Midwest (PGA page 0821)

| | Coke Yield | Freight | Coke Netback | Crude Price | Coke Margin | |
|-----|---------------|--------------|---------------|---------------|----------------------|--|
| WCS | WCTOY00 82.34 | TDDRL00 8.56 | WCTON00 73.78 | AAPPN00 62.17 | WCTOM00 11.61 | |
| WTS | WSTOY00 87.65 | TDDRI00 3.08 | WSTON00 84.56 | PCACK00 74.51 | WSTOM00 10.05 | |

US West Coast (PGA page 0841)

| | Coke Yield | Freight | Coke Netback | Crude Price | Coke Margin |
|----------------|----------------|--------------|----------------|---------------|----------------------|
| ANS | ANWOY00 109.20 | | | PCAAD00 80.06 | ANWOM00 29.14 |
| Arab Light | LIWOY00 111.20 | TDDAT00 1.35 | LIWON00 109.85 | AAXCU00 82.66 | LIWOM00 27.19 |
| Arab Medium | MEWOY00 106.45 | TDDBB00 1.35 | MEWON00 105.10 | AAXDN00 83.36 | MEWOM00 21.74 |
| Basrah Heavy | BHW0Y00 106.46 | BHWFA00 2.76 | BHWON00 103.70 | AALZC00 74.45 | ВНWОМ00 33.64 |
| Basrah Medium | BLW0Y00 107.90 | TDDBW00 2.64 | BLWON00 105.26 | BSMAM01 77.55 | BLWOM00 30.75 |
| Castilla Blend | CSWOY00 110.16 | CSWFA00 6.97 | CSWON00 103.20 | AAVEQ00 70.96 | CSWOM00 31.28 |
| Maya | MYWOY00 105.70 | MYWFA00 4.05 | MYWON00 101.64 | AAUPK00 68.63 | MYWOM00 33.01 |
| Napo | NPW0Y00 104.64 | NPWFA00 5.89 | NPWON00 98.75 | AAMCA00 66.21 | NPW0M00 31.59 |
| Oriente | ORWOY00 108.88 | TDDEC00 5.55 | ORWON00 103.33 | PCADE00 68.21 | ORWOM00 34.23 |
| Vasconia | VCWOY00 116.94 | VCWFA00 6.72 | VCWON00 110.23 | PCAGI00 73.96 | VCWOM00 35.35 |

Commodity Insights Analytics European Yields & Netbacks Effective July 7, 2023 (\$/barrel)

Northwest Europe (PGA page 1811)

| Northwest Europe (I | ar page 101 | 1/ | | | | | | | | |
|---------------------|-------------|-------|---------|------|----------|-------|---------|-------|---------|--------|
| | Crack | Yield | Freig | ght | Crack Ne | tback | Crude | Price | Crack N | largin |
| Agbami | AGNCY00 | 92.89 | AGNFA00 | 2.18 | AGNCN00 | 90.71 | AAQZB00 | 75.63 | AGNCM00 | 15.08 |
| Arab Berri | BENCY00 | 92.35 | BENFA00 | 1.32 | BENCN00 | 91.03 | AAXDU00 | 82.07 | BENCM00 | 8.96 |
| Arab Heavy | AHNCY00 | 83.87 | TDDAN00 | 1.39 | AHNCN00 | 82.48 | AAXDH00 | 78.57 | AHNCM00 | 3.91 |
| Arab Light | LINCY00 | 89.72 | TDDAV00 | 1.35 | LINCN00 | 88.37 | AAXDK00 | 81.47 | LINCM00 | 6.90 |
| Arab Medium | MENCY00 | 86.00 | TDDBD00 | 1.37 | MENCN00 | 84.63 | AAXDM00 | 80.97 | MENCM00 | 3.66 |
| Azeri Light | ZLNCY00 | 93.76 | TDDBI00 | 2.20 | ZLNCN00 | 91.56 | AATHM00 | 79.33 | ZLNCM00 | 11.05 |
| Basrah Medium | BLNCY00 | 84.51 | TDDBU00 | 2.07 | BLNCN00 | 82.44 | BSMAM01 | 77.55 | BLNCM00 | 8.20 |
| Bonny Light | YLNCY00 | 94.55 | YLNFA00 | 2.39 | YLNCN00 | 92.17 | PCAIC00 | 78.43 | YLNCM00 | 13.74 |
| Brent | BRNCY00 | 92.03 | TDDCD00 | 2.16 | BRNCN00 | 89.87 | AAVJA00 | 78.10 | BRNCM00 | 11.77 |
| Cabinda | CBNCY00 | 89.69 | TDDQR00 | 2.61 | CBNCN00 | 87.08 | PCAFD00 | 78.73 | CBNCM00 | 8.35 |
| CPC Blend | CPNCY00 | 92.85 | CPNFA00 | 2.89 | CPNCN00 | 89.96 | AALVX00 | 73.40 | CPNCM00 | 16.56 |
| Dubai | DBNCY00 | 89.39 | DBNFA00 | 2.03 | DBNCN00 | 87.36 | PCAAT00 | 77.85 | DBNCM00 | 8.04 |
| Eagle Ford | EANCY00 | 92.57 | EANFA00 | 4.22 | EANCN00 | 88.35 | AAYAT00 | 75.22 | EANCM00 | 14.09 |
| Ekofisk | EKNCY00 | 92.65 | TDDCT00 | 1.43 | EKNCN00 | 91.22 | PCADI00 | 79.45 | EKNCM00 | 11.77 |
| Forties | FTNCY00 | 92.20 | TDDEZ00 | 1.66 | FTNCN00 | 90.54 | PCADJ00 | 78.13 | FTNCM00 | 12.41 |
| Iran Heavy | BHNCY00 | 88.65 | TDDDG00 | 2.14 | BHNCN00 | 86.51 | AIHKA00 | 76.51 | BHNCM00 | 9.35 |
| Johan Sverdrup | JSNCY00 | 90.68 | JSNFA00 | 1.77 | JSNCN00 | 88.91 | AJSVA00 | 79.51 | JSNCM00 | 9.40 |
| Kirkuk | KRNCY00 | 88.98 | TDDGH00 | 2.82 | KRNCN00 | 86.16 | AAEJD00 | 75.16 | KRNCM00 | 8.52 |
| LLS | LLNCY00 | 95.49 | LLNFA00 | 4.40 | LLNCN00 | 91.09 | AAQBB00 | 75.71 | LLNCM00 | 15.29 |
| Maya | MYNCY00 | 78.65 | MYNFA00 | 4.53 | MYNCN00 | 74.12 | AAYXE00 | 67.32 | MYNCM00 | 6.80 |
| Oman | OMNCY00 | 88.86 | OMNFA00 | 2.00 | OMNCN00 | 86.86 | PCABS00 | 77.85 | OMNCM00 | 7.56 |
| Saharan Blend | SHNCY00 | 94.40 | TDDGI00 | 1.81 | SHNCN00 | 92.59 | AAGZY00 | 78.56 | SHNCM00 | 14.04 |
| Urals* | URNCY00 | 90.83 | | | | | PCAFW00 | 61.23 | URNCM00 | 29.60 |
| WTI MEH | WTNCY00 | 92.93 | WTNFA00 | 4.29 | WTNCN00 | 88.64 | AAYRZ00 | 74.71 | WTNCM00 | 13.89 |
| | | | | | | | | | | |

