

TODAY IN THE MARKETS

Ethylene and propylene were both steady on Thursday. Energy futures were mixed and olefins feedstocks were down. PE prices were flat to higher, while PP was unchanged.

Jan MtB-NOVA ethylene was bid at 19 cpp and offered at 22 cpp. Jan last traded on Monday at 22.125 cpp. Feb MtB-NOVA ethylene was offered at 21 cpp against no bids. Outside of the NOVA hub, Jan TX-Other ethylene was offered at 22.5 cpp, but no bids emerged. In Louisiana, there were no bids or offers for Jan or Feb Choctaw ethylene. The MTD calendar average for Jan MtB-NOVA ethylene was 19.239 cpp. The MTD 30-day weighted averages for Jan MtB-NOVA and TX/LA ethylene were both 20.912 cpp. The MTD 45-day weighted average for Jan MtB-NOVA ethylene was 20.421 cpp. The MTD 45-day weighted average for Jan TX/LA ethylene was 19.316 cpp.

Jan MtB-EPC PGP was bid at 28.25 cpp and offered at 29 cpp. Jan last traded yesterday at 29 cpp. The Jan/Feb MtB-EPC PGP spread traded late in the day at 0.25 cpp contango. The 4Q 2020 paper PGP strip traded at 31.75 cpp. The MTD calendar average for Jan MtB-EPC PGP was 30.523 cpp. The MTD 30-day weighted average for Jan TX-All PGP was 30.839 cpp. The MTD 45-day weighted average for Jan TX-All PGP was 30.778 cpp. Jan MtB-EPC pipeline RGP was offered at 15.5 cpp, but no bids emerged. Jan last traded yesterday at 15 cpp. A Jan TX-Other railcar RGP deal was discovered from yesterday at 20.5 cpp. The MTD calendar average for Jan MtB-EPC pipeline RGP was 16 cpp. The MTD 30-day and 45-day weighted averages for Jan TX-All RGP were 17.901 cpp.

No olefins operations news or updates were confirmed.

Styrene was up 0.2 cpp at 38.3 cpp (\$845/mt) FOB USG, with a sale reported at that level for Jan, done late Wednesday. Jan benzene was bid at 260 cpg DDP HTC and offered at 267 cpg DDP HTC, Feb was 261-265 cpg DDP HTC, and Mar was 260-264 cpg DDP HTC. Also seen was a Feb paper bid only at 264 cpg (Feb 1-10 pricing) and a Feb offer only at 265 cpg.

Feb NYMEX crude settled at \$58.52/bbl, up 71 cents from Wednesday's settle. Mar ICE Brent settled at \$64.62/bbl, up 62 cents. Feb NYMEX nat gas settled at \$2.077/mmBtu, down 4.3 cents.

Ethylene: \$/lb. Mt B NOVA = Mont Belvieu NOVA storage. Choctaw = Choctaw (LA) Boardwalk storage. Propylene: \$/lb, Mt B EPC = Mont Belvieu (TX) Enterprise storage. Styrene: \$/lb, FOB US Gulf basis. Resins: \$/lb, Generic Prime. Domestic resale prices reflect reseller railcars delivered to North American locations excluding Mexico, West Coast and Pacific Northwest. Cash Costs are derived from formulas using OPIS NGLs and PCW petrochemical assessments and employ yield formulas understood to be commonly used by ethylene producers. They are not specific to any particular plant or technology; they are an estimated average.

Closing Markets (\$/lb)

MONOMERS	JAN	CHANGE	MTD CAL AVG
Ethylene Mt B FOB	0.21500	-- --	0.19239
Ethylene Choctaw FOB	0.19250	-- --	0.17955
PGP Mt B FOB	0.29000	-- --	0.30523
RGP Mt B FOB	0.15000	-- --	0.16000
Styrene FOB USG (US Gulf)	0.38300	0.00200	0.37400

POLYMERS - FOB HOUSTON BULK RAIL	JAN	CHANGE	MTD CAL AVG
HDPE Blow Mold	0.32000	-- --	0.30864
LLDPE Film	0.31000	-- --	0.29955
HoPP Raffia	0.40000	-- --	0.38727
HoPP Inj	0.39000	-- --	0.38545

