

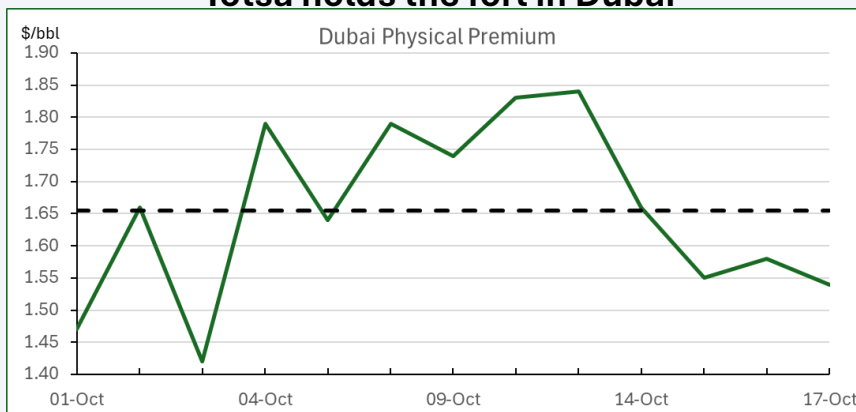
# The Officials

## The Benchmark Publication

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### Totsa holds the fort in Dubai



The window was ram-packed with ‘sells to Totsa’ as bids were whacked almost as soon as they hit the table. The French major seems to be trying to defend a tired-looking physical premium which has declined from the \$1.80s to \$1.54 today. It reminded us of the Maginot line for those WW2 history buffs. We know what happened there. Totsa stepped on the gas and got hit for partial after partial, while Mitsui threw their hat in alongside the indefatigable French. At least someone in France has some money, even if the government doesn’t. Dear trader in Asia, look at Europe. It doesn’t look good.

Exxon kept on selling – they just can’t whack the buyers fast enough! Looking at the physical premium, it looks like that sales frenzy is paying off. As usual, the sellside was more fragmented than the buy-side; the familiar faces of Trafi and Shell were present, but Repsol made an appearance, as did Reliance and Phillips. Vitol tried to bag a bargain, bidding \$74.00 but nobody was tempted. We got a couple of convergences in the window today: Hengli declared an Upper Zakum to Mitsui and Exxon declared one of the same to Totsa. We’re believers in the free market sorting out values between buyers and sellers. But we also know technicalities get in the way of theory and loopholes may exist, potentially leading to wonky benchmarks. Therein lies the problem; the lack of attention on the outcomes surely lies on the publisher. Who else?

We, The Officials, like to probe when benchmark conditions lead to excesses, as evidenced by disconnected differentials zooming up when fundamentals are down or cratering when similar futures benchmarks are holding up, as has been the case with Brent. We welcome contributions and comments if we miss anything. Perhaps one should question if the methods in the construction could lead to dislocation. One should further question if subscription costs to price assessments are conducted on the basis of discriminatory pricing. This query extends to onboarding systems, which could be misused to prevent participation by market sellers and buyers, which would also part and parcel of the problem. The latter is of humongous importance to the market at large because preventing participation leads to, in the kindest words we can think of, unrepresentative assessments all the way to facilitating manipulation by preventing participation of entities that counter market excesses. Publishers need to think really hard about what they are doing and the risk to markets and to themselves.

| Summary                |          |               |               |               |
|------------------------|----------|---------------|---------------|---------------|
| Physical and Futures   |          | 17-Oct-24     | 1-Day Change  | 7-Day Change  |
| Brent Dec (fut)        | (\$/bbl) | 74.440        | +0.270        | -2.880        |
| WTI Dec (fut)          | (\$/bbl) | 70.040        | +0.090        | -3.280        |
| Dubai Dec (phys)       | (\$/bbl) | 74.070        | +0.080        | -3.070        |
| <b>OBI Continuous</b>  | (\$/bbl) | <b>74.440</b> | <b>+0.270</b> | <b>-2.880</b> |
| <b>Crude Swaps Nov</b> |          |               |               |               |
| Brent                  | (\$/bbl) | 73.990        | +0.200        | -2.830        |
| DFL                    | (\$/bbl) | 0.210         | +0.130        | +0.070        |
| WTI                    | (\$/bbl) | 69.940        | +0.080        | -3.220        |
| Dubai                  | (\$/bbl) | 72.990        | +0.120        | -2.890        |
| <b>Tenor</b>           |          | <b>Dec-24</b> | <b>Jan-25</b> | <b>Feb-25</b> |
| <b>Crude Futures</b>   |          |               |               |               |
| Brent (fut)            | (\$/bbl) | 74.440        | 73.990        | 73.600        |
| WTI (fut)              | (\$/bbl) | 70.040        | 69.620        | 69.270        |