Mediterranean (PGA page 1821)

| | Crack | Yield | Freig | ght | Crack Ne | tback | Crude | Price | Crack N | largin |
|----------------|---------|-------|---------|------|----------|-------|---------|-------|---------|--------|
| Agbami | AGMCY00 | 92.39 | AGMFA00 | 2.13 | AGMCN00 | 90.26 | AAQZB00 | 75.63 | AGMCM00 | 14.63 |
| Arab Heavy | AHMCY00 | 85.53 | TDDAI00 | 1.39 | AHMCN00 | 84.15 | AAXDH00 | 78.57 | AHMCM00 | 6.33 |
| Arab Light | LIMCY00 | 89.94 | TDDAQ00 | 1.35 | LIMCN00 | 88.59 | AAXDK00 | 81.47 | LIMCM00 | 7.57 |
| Arab Medium | MEMCY00 | 86.83 | TDDAY00 | 1.37 | MEMCN00 | 85.46 | AAXDM00 | 80.97 | MEMCM00 | 4.74 |
| Azeri Light* | ZLMCY00 | 93.32 | | | | | AAGZX00 | 81.76 | ZLMCM00 | 11.56 |
| Basrah Medium | BLMCY00 | 85.68 | TDDBR00 | 1.58 | BLMCN00 | 84.10 | BSMAM01 | 77.55 | BLMCM00 | 9.85 |
| Bonny Light | YLMCY00 | 93.96 | YLMFA00 | 2.33 | YLMCN00 | 91.63 | PCAIC00 | 78.43 | YLMCM00 | 13.20 |
| Cabinda | CBMCY00 | 89.57 | CBMFA00 | 2.55 | CBMCN00 | 87.02 | PCAFD00 | 78.73 | CBMCM00 | 8.29 |
| CPC Blend* | CPMCY00 | 92.01 | | | | | AAGZU00 | 75.96 | CPMCM00 | 16.06 |
| Eagle Ford | EAMCY00 | 92.26 | TNEIF00 | 4.53 | EAMCN00 | 87.73 | AAYAT00 | 75.22 | EAMCM00 | 13.47 |
| Forties | FTMCY00 | 91.79 | FTMFA00 | 2.56 | FTMCN00 | 89.24 | PCADJ00 | 78.13 | FTMCM00 | 11.11 |
| Iran Heavy | BHMCY00 | 89.23 | TDDDF00 | 1.55 | BHMCN00 | 87.67 | AIHKA00 | 76.51 | ВНМСМ00 | 10.51 |
| Johan Sverdrup | JSMCY00 | 90.68 | JSMFA00 | 2.73 | JSMCN00 | 87.95 | AJSVA00 | 79.51 | JSMCM00 | 8.44 |
| Kirkuk | KRMCY00 | 89.20 | TDDFF00 | 1.68 | KRMCN00 | 87.53 | AAEJD00 | 75.16 | KRMCM00 | 9.89 |
| LLS | LLMCY00 | 94.82 | LLMFA00 | 4.76 | LLMCN00 | 90.05 | AAQBB00 | 75.71 | LLMCM00 | 14.25 |
| Oman | OMMCY00 | 89.56 | OMMFA00 | 1.42 | OMMCN00 | 88.13 | PCABS00 | 77.85 | OMMCM00 | 8.83 |
| Saharan Blend | SHMCY00 | 93.23 | TDDFG00 | 1.42 | SHMCN00 | 91.81 | AAGZY00 | 78.56 | SHMCM00 | 13.26 |
| Urals* | URMCY00 | 90.23 | | | | | PCACE00 | 61.65 | URMCM00 | 28.58 |