POLYMERS - DOMESTIC RESALE (DER)	JAN	CHANGE	MTD CAL AVG
HDPE Blow Mold	0.41500	0.00500	0.40773
LDPE Film	0.50000	-- --	0.50000
HDPE Inj	0.40000	0.01000	0.38818
HMWPE Film	0.40000	0.00500	0.39545
LLDPE Film	0.41000	-- --	0.40727
HoPP	0.47000	-- --	0.46364
CoPP	0.49000	-- --	0.48545
GPPS	0.68000	-- --	0.68000
HIPS	0.72000	-- --	0.72000

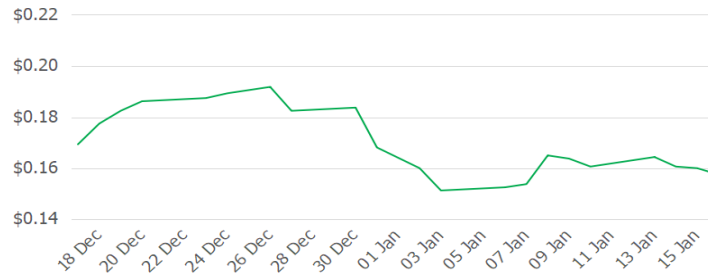
ETHYLENE CASH COSTS	JAN	CHANGE	MTD CAL AVG
Ethane - Based	0.07827	-0.00111	0.07870
Propane - Based	0.11296	-0.00409	0.12036
N.Butane - Based	0.18875	-0.00926	0.19048
C5 - Based	0.39130	0.00344	0.40751

Closing Bid/Ask (\$/lb)

MONOMERS	BID	ASK
Ethylene Mt B - Nova Current Month	0.19000	0.22000
Ethylene Mt B - Nova Next Month	-- --	0.21000
Ethylene TX - Other Current Month	-- --	0.22500
Ethylene TX - Other Next Month	----	----
Ethylene Choctaw FOB Current Month	----	----
Ethylene Choctaw FOB Next Month	----	----
RGP Mt B - EPC Current Month	-- --	0.15500
RGP Mt B - EPC Next Month	----	----
PGP Mt B - EPC Current Month	0.28250	0.29000
PGP Mt B - EPC Next Month	-- --	0.29000
Styrene FOB USG (US Gulf) Current Month	0.38100	0.38500
Styrene FOB USG (US Gulf) Next Month	0.38100	0.38500

POLYMERS	BID	ASK
HDPE BM FOB Houston	0.31000	0.33000
LLDPE Film FOB Houston	0.30000	0.31000
HoPP Raffia FOB Houston	0.39500	0.40500
HoPP Inj FOB Houston	0.39500	0.40500
HoPP Inj Domestic	0.46000	0.48000
CoPP inj Domestic	0.48000	0.50000
HDPE BM Domestic	0.40000	0.43000
HDPE Inj Domestic	0.38000	0.42000
LLDPE Film Domestic	0.40000	0.42000
HMWPE Film Domestic	0.39000	0.41000
LDPE Film Domestic	0.49000	0.51000
HIPS Domestic	0.71000	0.73000
GPPS Domestic	0.67000	0.69000

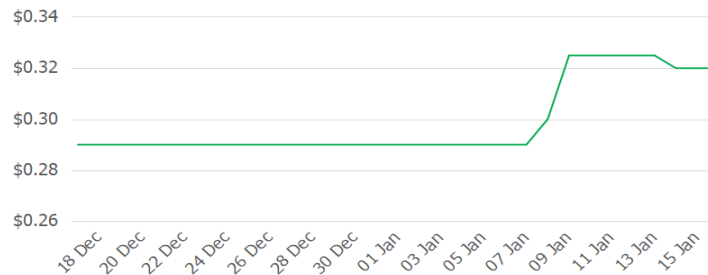
Ethane (\$/gal) – Closing Price for Last 30 Days