## In detail

Again, Brent futures outperformed their benchmark pals (just don't look at the North Sea physicals where yesterday differentials plunged to flat!), gaining 27c/bbl to close at \$74.44/bbl, including a climb leading into the window. Dubai moved even more slowly than that, moving upwards by a meagre 8c/bbl to \$74.07/bbl. Consequently, Brent has opened up its premium over Dubai again, which reached 37c, up from 18c yesterday. Dubai's structure remained strongly backwardated, as the physical premium remained above \$1.50 – thanks Totsa! And we don't forget Vitol and Mitsui's contributions! Thank you everybody for creating disconnects from the fundamentals.

China has announced that it is doubling its “whitelist” loans to 4 trillion yuan (\$561 billion). These loans are extended to property developers and aim to ensuring project completion and successful delivery of pre-sold units. This will support one aspect of China's creaking housing market (sold but unfinished homes). According to Nomura, China's already sold, but unbuilt, homes comprise about 48 million units in total, and the bank estimates that resolving this issue would require about 3 trillion yuan of direct funding from the government. Just \$421 billion in USD! It is only money! But the greedy markets want more, loads more.

Traders and analysts were largely disappointed the Chinese government didn't go all guns blazing on special bond issuances for purchasing unsold, but finished, units. Yes, believe it or not, China has been hit with the double whammy. This whole debacle hasn't helped real estate stocks, which got yet another battering today. The real estate subindex of the CSI300 is down 7.85% today, compared to the 1.59% fall of the overall CSI300 index. In terms of the individual big losers: Sunac is down over 25%, Longfor Group dropped more than 13% and Vanke fell 17%. That press conference from the Housing Ministry really failed to instil investors with confidence.

Along with the bad news from China, we got more weak data from Japan today. Total exports shrank by 1.7% in September against the same time last year, the first decrease since November 2023, and the steepest decline since 2021. Surprise, surprise, this was led by a 7.5% decline in transport equipment, including a 9.2% decline in motor vehicles y/y. We did say that Japan's automotive sector was being battered as Chinese EV competition annihilates gasoline's market share. We say, OPEC wake up with your bullish forecasts. They are wrong.

Also, as industrial sectors across the world face ever stiffer headwinds, machinery exports from Japan shrank by 3.3%. Read The Officials Asia 1.95 edition for more doom and gloom on Japanese industrial production. Contraction in global appetite for Japanese goods was broad based across economies. Unsurprisingly, Japanese exports to China slumped, falling 7.3% y/y, driven by weak consumer demand in China and the proliferation of better priced alternatives in Chinese markets. But exports also fell elsewhere; US (-2.4%), Thailand (-8.6%), and the EU (-9%). The anomaly were the exports to Russia, which jumped 98.5%. We wonder what they're preparing for... four more years of the Trump show perhaps?

Remember that Japan is a net importer of crude: according to the Ministry of Economy, Trade and Industry, Japan imported over 11 million litres of crude in August, compared to domestic production of just 26,000 litres. Elevated dollar cross volatility to the downside could have dramatic repercussions for Japan's oil industry. Given the USD has strengthened 4% against the yen in October so far, Japan's crude imports might be feeling the burn.

The fact that Japan, and other manufacturing powerhouses like Germany, are in such industrial disarray suggests global demand for finished goods is awful, frankly. This will also have a knock-on effect as there will be less demand for freight to move stuff around, and less raw material demand to make the stuff in the first place. That means the outlook for fuel oil, petchems, natural gas and diesel will likely continue to deteriorate, without even considering the shift to renewables and decarbonization. The demand outlook for hydrocarbons is bleak across the barrel.

One potential saving grace from the energy perspective, however, are booming data centres. Chip maker TSMC reported record Q3 profits today, up around 54% y/y. But these big data centres are bringing their energy supply chains in house: Amazon Web Services just invested over \$500m to develop small modular nuclear reactors. They don't like sharing.