Platts Analytics Asian Yields & Netbacks Effective July 7, 2023 (\$/barrel)

| | Crack | Yield | Freig | ght | Crack Ne | etback | Crude | Price | Crack N | largin |
|---------------|---------|-------|---------|------|----------|--------|---------|-------|---------|--------|
| Agbami | AGSCY00 | 83.09 | AGSFA00 | 2.17 | AGSCN00 | 80.92 | AAQZB00 | 75.63 | AGSCM00 | 6.09 |
| Arab Berri | BESCY00 | 82.51 | BESFA00 | 1.33 | BESCN00 | 81.18 | AAXDV00 | 80.40 | BESCM00 | 0.78 |
| Arab Heavy | AHSCY00 | 76.93 | TDDA000 | 1.37 | AHSCN00 | 75.56 | AAXDG00 | 78.65 | AHSCM00 | -3.09 |
| Arab Light | LISCY00 | 81.32 | TDDAW00 | 1.35 | LISCN00 | 79.96 | AAXDJ00 | 80.85 | LISCM00 | -0.89 |
| Arab Medium | MESCY00 | 77.53 | TDDBE00 | 1.36 | MESCN00 | 76.17 | AAXDL00 | 80.30 | MESCM00 | -4.13 |
| Basrah Medium | BHSCY00 | 78.13 | BHSFA00 | 1.36 | BHSCN00 | 76.77 | BSMAM01 | 77.55 | BHSCM00 | -0.98 |
| Bonny Light | YLSCY00 | 85.72 | YLSFA00 | 2.34 | YLSCN00 | 83.39 | PCAIC00 | 78.43 | YLSCM00 | 5.76 |
| Cabinda | CBSCY00 | 84.13 | TDDQS00 | 2.26 | CBSCN00 | 81.88 | PCAFD00 | 78.73 | CBSCM00 | 3.95 |
| Castilla | CSSCY00 | 72.89 | CSSFA00 | 4.16 | CSSCN00 | 68.73 | AAVEQ00 | 70.96 | CSSCM00 | -0.47 |
| Dalia | DLSCY00 | 86.21 | DLSFA00 | 2.34 | DLSCN00 | 83.87 | AAQYX00 | 77.38 | DLSCM00 | 7.29 |
| Dubai | DBSCY00 | 81.41 | TDDCQ00 | 1.29 | DBSCN00 | 80.13 | PCAAT00 | 77.85 | DBSCM00 | 2.28 |
| Duri | DRSCY00 | 84.25 | TDDCR00 | 1.23 | DRSCN00 | 83.03 | PCABA00 | 79.47 | DRSCM00 | 3.56 |
| Eagle Ford | EASCY00 | 83.06 | EASFA00 | 3.61 | EASCN00 | 79.45 | AAYAT00 | 75.22 | EASCM00 | 5.99 |
| ESP0 | ESSCY00 | 83.67 | ESSFA00 | 1.10 | ESSCN00 | 82.56 | AARWF00 | 68.79 | ESSCM00 | 13.77 |

Singapore (PGA page 2811)

| | Crack | Yield | Freig | ght | Crack Ne | Crack Netback | | Price | Crack N | 1argin |
|---------------|---------|-------|---------|------|----------|---------------|---------|-------|---------|--------|
| Forties | FTSCY00 | 81.81 | TNEFD00 | 3.32 | FTSCN00 | 78.49 | PCADJ00 | 78.13 | FTSCM00 | 1.16 |
| Kimanis | KISCY00 | 91.47 | KISFA00 | 1.11 | KISCN00 | 90.35 | AASCL00 | 83.72 | KISCM00 | 6.63 |
| LLS | LLSCY00 | 85.15 | LLSFA00 | 3.76 | LLSCN00 | 81.39 | AAZDC00 | 74.90 | LLSCM00 | 6.39 |
| Mars | MRSCY00 | 80.25 | MRSFA00 | 3.89 | MRSCN00 | 76.35 | AAMBR00 | 75.51 | MRSCM00 | 2.60 |
| Maya | MYSCY00 | 76.17 | MYSFA00 | 4.08 | MYSCN00 | 72.08 | AAYXG00 | 70.30 | MYSCM00 | 1.78 |
| Minas | MNSCY00 | 84.97 | TDDDX00 | 1.12 | MNSCN00 | 83.85 | PCAB000 | 72.23 | MNSCM00 | 11.62 |
| Oman | OMSCY00 | 79.00 | TDDEB00 | 1.23 | OMSCN00 | 77.77 | PCABS00 | 77.85 | OMSCM00 | -0.08 |
| Qua lboe | QBSCY00 | 86.31 | QBSFA00 | 2.34 | QBSCN00 | 83.98 | PCAID00 | 78.48 | QBSCM00 | 6.30 |
| Saharan Blend | SHSCY00 | 80.77 | SHSFA00 | 2.44 | SHSCN00 | 78.33 | AAGZY00 | 78.56 | SHSCM00 | -0.03 |
| Tapis | TPSCY00 | 83.95 | TDDE000 | 1.10 | TPSCN00 | 82.85 | PCACB00 | 79.82 | TPSCM00 | 3.03 |
| Tupi* | LUSCY00 | 83.74 | | | | | LUQDA00 | 79.44 | LUSCM00 | 6.60 |
| Urals | URSCY00 | 81.30 | URSFA00 | 2.50 | URSCN00 | 78.80 | AAGZS00 | 58.96 | URSCM00 | 20.65 |
| WTI MEH | WTSCY00 | 82.96 | WTSFA00 | 3.67 | WTSCN00 | 79.29 | AAZDF00 | 73.90 | WTSCM00 | 5.34 |
| | | | | | | | | | | |