Forward Curve Spreads (\$/lb)

MONTH	ETHYLENE ETHANE	HDPE BM ETHANE	PGP PROPANE	HoPP PROPANE
JAN 20	0.16197	0.26697	0.18982	0.29982
FEB 20	0.14592	0.26592	0.18908	0.29908
MAR 20	0.14134	0.26634	0.18790	0.29790
APR 20	0.13947	0.26697	0.18746	0.29746
MAY 20	0.13635	0.26760	0.18628	0.29628
JUN 20	0.13198	0.26823	0.19009	0.29509
JUL 20	0.12571	0.26571	0.18956	0.29081
AUG 20	0.12362	0.26487	0.19345	0.28845
SEP 20	0.12152	0.26402	0.19623	0.28623
OCT 20	0.12318	0.26318	0.19681	0.28431
NOV 20	0.12609	0.26234	0.19879	0.28254
DEC 20	0.12900	0.26150	0.20076	0.28076

HDPE BM (\$/lb) – Closing Price for Last 30 Days



Closing Spreads (\$/lb)

PRODUCT	PRICE
Ethylene - (Ethane x. 0.422)	0.14854
Ethylene - (Ethane div. 2.97)	0.16197
Ethylene - Propane	0.11482
Ethylene - Butane	0.06870
Ethylene - Natural gasoline	-0.00864
Ethylene - PGP	-0.07500
Ethylene - RGP	0.06500
RGP - Propane	0.04982
PGP - RGP	0.14000
LDPE Film - Ethylene	0.28500
LLDPE Film - Ethylene	0.19500
HDPE Blow Mold - Ethylene	0.20000
HDPE Inj - Ethylene	0.18500
HDPE HMW - Ethylene	0.18500
LDPE Film - Ethane	0.44697
LLDPE Film - Ethane	0.35697
HDPE Blow Mold - Ethane	0.36197
HDPE Inj - Ethane	0.34697
HDPE HMW - Ethane	0.34697
HoPP Inj - RGP	0.32000
CoPP - RGP	0.34000
HoPP Inj - Propane	0.36982
CoPP - Propane	0.38982
GPPS - Benzene	0.32162
GPPS - Ethylene	0.46500
HIPS - Benzene	0.36162
HIPS - Ethylene	0.50500

Closing spreads are calculated on a straight price basis, not inclusive of costs or co-product credit factors. Spreads are calculated in \$/lb, using standard conversion factors for NGLs and benzene, which transact in \$/gal.

Closing Forward Curves (\$/lb)

FORWARD MONTH	ETHANE - BASED CASH COST	PROPANE - BASED CASH COST	BUTANE - BASED CASH COST	C5 - BASED CASH COST	ETHYLENE FOB MtB	ETHYLENE Choc	PGP FOB MtB	HDPE FOB Hou	LLDPE FOB Hou	HoPP FOB Hou	HDPE FOB Chi	LLDPE FOB Chi	HoPP FOB Chi
JAN 20	0.07827	0.11296	0.18875	0.39130	0.21500	0.19250	0.29000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
FEB 20	0.07960	0.11442	0.18393	0.39199	0.20000	0.19375	0.29000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
MAR 20	0.07921	0.11724	0.15119	0.37947	0.19500	0.19750	0.29000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
APR 20	0.07844	0.11854	0.14392	0.36357	0.19250	0.19875	0.29000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
MAY 20	0.07758	0.12115	0.14345	0.35243	0.18875	0.20000	0.29000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JUN 20	0.07654	0.12244	0.14265	0.34224	0.18375	0.20125	0.29500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JUL 20	0.07960	0.13017	0.14570	0.33640	0.18000	0.20125	0.29875	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
AUG 20	0.08043	0.13348	0.14817	0.33035	0.17875	0.20125	0.30500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
SEP 20	0.08133	0.13678	0.14977	0.32739	0.17750	0.20125	0.31000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
OCT 20	0.08226	0.13998	0.15145	0.32754	0.18000	0.20125	0.31250	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
NOV 20	0.08301	0.14245	0.15297	0.32542	0.18375	0.20125	0.31625	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
DEC 20	0.08356	0.14469	0.15420	0.32254	0.18750	0.20125	0.32000	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JAN 21	0.08553	0.14676	0.15496	0.32104	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
FEB 21	0.08592	0.14648	0.15464	0.31566	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
MAR 21	0.08382	0.13556	0.14417	0.30810	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
APR 21	0.08118	0.12572	0.13580	0.29704	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
MAY 21	0.07968	0.12351	0.13429	0.28772	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JUN 21	0.07888	0.12453	0.13397	0.28284	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JUL 21	0.07880	0.12718	0.13569	0.28068	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
AUG 21	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
SEP 21	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
OCT 21	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
NOV 21	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
DEC 21	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000
JAN 22	----	----	----	----	0.18500	0.20125	0.32500	0.32000	0.31000	0.40000	0.37000	0.37000	0.44000