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| <b>Front Month Outrights</b> |          |  |           |              |              |
|------------------------------|----------|--|-----------|--------------|--------------|
| <b>November Swaps</b>        |          |  | 17-Oct-24 | 1-Day Change | 7-Day Change |
| <b>Crude</b>                 |          |  |           |              |              |
| Brent                        | (\$/bbl) |  | 73.990    | +0.200       | -2.830       |
| WTI                          | (\$/bbl) |  | 69.940    | +0.080       | -3.220       |
| Dubai                        | (\$/bbl) |  | 72.990    | +0.120       | -2.890       |
| <b>Distillates</b>           |          |  |           |              |              |
| Gasoil 0.1 NWE               | (\$/mt)  |  | 658.330   | -2.000       | -34.750      |
| NWE Jet                      | (\$/mt)  |  | 703.580   | +0.000       | -30.250      |
| Singapore 10ppm              | (\$/bbl) |  | 85.450    | +0.000       | -4.260       |
| Sing Kero                    | (\$/bbl) |  | 85.950    | +0.300       | -3.560       |
| <b>Gasoline</b>              |          |  |           |              |              |
| RBOB                         | (c/gal)  |  | 201.020   | +0.320       | -5.120       |
| EBOB                         | (\$/mt)  |  | 686.500   | +0.070       | -18.080      |
| Singapore 92                 | (\$/bbl) |  | 79.080    | +0.680       | -3.100       |
| Singapore 95                 | (\$/bbl) |  | 84.210    | +0.700       | -2.570       |
| <b>Naphtha</b>               |          |  |           |              |              |
| US C5 ENT                    | (c/gal)  |  | 148.530   | -0.080       | -6.860       |
| NWE Naphtha                  | (\$/mt)  |  | 636.880   | -1.070       | -24.570      |
| MOPJ Naphtha                 | (\$/mt)  |  | 658.470   | -0.230       | -25.230      |
| <b>Fuel Oil</b>              |          |  |           |              |              |
| 3.5% barges                  | (\$/mt)  |  | 419.540   | -0.700       | -22.550      |
| Singapore 380                | (\$/mt)  |  | 426.290   | +1.800       | -10.550      |
| Singapore 180                | (\$/mt)  |  | 441.040   | +2.050       | -8.050       |
| 0.5% barges                  | (\$/mt)  |  | 502.410   | -0.380       | -15.240      |
| Singapore 0.5%               | (\$/mt)  |  | 550.990   | -1.210       | -17.140      |
| <b>NGLs</b>                  |          |  |           |              |              |
| US Propane LST               | (c/gal)  |  | 75.276    | +1.361       | -4.674       |
| NWE Propane                  | (\$/mt)  |  | 587.690   | +2.640       | -16.850      |
| Saudi Propane CP             | (\$/mt)  |  | 625.190   | -0.360       | -11.350      |
| Asian Propane FEI            | (\$/mt)  |  | 659.140   | +3.090       | -19.400      |
| US Butane ENT                | (c/gal)  |  | 110.270   | -0.640       | -3.180       |
| Saudi Butane CP              | (\$/mt)  |  | 617.140   | +1.590       | -9.400       |



