Midday Update

September 1, 2022

Spot Market Summary

PetroChem Wire

BY OPIS, A DOW JONES COMPANY

Midday Forward Curve Indicators

PRODUCT	LAST DONE AUG	AUG 30D SWA**	AUG CAL AVERAGE	AUG 45D SWA**	Date	Ethylene FOB MtB-E	Ethylene FOB Choc	PGP FOB MtB-E	HDPE FOB Hou	LLDPE FOB Hou	HoPP FOB Hou
Ethylene MtB-E	0.255	0.25764	0.2613	0.25704	Sep 22	0.25500	0.25500	0.45000	0.39000	0.39000	0.67000
Ethylene TX-All***	0.255	0.25765	N/A	0.25712	Oct 22	0.25500	0.25500	0.45250	0.39000	0.39000	0.67000
Ethylene Choctaw	0.26	0.26386	0.25957	0.26040	Nov 22	0.25500	0.25500	0.45250	0.39000	0.39000	0.67000
Ethylene LA-O	0.28	0.26041	N/A	0.25919	Dec 22	0.25500	0.25500	0.45250	0.39000	0.39000	0.67000
PGP TX-All	0.4475	0.46674	0.45848	0.46674	Jan 23	0.25500	0.25500	0.46000	0.39000	0.39000	0.67000
RGP TX-All	0.18	0.25695	0.18891	0.28525	Feb 23	0.25500	0.25500	0.46625	0.39000	0.39000	0.67000

*Specified delivery dates **SWAs listed in LA row are basis TX/LA. ***Last Done is basis TX-Other.

<u>Ethylene Markets:</u> Ethylene prices were unchanged. Sep MtB-EPC ethylene was offered at 27 cpp against no bids. Sep was last assessed at 25.5 cpp and last traded at 27.25 cpp on Aug 26. Oct MtB-EPC ethylene traded at the PCW 30-day TX-All weighted average plus 0.5 cpp. Outside of the Enterprise hub, no markets emerged for Sep TX-Other ethylene. Sep last traded at 28.875 cpp on Aug 25. In Louisiana, no markets emerged for Sep Choctaw ethylene. Sep last traded at 27 cpp on Aug 23.

<u>Ethylene Averages</u>: The calendar average for Aug MtB-EPC ethylene was 26.13 cpp. The calendar average for Aug Choctaw ethylene was 25.957 cpp. The 30-day weighted average for Aug MtB-EPC ethylene was 25.764 cpp. The 30-day weighted average for Aug Choctaw ethylene was 26.386 cpp. The 30-day weighted average for Aug TX/LA ethylene was 26.041 cpp. The 45-day weighted average for Aug MtB-EPC ethylene was 25.704 cpp. The 45-day weighted average for Aug Choctaw ethylene was 26.04 cpp. The 45-day weighted average for Aug TX/LA ethylene was 25.919 cpp.

<u>Propylene Markets:</u> Propylene prices were unchanged. Sep MtB-EPC PGP was bid at 42.125 cpp and offered at 46 cpp. Sep last traded yesterday at 45 cpp. No RGP markets emerged. Sep MtB-EPC pipeline RGP has not yet traded. Sep TX-Other railcar RGP last traded at 40 cpp on Aug 30. Sep TX-Other truck RGP was confirmed to have traded yesterday at 38 cpp.

<u>Propylene Averages</u>: The calendar average for Aug MtB-EPC PGP was 45.848 cpp. The 30-day weighted average for Aug TX-All PGP was 46.674 cpp. The 45-day weighted average for Aug TX-All PGP was 46.674 cpp. The calendar average for Aug MtB-EPC pipeline RGP was 18.891 cpp. The 30-day weighted average for Aug TX-All RGP was 25.695 cpp. The 45-day weighted average for Aug TX-All RGP was 28.525 cpp.

<u>Olefins Operations & News:</u> No olefins operations news or updates were confirmed.

Spreads (\$/lb)

Month	Ethylene- Ethane	HDPE- Ethylene	HDPE- Ethane	Propane-PGP	PP-PGP-MtB Hou	PP-Propane MtB-Hou
Sep 22	0.06392	0.13500	0.19892	0.18995	0.22000	0.40995
Oct 22	0.06434	0.13500	0.19934	0.19718	0.21750	0.41468

Ethylene Cash Costs vs. Spot Ethylene (cpp)



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<u>Ethylene Cash Costs and Spreads</u>: Ethylene cash costs were mixed based on Wednesday's closing prices. Aug ethane-based costs were down 0.5 cent at 23.2 cpp. Aug propane-based costs were down 0.5 cent at 33.1 cpp. Aug butane-based costs were up 0.1 cent at 29.3 cpp. NGL markets were lower Thursday morning, according to the OPIS Global LPG Ticker.