^{*}Indicates the crude price is a CIF value

^{*}Indicates the crude price is a CIF value



Crude Carbon Intensity

A daily supplement to Crude Oil Marketwire

Platts crude carbon intensity assessments - grades, July 7, 2023 (PGA/PCR page 4206)

| | Daily Carbon Intensity Premium | | Monthly Carbon Intensity* | | |
|-----------------------------------|--------------------------------|------|---------------------------|--------|-------------|
| | Symbol | \$/b | Symbol | Date | kg CO2 eq/b |
| North America (PGA/PCR page 4206) | | | | | |
| WTI Midland | WXTIC00 | 0.54 | WXTIC40 | May-23 | 37.85 |
| Europe (PGA/PCR page 4206 |) | | | | |
| Brent | BXREC00 | 0.83 | BXREC40 | May-23 | 58.42 |
| Ekofisk | EXKOC00 | 0.33 | EXK0C40 | May-23 | 23.19 |
| Forties | FXORC00 | 0.33 | FXORC40 | May-23 | 23.21 |
| Oseberg | OXSEC00 | 1.25 | OXSEC40 | May-23 | 88.50 |
| Troll | TXROC00 | 3.82 | TXROC40 | May-23 | 269.85 |

Upstream CI values are modelled on a marginal basis and are published monthly. CI Premiums are assessed daily.

Details on the Platts methodology can be found at spglobal.com/commodityinsights/.

Platts crude carbon intensity assessments - fields, July 7, 2023 (PGA page 4200)

| | Daily Carbon Intensity Premium | | Monthly Carbon Intensity* | | | Daily Transport Carbon Intensity Premium | | | Monthly Transport Carbon Intensity** | | |
|---------------------------|--------------------------------|--------|---------------------------|--------|---------------|--|---------|------|--------------------------------------|--------|-------------|
| | Symbol | \$/boe | Symbol | Date | kg CO2 eq/boe | Route | Symbol | \$/b | Symbol | Date | kg CO2 eq/b |
| Asia Pacific & Middle Eas | t Fields (PGA/PCR page 4 | i201) | | | | | | | | | |
| China | | | | | | | | | | | |
| Bozhong | BOZHC00 | 0.44 | BOZHC40 | May-23 | 30.93 | Bohai Pengbo-Singapore | BOZHC10 | 0.06 | BOZHC50 | May-23 | 4.24 |
| India | | | | | | | | | | | |
| Bombay High | MUMBC00 | 0.37 | MUMBC40 | May-23 | 26.03 | Bombay High-Qingdao | MUMBC10 | 0.10 | MUMBC50 | May-23 | 6.80 |
| Iran | | | | | | | | | | | |
| Marun | MARUC00 | 0.51 | MARUC40 | May-23 | 36.10 | Kharg Island-Qingdao | MARUC10 | 0.13 | MARUC50 | May-23 | 8.96 |
| Iraq | | | | | | | | | | | |
| Kirkuk | KIRKC00 | 0.72 | KIRKC40 | May-23 | 50.90 | Ceyhan-R'dam | KIRKC10 | 0.06 | KIRKC50 | May-23 | 4.55 |
| Rumaila | RUMAC00 | 0.31 | RUMAC40 | May-23 | 21.56 | Al Basrah-Sikka | RUMAC10 | 0.03 | RUMAC50 | May-23 | 2.09 |
| West Qurna-2 | WESTC00 | 0.37 | WESTC40 | May-23 | 26.16 | Al Basrah-Sikka | WESTC10 | 0.03 | WESTC50 | May-23 | 2.22 |
| Zubair | ZUBAC00 | 0.76 | ZUBAC40 | May-23 | 53.82 | Al Basrah-Sikka | ZUBAC10 | 0.03 | ZUBAC50 | May-23 | 2.09 |
| Kuwait | | | | | | | | | | | |
| Burgan | BURGC00 | 0.24 | BURGC40 | May-23 | 16.73 | Mina-Ulsan | BURGC10 | 0.13 | BURGC50 | May-23 | 9.31 |
| Qatar | | | | | | | | | | | |
| Dukhan | DUKHC00 | 1.62 | DUKHC40 | May-23 | 114.47 | Mesaieed-Singapore | DUKHC10 | 0.07 | DUKHC50 | May-23 | 5.03 |
| Saudi Arabia | | | | | | | | | | | |
| Ghawar | GHWRC00 | 0.25 | GHWRC40 | May-23 | 17.57 | Ras Tanura-Qingdao | GHWRC10 | 0.12 | GHWRC50 | May-23 | 8.33 |
| Safaniya | SAFAC00 | 0.22 | SAFAC40 | May-23 | 15.56 | Ras Tanura-Changxing | SAFAC10 | 0.14 | SAFAC50 | May-23 | 9.53 |
| Zuluf | ZULUC00 | 0.32 | ZULUC40 | May-23 | 22.56 | Ras Tanura-Changxing | ZULUC10 | 0.13 | ZULUC50 | May-23 | 9.24 |