## Long Tenor Swaps

|                    |          | Balmo   | Nov-24  | Dec-24  | Jan-25  | Feb-25  | Q1-25   | Q2-25   |
|--------------------|----------|---------|---------|---------|---------|---------|---------|---------|
| <b>Crude</b>       |          |         |         |         |         |         |         |         |
| Brent              | (\$/bbl) | 74.410  | 73.990  | 73.580  | 73.310  | 73.080  | 73.093  | 72.537  |
| WTI                | (\$/bbl) | 70.270  | 69.940  | 69.530  | 69.190  | 68.930  | 68.937  | 68.270  |
| Dubai              | (\$/bbl) | 74.090  | 72.990  | 72.530  | 72.170  | 71.910  | 71.947  | 71.483  |
| <b>Distillates</b> |          |         |         |         |         |         |         |         |
| Gasoil 0.1 NWE     | (\$/mt)  | 659.000 | 658.330 | 658.620 | 660.450 | 661.650 | 661.143 | 660.430 |
| NWE Jet            | (\$/mt)  | 699.250 | 703.580 | 705.620 | 708.950 | 710.150 | 709.810 | 711.013 |
| Singapore 10ppm    | (\$/bbl) | 85.850  | 85.450  | 85.160  | 85.250  | 85.450  | 85.437  | 85.870  |
| Sing Kero          | (\$/bbl) | 86.000  | 85.950  | 85.550  | 85.410  | 85.360  | 85.380  | 85.450  |
| <b>Gasoline</b>    |          |         |         |         |         |         |         |         |
| RBOB               | (c/gal)  | 204.580 | 201.020 | 199.120 | 199.380 | 200.760 | 206.120 | 216.467 |
| EBOB               | (\$/mt)  | 710.500 | 686.500 | 666.500 | 663.750 | 665.500 | 666.417 | 704.167 |
| Singapore 92       | (\$/bbl) | 79.080  | 79.080  | 78.890  | 78.840  | 79.020  | 79.030  | 78.793  |
| Singapore 95       | (\$/bbl) | 82.710  | 84.210  | 83.270  | 82.570  | 82.700  | 82.760  | 82.540  |
| <b>Naphtha</b>     |          |         |         |         |         |         |         |         |
| US C5 ENT          | (c/gal)  | 148.030 | 148.530 | 148.780 | 149.530 | 148.910 | 148.700 | 144.077 |
| NWE Naphtha        | (\$/mt)  | 638.880 | 636.880 | 632.880 | 628.880 | 623.630 | 623.630 | 609.047 |
| MOP-Japan Naphtha  | (\$/mt)  | 661.470 | 658.470 | 653.720 | 648.470 | 642.720 | 642.720 | 626.637 |
| <b>Fuel Oil</b>    |          |         |         |         |         |         |         |         |
| 3.5% barges        | (\$/mt)  | 438.790 | 419.540 | 406.540 | 401.040 | 398.290 | 399.123 | 397.623 |
| Singapore 380      | (\$/mt)  | 433.540 | 426.290 | 416.540 | 409.890 | 406.140 | 407.390 | 405.223 |
| Singapore 180      | (\$/mt)  | 448.540 | 441.040 | 428.040 | 421.390 | 417.640 | 418.973 | 417.723 |
| 0.5% barges        | (\$/mt)  | 516.410 | 502.410 | 493.660 | 488.910 | 485.160 | 485.410 | 476.910 |
| Singapore 0.5%     | (\$/mt)  | 561.240 | 550.990 | 541.490 | 534.740 | 529.740 | 530.073 | 518.240 |
| <b>NGLs</b>        |          |         |         |         |         |         |         |         |
| US Propane LST     | (c/gal)  | 71.276  | 75.276  | 76.651  | 77.651  | 77.276  | 76.651  | 71.984  |
| NWE Propane        | (\$/mt)  | 594.690 | 587.690 | 578.690 | 565.690 | 552.190 | 548.857 | 494.857 |
| Saudi Propane CP   | (\$/mt)  | 625.190 | 625.190 | 619.690 | 613.690 | 605.690 | 603.023 | 543.023 |
| Asian Propane FEI  | (\$/mt)  | 663.140 | 659.140 | 652.640 | 642.140 | 627.140 | 624.140 | 566.307 |
| US Butane ENT      | (c/gal)  | 114.270 | 110.270 | 107.390 | 104.640 | 101.640 | 100.433 | 89.400  |
| Saudi Butane CP    | (\$/mt)  | 617.140 | 617.140 | 614.140 | 610.140 | 607.140 | 602.307 | 549.307 |