<u>Polymers</u>: Sep HDPE BM HIC was assessed flat at 39 cpp railcar FOB Houston as traders waited for new offers to emerge. Sep LLDPE butene film was also at 39 cpp railcar FOB Houston. HoPP raffia/IM remained at 67 cpp railcar FOB Houston. In the domestic resale market, offgrade HDPE frac melt was heard as low as 38 cpp railcar delivered. On the Dalian Commodity Exchange, LLDPE futures were up RMB7/mt (0.1%) at RMB7699/mt. HoPP futures were down RMB43/mt (-0.6%) at RMB7775/mt.

<u>Styrene Chain</u>: Spot styrene was unchanged with Sep at 47.63 cpp (\$1050/mt). Benzene was slightly lower than Monday's ranges. Sep was bid at 270 cpg DDP HTC and offered at 300 cpg DDP HTC. Oct was bid at 270 cpg DDP HTC and was offered at 295 cpg DDP HTC. Nov had no bids and was offered at 295 cpg DDP HTC.

<u>Propylene & Refinery Economics</u>: RGP's implied alkylate value at midday was lower by 2.44 cpp at 56.56 cpp. The FCC margin (based on a 70% gasoline and 30% diesel yield) was \$20.31/bbl, lower by \$1.50 versus Wednesday; one year ago, it was \$20.29/bbl. Basing the FCC margin on a 60% gasoline and 40% diesel yield, the number was \$25.3/bbl. The 3-2-1 crack in the USG was \$30.21/bbl, which is \$1.54 over the NYMEX 3-2-1.

<u>Energy Futures</u>: NYMEX WTI crude oil was down \$2.61/bbl at \$86.94/bbl. Brent crude oil was down \$2.94/bbl at \$92.7/bbl. RBOB gasoline futures were down 3.42 cents at \$2.4027/gal. ULSD futures were down 11.83 cents at \$3.4907/gal. NYMEX natural gas futures were up 19.2 cents at \$9.319/mmBtu.

<u>Refinery Operations</u>: Motiva's 639,000 bbl/day Port Arthur, TX refinery said it was undergoing startup activities on Aug 31 on its FCCU in response to an unplanned shutdown, according to a TCEQ filing. The filing said the startup would last 48 hours.

OPIS NEWS: China Gas Completes Yanchang PDH Unit Construction

Jiangsu Yanchang China Gas Chemical Co. Ltd's new 600,000 mt/yr propane dehydrogenation (PDH) unit in Taixing city in the eastern Chinese province of Jiangsu has completed construction and is ready for trial run, according to a news release by the city's government on Aug 31.

"They are targeting to commission the PDH plant by end of this year," according to an industry source.

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China Gas had earlier secured propane supply - which acts as the main feedstock for the PDH plant - via a term tender which was signed in end-2021, according to OPIS CMA records.

China Gas' subsidiary Petropower (Shanghai) Holdings had earlier signed an agreement with a subsidiary of Shaanxi Yanchang Petroleum to supply the latter propane for the PDH plant in Taixing, as reported earlier.

According to the agreement, Petropower will supply 720,000 mt/yr refrigerated propane to meet the requirements for the Taixing PDH project.

China Gas did not disclose further details about the project. But Petropower and Yanchang had earlier formed a joint venture (JV) to build a total of 1.2 million mt/yr of PDH capacity and 300,000 mt/yr of polypropylene capacity at Taixing petrochemical park.

Petropower holds a 51% stake of the JV while Yanchang holds 49%, according to an environmental impact report of the project. Yanchang does not operate any other PDH unit, OPIS CMA data showed.

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OPIS NEWS: India's HMEL Plans to Start Up 1.2 Million Mt/Yr Dual-Feed Cracker in Oct

India's HPCL-Mittal Energy Ltd. (HMEL), operator of the 225,000 bbl/day Guru Gobind Singh Refinery in Bathinda, Punjab state, plans to commission its new dual-feed cracker in Oct, said a source familiar with the matter.

The cracker has a nameplate capacity of 1.2 million mt/yr of ethylene and 500,000 mt/yr of propylene and is designed to crack naphtha and gas.

New downstream polymers plants include a 1.2 million mt/yr polyethylene plant (PE) and a 500,000 mt/yr polypropylene (PP) unit.

At its Bathinda site, HMEL currently operates a 500,000 mt/yr PP plant that is fed by propylene produced at the refinery, the source said.

HMEL is a joint venture between Hindustan Petroleum Corp. and Mittal Energy Investment Pte Ltd., Singapore.

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