^{*}Upstream marginal CI value is assessed from the field to the storage terminal.

Platts crude carbon intensity assessments - fields (continued) (PGA page 4200)

| | Daily Carbon Int | Monthly Carbon Intensity* | | | Daily Transport Carbon Intensity Premium | | | Monthly Transport Carbon Intensity** | | | |
|----------------------------|------------------|---------------------------|---------|--------|--|----------------------|---------|--------------------------------------|-------------|----------|-------------|
| | Symbol | \$/boe | Symbol | Date | kg CO2 eq/boe | Route | Symbol | \$/b | Symbol | Date | kg CO2 eq/b |
| UAE | ., | | ., | | 8 | | ., | | , , , , , , | | 0 1 |
| Fateh | FATEC00 | 0.24 | FATEC40 | May-23 | 17.12 | Fateh-Kiire | FATEC10 | 0.12 | FATEC50 | May-23 | 8.56 |
| Murban | MURBC00 | 0.28 | MURBC40 | May-23 | 19.54 | Fujairah-Chiba | MURBC10 | 0.12 | MURBC50 | May-23 | 8.55 |
| | | 0.20 | HORBOTO | May 20 | 10.01 | r ajaman omba | HORBOID | 0.12 | HORDOOD | IVIQY 20 | 0.00 |
| Africa Fields (PGA/PCR pag | e 4202) | | | | | | | | | | |
| Angola | | 0.47 | | M 00 | 11.01 | Cina and Cina and a | | 0.10 | | NA 00 | 10.10 |
| Girassol | GRSLC00 | 0.17 | GRSLC40 | May-23 | 11.81 | Girassol-Qingdao | GRSLC10 | 0.19 | GRSLC50 | May-23 | 13.18 |
| Libya | | | | | | | | | | | |
| Waha | WAHAC00 | 0.48 | WAHAC40 | May-23 | 34.01 | Zawia-Augusta | WAHAC10 | 0.01 | WAHAC50 | May-23 | 0.44 |
| Nigeria | | | | | | | | | | | |
| Agbami | AGBAC00 | 0.37 | AGBAC40 | May-23 | 26.03 | Agbami-Paradip | AGBAC10 | 0.15 | AGBAC50 | May-23 | 10.25 |
| Bonga | BONGC00 | 0.18 | BONGC40 | May-23 | 12.35 | Bonga-R'dam | BONGC10 | 0.09 | BONGC50 | May-23 | 6.26 |
| Europe Fields (PGA/PCR pa | ge 4202) | | | | | | | | | | |
| Azerbaijan | | | | | | | | | | | |
| Azeri | AZERC00 | 0.26 | AZERC40 | May-23 | 18.09 | Ceyhan-Sarroch | AZERC10 | 0.03 | AZERC50 | May-23 | 1.93 |
| Kazakhstan | | | | | | | | | | | |
| Tengiz | TNGZC00 | 0.28 | TNGZC40 | May-23 | 19.48 | Novo-R'dam | TNGZC10 | 0.07 | TNGZC50 | May-23 | 4.62 |
| Norway | | | | | | | | | | | |
| Alvheim | ALVHC00 | 0.11 | ALVHC40 | May-23 | 7.80 | Alvheim-Le Havre | ALVHC10 | 0.01 | ALVHC50 | May-23 | 0.85 |
| Brage | BRAGC00 | 1.08 | BRAGC40 | May-23 | 76.15 | Sture - Brofjorden | BRAGC10 | 0.01 | BRAGC50 | May-23 | 0.48 |
| Edvard-Grieg | EDVAC00 | 0.06 | EDVAC40 | May-23 | 4.29 | Edvard Grieg-Sarroch | EDVAC10 | 0.04 | EDVAC50 | May-23 | 2.97 |
| Ekofisk | EKFSC00 | 0.39 | EKFSC40 | May-23 | 27.32 | Teesside-R'dam | EKFSC10 | 0.01 | EKFSC50 | May-23 | 0.36 |
| Embla | EMBLC00 | 0.08 | EMBLC40 | May-23 | 5.34 | Teesside-R'dam | EMBLC10 | 0.01 | EMBLC50 | May-23 | 0.36 |
| Fram | FRAMC00 | 0.35 | FRAMC40 | May-23 | 25.01 | Mongstad-R'dam | FORTD10 | 0.01 | FORTD50 | May-23 | 0.84 |
| Goliat | GOLIC00 | 0.03 | GOLIC40 | May-23 | 2.14 | Goliat-R'dam | GOLIC10 | 0.02 | GOLIC50 | May-23 | 1.73 |
| Grane | GRANC00 | 0.06 | GRANC40 | May-23 | 4.43 | Sture-Immingham | GRANC10 | 0.01 | GRANC50 | May-23 | 0.63 |
| Gullfaks | GULLC00 | 0.22 | GULLC40 | May-23 | 15.21 | Gullfaks-Brofjorden | GULLC10 | 0.01 | GULLC50 | May-23 | 0.46 |
| Heidrun | HEIDC00 | 0.17 | HEIDC40 | May-23 | 12.25 | Heidrun-R'dam | HEIDC10 | 0.02 | HEIDC50 | May-23 | 1.22 |
| Ivar-Aasen | IVARC00 | 0.04 | IVARC40 | May-23 | 2.44 | Ivar Aasen-R'dam | IVARC10 | 0.01 | IVARC50 | May-23 | 0.80 |
| Johan Sverdrup | JSVRC00 | 0.02 | JSVRC40 | May-23 | 1.58 | Mongstad-R'dam | JSVRC10 | 0.01 | JSVRC50 | May-23 | 0.79 |
| Oseberg | OSEBC00 | 0.28 | OSEBC40 | May-23 | 19.78 | Sture-R'dam | OSEBC10 | 0.01 | OSEBC50 | May-23 | 0.69 |
| Snorre | SNORC00 | 0.20 | SNORC40 | May-23 | 13.93 | Snorre-Statfjord | SNORC10 | 0.00 | SNORC50 | May-23 | 0.14 |
| Statfjord | STATC00 | 3.21 | STATC40 | May-23 | 226.52 | Statfjord-R'dam | STATC10 | 0.01 | STATC50 | May-23 | 0.75 |
| Troll | TROLC00 | 0.28 | TROLC40 | May-23 | 19.71 | Mongstad-R'dam | TROLC10 | 0.01 | TROLC50 | May-23 | 0.79 |
| Ula | ULACC00 | 0.67 | ULACC40 | May-23 | 46.97 | Teesside-R'dam | ULACC10 | 0.01 | ULACC50 | May-23 | 0.37 |
| Valhall | VALHC00 | 0.08 | VALHC40 | May-23 | 5.47 | Valhall-R'dam | VALHC10 | 0.01 | VALHC50 | May-23 | 0.35 |
| United Kingdom | | | | | | | | | | | |
| Alwyn North | ALWYC00 | 0.07 | ALWYC40 | May-23 | 4.84 | Sullom Voe-R'dam | ALWYC10 | 0.01 | ALWYC50 | May-23 | 0.81 |
| Arbroath | ARBRC00 | 0.12 | ARBRC40 | May-23 | 8.60 | Houndpoint-R'dam | ARBRC10 | 0.01 | ARBRC50 | May-23 | 0.55 |
| Auk | AUKCD00 | 0.51 | AUKCC40 | May-23 | 35.92 | Teesside-R'dam | AUKCC10 | 0.01 | AUKCC50 | May-23 | 0.37 |
| Brae | BRAEC00 | 0.16 | BRAEC40 | May-23 | 10.93 | Houndpoint-R'dam | BRAEC10 | 0.01 | BRAEC50 | May-23 | 0.56 |
| Bruce | BRUCC00 | 0.80 | BRUCC40 | May-23 | 56.56 | Houndpoint-R'dam | BRUCC10 | 0.01 | BRUCC50 | May-23 | 0.56 |
| Buzzard | BZRDC00 | 0.30 | BZRDC40 | May-23 | 20.94 | Houndpoint-R'dam | BZRDC10 | 0.01 | BZRDC50 | May-23 | 0.53 |
| Captain | CAPTC00 | 0.36 | CAPTC40 | May-23 | 25.42 | Captain-Hamburg | CAPTC10 | 0.01 | CAPTC50 | May-23 | 0.72 |
| Catcher | CATCC00 | 0.22 | CATCC40 | May-23 | 15.24 | Catcher-R'dam | CATCC10 | 0.01 | CATCC50 | May-23 | 0.48 |

Platts crude carbon intensity assessments - fields (continued) (PGA page 4200)