| <b>Front Month Spreads</b> |          |                  |                     |                     |
|----------------------------|----------|------------------|---------------------|---------------------|
| <b>Nov/Dec</b>             |          | <b>17-Oct-24</b> | <b>1-Day Change</b> | <b>7-Day Change</b> |
| <b>Crude</b>               |          |                  |                     |                     |
| Brent                      | (\$/bbl) | 0.410            | +0.080              | -0.040              |
| WTI                        | (\$/bbl) | 0.410            | +0.030              | -0.140              |
| Dubai                      | (\$/bbl) | 0.460            | +0.000              | -0.080              |
| <b>Distillates</b>         |          |                  |                     |                     |
| Gasoil 0.1 NWE             | (\$/mt)  | -0.290           | -0.160              | -1.180              |
| NWE Jet                    | (\$/mt)  | -2.040           | +1.090              | +0.820              |
| Singapore 10ppm            | (\$/bbl) | 0.290            | +0.110              | +0.050              |
| Sing Kero                  | (\$/bbl) | 0.400            | +0.250              | +0.500              |
| <b>Gasoline</b>            |          |                  |                     |                     |
| RBOB                       | (c/gal)  | 1.900            | -0.050              | +0.600              |
| EBOB                       | (\$/mt)  | 20.000           | -1.500              | +2.250              |
| Singapore 92               | (\$/bbl) | 0.190            | +0.190              | -0.210              |
| Singapore 95               | (\$/bbl) | 0.940            | +0.190              | +0.040              |
| <b>Naphtha</b>             |          |                  |                     |                     |
| US C5 ENT                  | (c/gal)  | -0.250           | +0.000              | +0.000              |
| NWE Naphtha                | (\$/mt)  | 4.000            | -1.000              | -1.000              |
| MOP-Japan Naphtha          | (\$/mt)  | 4.750            | -0.250              | -1.250              |
| <b>Fuel Oil</b>            |          |                  |                     |                     |
| 3.5% barges                | (\$/mt)  | 13.000           | -0.750              | -4.750              |
| Singapore 380              | (\$/mt)  | 9.750            | +0.250              | +2.500              |
| Singapore 180              | (\$/mt)  | 13.000           | +0.500              | +5.000              |
| 0.5% barges                | (\$/mt)  | 8.750            | -0.250              | +0.500              |
| Singapore 0.5%             | (\$/mt)  | 9.500            | -0.250              | +0.000              |
| <b>NGLs</b>                |          |                  |                     |                     |
| US Propane LST             | (c/gal)  | -1.375           | +0.500              | -0.625              |
| NWE Propane                | (\$/mt)  | 9.000            | +0.500              | +0.500              |
| Saudi Propane CP           | (\$/mt)  | 5.500            | +1.500              | +4.500              |
| Asian Propane FEI          | (\$/mt)  | 6.500            | +1.000              | +0.000              |
| US Butane ENT              | (c/gal)  | 2.880            | -0.120              | -0.620              |
| Saudi Butane CP            | (\$/mt)  | 3.000            | +0.000              | +0.000              |



| <b>Front Month Cracks and Diffs</b>                  |                  |                     |                     |
|--|------------------|---------------------|---------------------|
| <b>November</b>                                      | <b>17-Oct-24</b> | <b>1-Day Change</b> | <b>7-Day Change</b> |
| <b>Crude</b>   |                  |                     |                     |
| Brent/Dubai (\$/bbl)                                 | 1.000            | +0.090              | +0.060              |
| WTI/Brent (\$/bbl)                                   | -4.050           | -0.110              | -0.380              |
| <b>Distillates</b>                                   |                  |                     |                     |