| | Daily Carbon Intensity Premium | | Monthly Carbon Intensity* | | | Daily Transport Carbon Intensity Premium | | | Monthly Transport Carbon Intensity** | | |
|---|--------------------------------|--------|---------------------------|--------|---------------|--|---------|------|--------------------------------------|--------|-------------|
| | Symbol | \$/boe | Symbol | Date | kg CO2 eq/boe | Route | Symbol | \$/b | Symbol | Date | kg CO2 eq/b |
| Clair | CLAIC00 | 0.14 | CLAIC40 | May-23 | 10.02 | Clair-Stanlow | CLAIC10 | 0.01 | CLAIC50 | May-23 | 0.91 |
| Clyde | CLYDC00 | 0.33 | CLYDC40 | May-23 | 23.16 | Teesside-R'dam | CLYDC10 | 0.01 | CLYDC50 | May-23 | 0.37 |
| Cormorant | CORMC00 | 0.82 | CORMC40 | May-23 | 57.96 | Sullom Voe-R'dam | CORMC10 | 0.01 | CORMC50 | May-23 | 0.82 |
| Everest | EVERC00 | 0.20 | EVERC40 | May-23 | 14.02 | Houndpoint-R'dam | EVERC10 | 0.01 | EVERC50 | May-23 | 0.55 |
| Forties | FORTC00 | 0.22 | FORTC40 | May-23 | 15.33 | Houndpoint-R'dam | FORTC10 | 0.01 | FORTC50 | May-23 | 0.56 |
| Gannet | GANNC00 | 0.24 | GANNC40 | May-23 | 17.00 | Teesside-R'dam | GANNC10 | 0.01 | GANNC50 | May-23 | 0.38 |
| Golden-Eagle | GOLDC00 | 0.31 | GOLDC40 | May-23 | 22.08 | Golden Eagle-Grangemouth | GOLDC10 | 0.00 | GOLDC50 | May-23 | 0.14 |
| Joanne | JOANC00 | 0.08 | JOANC40 | May-23 | 5.86 | Teesside-R'dam | JOANC10 | 0.01 | JOANC50 | May-23 | 0.37 |
| Judy | JUDYC00 | 0.37 | JUDYC40 | May-23 | 26.40 | Teesside-R'dam | JUDYC10 | 0.01 | JUDYC50 | May-23 | 0.38 |
| Kraken | KRAKC00 | 0.26 | KRAKC40 | May-23 | 18.55 | Kraken-R'dam | KRAKC10 | 0.01 | KRAKC50 | May-23 | 0.80 |
| Magnus | MAGNC00 | 0.17 | MAGNC40 | May-23 | 12.08 | Sullom Voe-R'dam | MAGNC10 | 0.01 | MAGNC50 | May-23 | 0.81 |
| Mariner | MARIC00 | 0.27 | MARIC40 | May-23 | 18.97 | Mariner-Pascagoula | MARIC10 | 0.10 | MARIC50 | May-23 | 6.85 |
| Nelson | NELSC00 | 0.14 | NELSC40 | May-23 | 9.58 | Houndpoint-R'dam | NELSC10 | 0.01 | NELSC50 | May-23 | 0.55 |
| Ninian | NINIC00 | 2.00 | NINIC40 | May-23 | 141.27 | Sullom Voe-R'dam | NINIC10 | 0.01 | NINIC50 | May-23 | 0.83 |
| Schiehallion | SCHIC00 | 0.25 | SCHIC40 | May-23 | 17.61 | Schiellhallion-R'dam | SCHIC10 | 0.01 | SCHIC50 | May-23 | 0.85 |
| Scott | SCOTC00 | 0.15 | SCOTC40 | May-23 | 10.67 | Houndpoint-R'dam | SCOTC10 | 0.01 | SCOTC50 | May-23 | 0.55 |
| Tiffany | TIFFC00 | 0.20 | TIFFC40 | May-23 | 14.13 | Houndpoint-R'dam | TIFFC10 | 0.01 | TIFFC50 | May-23 | 0.55 |
| Toni | TONIC00 | 0.25 | TONIC40 | May-23 | 17.43 | Houndpoint-R'dam | TONIC10 | 0.01 | TONIC50 | May-23 | 0.55 |
| Russia | | | | | | | | | | | |