| Gasoil 0.1 NWE crack (\$/bbl)                        | 14.390           | -0.430              | -1.800              |
| NWE Jet crack (\$/bbl)                               | 15.310           | -0.170              | -0.960              |
| NWE Jet Diff (\$/mt)                                 | 45.250           | +2.000              | +4.500              |
| Gasoil E/W (\$/bbl)                                  | -21.750          | +2.000              | +3.000              |
| Regrade (Sing Kero vs Sing 10ppm) (\$/bbl)           | 0.500            | +0.300              | +0.700              |
| <b>Gasoline</b>                                      |                  |                     |                     |
| TA Arb (RBOB vs EBOB) (c/gal)                        | 4.800            | +0.350              | +0.050              |
| EBOB crack (\$/bbl)                                  | 8.430            | -0.210              | +0.670              |
| Singapore 92 crack (\$/bbl)                          | 5.100            | +0.460              | -0.270              |
| Gasoline E/W (Sing 92 vs EBOB) (\$/bbl)              | -3.330           | +0.670              | -0.930              |
| European Gasnaph (EBOB vs Naphtha) (\$/mt)           | 49.420           | +1.040              | +6.300              |
| Asian Gasnaph (Sing 92 vs MOPJ) (\$/mt)              | 0.180            | +5.910              | -0.690              |
| <b>Naphtha</b>                                       |                  |                     |                     |
| US C5 ENT vs WTI Crack                               | -7.530           | -0.130              | +0.370              |
| NWE Naphtha Crack (\$/bbl)                           | -2.400           | -0.320              | +0.100              |
| MOPJ Naphtha Crack (\$/bbl)                          | 0.010            | -0.240              | +0.010              |
| Naphtha E/W (NWE vs MOPJ) (\$/mt)                    | 21.500           | +0.750              | -0.750              |
| <b>Fuel Oil</b>                                      |                  |                     |                     |
| 3.5% barges crack (\$/bbl)                           | -7.900           | -0.300              | -0.700              |
| Singapore 380 crack (\$/bbl)                         | -6.850           | +0.080              | +1.180              |
| Singapore 180 crack (\$/bbl)                         | -4.520           | +0.130              | +1.580              |
| Visco (180-380) (\$/mt)                              | 14.750           | +0.250              | +2.500              |
| HSFO E/W (380 vs 3.5% barges) (\$/mt)                | 6.750            | +2.500              | +12.000             |
| 0.5% barges crack (\$/bbl)                           | 5.150            | -0.250              | +0.450              |
| Singapore 0.5% crack (\$/bbl)                        | 12.800           | -0.380              | +0.150              |
| VLSFO E/W (Sing 0.5% vs 0.5% barges) (\$/mt)         | 48.580           | -0.820              | -1.900              |
| European Hi5 (0.5% barges vs 3.5% barges) (\$/mt)    | 82.870           | +0.320              | +7.300              |
| Asian Hi5 (Sing 0.5% vs 380) (\$/mt)                 | 124.700          | -3.000              | -6.600              |
| 0.5% barges/gasoil (\$/mt)                           | -155.850         | +1.690              | +19.540             |
| Sing 0.5% vs Sing 10ppm (\$/mt)                      | -85.550          | -1.150              | +14.600             |
| <b>NGLs</b>  |                  |                     |                     |
| US Propane LST vs NWE Propane (\$/mt)                | -195.500         | +4.500              | -7.500              |
| US Propane LST vs Asian Propane FEI (\$/mt)          | -267.000         | +4.000              | -5.000              |
| Asian Propane FEI vs NWE Propane (\$/mt)             | 71.500           | +0.500              | -2.500              |
| Asian Propane FEI vs Saudi Propane CP (\$/mt)        | 34.000           | +3.500              | -8.000              |
| European Pronap (NWE Propane vs NWE Naphtha) (\$/mt) | -49.280          | +3.840              | +7.810              |
| Asian Pronap (FEI vs MOPJ) (\$/mt)                   | -33.370          | +0.000              | +13.970             |