| Samotlor | SAMOC00 | 0.41 | SAMOC40 | May-23 | 29.00 | Primorsk-R'dam | SAMOC10 | 0.03 | SAMOC50 | May-23 | 1.97 |
| North America Fields Canada (PGA/PCR page 4 | 4204) | | | | | | | | | | |
| Bakken-Canada | BAKKC00 | 0.51 | BAKKC40 | May-23 | 35.88 | Canada-USMW | BAKKC10 | 0.06 | BAKKC50 | May-23 | 3.91 |
| Cold Lake | CDLKC00 | 1.17 | CDLKC40 | May-23 | 82.95 | W Canada-USMW | CDLKC10 | 0.07 | CDLKC50 | May-23 | 4.86 |
| CVE Christina Lake | CVECC00 | 0.63 | CVECC40 | May-23 | 44.29 | Canada-USMW | CVECC10 | 0.07 | CVECC50 | May-23 | 4.86 |
| Foster Creek | FOSTC00 | 0.83 | FOSTC40 | May-23 | 58.69 | Canada-USGC | FOSTC10 | 0.08 | FOSTC50 | May-23 | 5.69 |
| Hebron | HEBRC00 | 0.14 | HEBRC40 | May-23 | 9.68 | Hebron-Canada | HEBRC10 | 0.13 | HEBRC50 | May-23 | 8.89 |
| Hibernia | HIBEC00 | 0.38 | HIBEC40 | May-23 | 27.16 | Hibernia-Canada | HIBEC10 | 0.14 | HIBEC50 | May-23 | 9.82 |
| Jackfish | JACKC00 | 0.96 | JACKC40 | May-23 | 67.46 | Canada-USMW | JACKC10 | 0.06 | JACKC50 | May-23 | 4.37 |
| MEG Christina Lake | MEGCC00 | 0.82 | MEGCC40 | May-23 | 58.06 | Canada-USGC | MEGCC10 | 0.09 | MEGCC50 | May-23 | 5.99 |
| Montney Shale | MONTC00 | 0.39 | MONTC40 | May-23 | 27.58 | Montney-Canada | MONTC10 | 0.01 | MONTC50 | May-23 | 0.8 |
| Surmont | SURMC00 | 0.90 | SURMC40 | May-23 | 63.92 | Canada-USGC | SURMC10 | 0.08 | SURMC50 | May-23 | 5.54 |
| United States (PGA/PCR | page 4205) | | | | | | | | | | |
| Bakken | BAKNC00 | 0.28 | BAKNC40 | May-23 | 19.50 | Beaumont-R'dam | BAKNC10 | 0.09 | BAKNC50 | May-23 | 6.46 |
| Denver-Julesburg | DENVC00 | 0.40 | DENVC40 | May-23 | 28.37 | Denver-USGC | DENVC10 | 0.04 | DENVC50 | May-23 | 2.47 |
| Eagle Ford | EGFDC00 | 0.24 | EGFDC40 | May-23 | 16.89 | Houston-Qingdao | EGFDC10 | 0.18 | EGFDC50 | May-23 | 12.85 |
| Mars-Ursa | MRURC00 | 0.19 | MRURC40 | May-23 | 13.72 | Mars-Qingdao | MRURC10 | 0.20 | MRURC50 | May-23 | 14.04 |
| Permian Delaware | PRDLC00 | 0.24 | PRDLC40 | May-23 | 17.21 | Corpus Christi-R'dam | PRDLC10 | 0.09 | PRDLC50 | May-23 | 6.5 |
| Permian Midland | PRMDC00 | 0.27 | PRMDC40 | May-23 | 18.96 | Corpus Christi-R'dam | PRMDC10 | 0.10 | PRMDC50 | May-23 | 6.70 |
| Prudhoe-Bay | PRUDC00 | 0.45 | PRUDC40 | May-23 | 32.03 | Alaska-USWC | PRUDC10 | 0.04 | PRUDC50 | May-23 | 2.86 |
| San-Joaquin | SANMC00 | 2.49 | SANMC40 | May-23 | 175.84 | San Joaquin-SoCal | SANAC10 | 0.01 | SANAC50 | May-23 | 0.77 |
| SCOOP-STACK | SC00C00 | 0.46 | SC00C40 | May-23 | 32.36 | Oklahoma-USGC | SC00C10 | 0.01 | SC00C50 | May-23 | 1.01 |
| Tahiti | TAHIC00 | 0.23 | TAHIC40 | May-23 | 16.53 | Tahiti-Yeosu | TAHIC10 | 0.19 | TAHIC50 | May-23 | 13.15 |