| <b>Long Tenor Cracks / Diffs</b>              |          |          |          |          |          |          |          |
|---|----------|----------|----------|----------|----------|----------|----------|
|   | Balmo    | Nov-24   | Dec-24   | Jan-25   | Feb-25   | Q1-25    | Q2-25    |
| <b>Crude</b>                                  |          |          |          |          |          |          |          |
| Brent/Dubai (\$/bbl)                          | 0.330    | 1.000    | 1.060    | 1.140    | 1.180    | 1.153    | 1.063    |
| WTI/Brent (\$/bbl)                            | -4.140   | -4.050   | -4.060   | -4.130   | -4.160   | -4.163   | -4.263   |
| <b>Distillates</b>                            |          |          |          |          |          |          |          |
| Gasoil 0.1 NWE crack (\$/bbl)                 | 14.00    | 14.39    | 14.85    | 15.33    | 15.70    | 15.63    | 16.10    |
| NWE Jet crack (\$/bbl)                        | 14.28    | 15.31    | 15.99    | 16.65    | 17.01    | 16.97    | 17.70    |
| NWE Jet Diff (\$/mt)                          | 40.25    | 45.25    | 47.00    | 48.50    | 48.50    | 48.67    | 50.58    |
| Gasoil E/W (\$/bbl)                           | -18.92   | -21.75   | -24.12   | -25.33   | -25.03   | -24.63   | -20.71   |
| Regrade (Sing Kero vs Sing 10ppm) (\$/bbl)    | 0.15     | 0.50     | 0.39     | 0.16     | -0.09    | -0.06    | -0.42    |
| <b>Gasoline</b>                               |          |          |          |          |          |          |          |
| TA Arb (RBOB vs EBOB) (c/gal)                 | 1.520    | 4.800    | 8.610    | 9.640    | 10.530   | 15.623   | 15.190   |
| EBOB crack (\$/bbl)                           | 10.880   | 8.430    | 6.440    | 6.370    | 6.810    | 6.910    | 12.003   |
| Singapore 92 crack (\$/bbl)                   | 4.680    | 5.100    | 5.320    | 5.530    | 5.940    | 5.940    | 6.263    |
| Gasoline E/W (Sing 92 vs EBOB) (\$/bbl)       | -6.220   | -3.330   | -1.120   | -0.840   | -0.870   | -0.970   | -5.737   |
| European Gasnaph (EBOB vs Naphtha) (\$/mt)    | 71.420   | 49.420   | 33.420   | 34.670   | 41.670   | 42.587   | 94.920   |
| Asian Gasnaph (Sing 92 vs MOPJ) (\$/mt)       | -2.820   | 0.180    | 3.350    | 8.180    | 15.430   | 15.513   | 29.630   |
| <b>Naphtha</b>                                |          |          |          |          |          |          |          |
| US C5 ENT vs WTI Crack                        | -8.070   | -7.530   | -7.010   | -6.360   | -6.360   | -6.457   | -7.733   |
| NWE Naphtha Crack (\$/bbl)                    | -2.610   | -2.400   | -2.440   | -2.620   | -2.990   | -2.997   | -4.073   |
| MOPJ Naphtha Crack (\$/bbl)                   | -0.080   | 0.010    | -0.110   | -0.430   | -0.850   | -0.860   | -2.107   |
| Naphtha E/W (NWE vs MOPJ) (\$/mt)             | 22.500   | 21.500   | 20.750   | 19.500   | 19.000   | 19.000   | 17.500   |
| <b>Fuel Oil</b>                               |          |          |          |          |          |          |          |
| 3.5% bgs crack (\$/bbl)                       | -5.300   | -7.900   | -9.540   | -10.130  | -10.350  | -10.223  | -9.897   |
| Singapore 380 crack (\$/bbl)                  | -6.120   | -6.850   | -7.960   | -8.740   | -9.110   | -8.920   | -8.697   |
| Singapore 180 crack (\$/bbl)                  | -3.760   | -4.520   | -6.150   | -6.930   | -7.300   | -7.097   | -6.730   |
| Visco (180-380) (\$/mt)                       | 15.000   | 14.750   | 11.500   | 11.500   | 11.500   | 11.583   | 12.500   |
| HSFO E/W (380 vs 3.5% bgs) (\$/mt)            | -5.250   | 6.750    | 10.000   | 8.850    | 7.850    | 8.267    | 7.600    |
| 0.5% bgs crack (\$/bbl)                       | 6.930    | 5.150    | 4.180    | 3.700    | 3.330    | 3.363    | 2.590    |
| Singapore 0.5% crack (\$/bbl)                 | 13.980   | 12.800   | 11.710   | 10.920   | 10.350   | 10.397   | 9.097    |
| VLSFO E/W (Sing 0.5% vs 0.5% bgs) (\$/mt)     | 44.830   | 48.580   | 47.830   | 45.830   | 44.580   | 44.663   | 41.330   |
| European Hi5 (0.5% bgs vs 3.5% bgs) (\$/mt)   | 77.620   | 82.870   | 87.120   | 87.870   | 86.870   | 86.287   | 79.287   |
| Asian Hi5 (Sing 0.5% vs 380) (\$/mt)          | 127.700  | 124.700  | 124.950  | 124.850  | 123.600  | 122.683  | 113.017  |
| 0.5% bgs/gasoil (\$/mt)                       | -142.020 | -155.850 | -164.980 | -171.290 | -176.360 | -175.500 | -183.380 |
| Sing 0.5% vs Sing 10ppm (\$/mt)               | -78.280  | -85.550  | -92.890  | -100.390 | -106.800 | -106.393 | -121.430 |
| <b>NGLs</b>                                   |          |          |          |          |          |          |          |
| US Propane LST vs NWE Propane (\$/mt)         | -223.34  | -195.5   | -179.34  | -161.13  | -149.58  | -149.503 | -119.82  |
| US Propane LST vs Asian Propane FEI (\$/mt)   | -291.84  | -267     | -253.34  | -237.63  | -224.58  | -224.837 | -191.32  |
| Asian Propane FEI vs NWE Propane (\$/mt)      | 68.5     | 71.5     | 74       | 76.5     | 75       | 75.333   | 71.5     |
| Asian Propane FEI vs Saudi Propane CP (\$/mt) | 38       | 34       | 33       | 28.5     | 21.5     | 21.167   | 23.333   |
| European Pronap (\$/mt)                       | -44.37   | -49.28   | -54.37   | -63.37   | -71.62   | -74.923  | -114.37  |
| Asian Pronap (FEI vs MOPJ) (\$/mt)            | -36.37   | -33.37   | -34.12   | -34.87   | -37.12   | -39.787  | -83.703  |



| <b>Inter-month Crack Spreads</b>                     |                  |                     |                     |
|--|------------------|---------------------|---------------------|
| <b>Nov/Dec</b>                                       | <b>17-Oct-24</b> | <b>1-Day Change</b> | <b>7-Day Change</b> |
| <b>Crude</b>   |                  |                     |                     |
| Brent/Dubai (\$/bbl)                                 | -0.060           | +0.060              | +0.030              |
| WTI/Brent (\$/bbl)                                   | 0.010            | -0.030              | -0.080              |
| <b>Distillates</b>                                   |                  |                     |                     |
| Gasoil 0.1 NWE crack (\$/bbl)                        | -0.460           | -0.070              | -0.100              |
| NWE Jet crack (\$/bbl)                               | -0.680           | +0.080              | +0.180              |
| NWE Jet Diff (\$/mt)                                 | -1.750           | +1.250              | +2.000              |
| Gasoil E/W (\$/bbl)                                  | 2.370            | +0.640              | +1.300              |
| Regrade (Sing Kero vs Sing 10ppm) (\$/bbl)           | 0.110            | +0.140              | +0.450              |
| <b>Gasoline</b>                                      |                  |                     |                     |
| TA Arb (RBOB vs EBOB) (c/gal)                        | -3.810           | +0.390              | -0.050              |
| EBOB crack (\$/bbl)                                  | 1.990            | -0.260              | +0.310              |
| Singapore 92 crack (\$/bbl)                          | -0.220           | +0.120              | -0.180              |
| Gasoline E/W (Sing 92 vs EBOB) (\$/bbl)              | -2.210           | +0.370              | -0.480              |
| European Gasnaph (EBOB vs Naphtha) (\$/mt)           | 16.000           | -0.500              | +3.250              |
| Asian Gasnaph (Sing 92 vs MOPJ) (\$/mt)              | -3.170           | +1.830              | -0.510              |
| <b>Naphtha</b>                                       |                  |                     |                     |
| US C5 ENT vs WTI Crack                               | -0.520           | -0.050              | +0.130              |
| NWE Naphtha Crack (\$/bbl)                           | 0.040            | -0.180              | -0.080              |
| MOPJ Naphtha Crack (\$/bbl)                          | 0.120            | -0.100              | -0.110              |
| Naphtha E/W (NWE vs MOPJ) (\$/mt)                    | 0.750            | +0.750              | -0.250              |
| <b>Fuel Oil</b>                                      |                  |                     |                     |
| 3.5% barges crack (\$/bbl)                           | 1.640            | -0.190              | -0.720              |
| Singapore 380 crack (\$/bbl)                         | 1.110            | -0.050              | +0.410              |
| Singapore 180 crack (\$/bbl)                         | 1.630            | +0.000              | +0.810              |
| Visco (180-380) (\$/mt)                              | 3.250            | +0.250              | +2.500              |
| HSFO E/W (380 vs 3.5% barges) (\$/mt)                | -3.250           | +1.000              | +7.250              |
| 0.5% barges crack (\$/bbl)                           | 0.970            | -0.110              | +0.120              |
| Singapore 0.5% crack (\$/bbl)                        | 1.090            | -0.100              | +0.040              |
| VLSFO E/W (Sing 0.5% vs 0.5% barges) (\$/mt)         | 0.750            | +0.000              | -0.500              |
| European Hi5 (0.5% barges vs 3.5% barges) (\$/mt)    | -4.250           | +0.500              | +5.250              |
| Asian Hi5 (Sing 0.5% vs 380) (\$/mt)                 | -0.250           | -0.500              | -2.500              |
| 0.5% barges/gasoil (\$/mt)                           | 9.130            | +0.000              | +1.700              |
| Sing 0.5% vs Sing 10ppm (\$/mt)                      | 7.340            | -1.070              | -0.380              |
| <b>NGLs</b>  |                  |                     |                     |
| US Propane LST vs NWE Propane (\$/mt)                | -16.160          | +2.110              | -3.750              |
| US Propane LST vs Asian Propane FEI (\$/mt)          | -13.660          | +1.610              | -3.250              |
| Asian Propane FEI vs NWE Propane (\$/mt)             | -2.500           | +0.500              | -0.500              |
| Asian Propane FEI vs Saudi Propane CP (\$/mt)        | 1.000            | -0.500              | -4.500              |
| European Pronap (NWE Propane vs NWE Naphtha) (\$/mt) | 5.090            | +1.590              | +1.590              |