Platts crude carbon intensity assessments - fields (continued) (PGA page 4200)

| | Daily Carbon Intensity Premium | | Monthly Carbon Intensity* | | | Daily Transport Carbon Intensity Premium | | | Monthly Transport Carbon Intensity** | | |
|---------------------------|--------------------------------|--------|---------------------------|--------|---------------|--|---------|------|--------------------------------------|--------|-------------|
| | Symbol | \$/boe | Symbol | Date | kg CO2 eq/boe | Route | Symbol | \$/b | Symbol | Date | kg CO2 eq/b |
| Latin America Fields (PG. | A/PCR page 4203) | | | | | | | | | | |
| Brazil | | | | | | | | | | | |
| Tupi | TUPIC00 | 0.17 | TUPIC40 | May-23 | 12.19 | Rio-Qingdao | TUPIC10 | 0.22 | TUPIC50 | May-23 | 15.64 |
| Colombia | | | | | | | | | | | |
| Cusiana | CUSIC00 | 0.31 | CUSIC40 | May-23 | 21.98 | Tolu-Houston | CUSIC10 | 0.03 | CUSIC50 | May-23 | 2.28 |
| Ecuador | | | | | | | | | | | |
| Sacha | SACHC00 | 0.29 | SACHC40 | May-23 | 20.36 | Esmeraldas-Long Beach | SACHC10 | 0.07 | SACHC50 | May-23 | 4.57 |
| Mexico | | | | | | | | | | | |
| Cantarell | CNTLC00 | 0.22 | CNTLC40 | May-23 | 15.49 | Cantarell-Bilbao | CNTLC10 | 0.10 | CNTLC50 | May-23 | 7.22 |
| Venezuela | | | | | | | | | | | |
| Orinoco Oil Belt | ORINC00 | 3.82 | ORINC40 | May-23 | 270.03 | Jose-Sikka | ORINC10 | 0.20 | ORINC50 | May-23 | 14.29 |

Upstream CI values are modelled on a marginal basis and are published monthly. Carbon Intensity Premiums are assessed daily. Venezuela's Orinoco Belt upstream marginal carbon intensity is calculated using only the Hamaca basin.

^{*}Upstream marginal CI number is assessed from the field to the storage terminal. **Transport CI is calculated from storage terminal to refinery gate and for shipping routes assumes an Aframax vessel.

Details on the Platts methodology can be found at spglobal.com/commodityinsights/.



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