FOB = Free on Board. MtB = Mont Belvieu. Choc = Choctaw. Hou = Houston. Chi = Chicago. For a full methodology, visit www.opisnet.com/about/methodology/#pcw

Spot Ethylene Trade Data

TODAY'S TRADING RANGES	LOW	HIGH	MIDPOINT
Ethylene TX	----	----	----
Ethylene LA	----	----	----
MTD TRADING RANGES	LOW	HIGH	MIDPOINT
Ethylene TX	0.18500	0.22125	0.20312
Ethylene LA	----	----	----
CALENDAR AVERAGES	MTD JAN	DEC	CHANGE
30-Day MtB-NOVA	0.19239	0.17280	0.01959
30-Day Choctaw	0.17955	0.16810	0.01145
WEIGHTED AVERAGES	MTD FEB	MTD JAN	DEC
30-Day MtB-NOVA	----	0.20912	0.16685
30-Day TX/Other	----	----	0.16250
30-Day TX All	----	0.20912	0.16635
30-Day LA All	----	----	0.17162
30-Day TX/LA	----	0.20912	0.17010
45-Day MtB-NOVA	----	0.20421	0.20496
45-Day TX/Other	----	----	0.20625
45-Day TX All	----	0.20421	0.20511
45-Day LA All	----	0.16000	0.18318
45-Day TX/LA	----	0.19316	0.19316
SPOT VOLUMES (MM LBS)	MTD JAN	DEC	
Current Mo. Phys 30d - TX & LA	27.0	90.0	
Current Mo. Phys 30d - TX only	27.0	26.0	
Current Mo. Phys 30d - LA only	0.0	64.0	
Current Mo. Phys 45d - TX & LA	40.0	145.0	
Current Mo. Phys 45d - TX only	30.0	66.0	
Current Mo. Phys 45d - LA only	10.0	79.0	
Next Month Phys 45d - TX & LA	0.0	13.0	
Forward Phy - TX & LA	5.0	28.0	
Spreads Phys - TX & LA	43.0	60.0	
Index Phys - TX & LA	19.0	110.5	
All Paper	6.0	55.0	

Spot Ethylene Trades

TRADE DATE	DEAL TYPE	PRICE	DELIVERY TIME	SYSTEM	MODE
01/15/2020	PHYSICAL	0.20000	Feb'20	Mt B-NOVA	PIPE
01/14/2020	SPREAD	0.01500	Jan'20/Feb'20	Mt B-NOVA	PIPE
01/14/2020	SPREAD	0.00500	Feb'20	Mt B-NOVA vs LA-Other	PIPE
01/13/2020	PHYSICAL	0.20500	Jan'20	Mt B-NOVA	PIPE
01/13/2020	PHYSICAL	0.21500	Jan'20	Mt B-NOVA	PIPE
01/13/2020	PHYSICAL	0.22000	Jan'20	Mt B-NOVA	PIPE
01/13/2020	PHYSICAL	0.22000	Jan'20	Mt B-NOVA	PIPE
01/13/2020	PHYSICAL	0.22125	Jan'20	Mt B-NOVA	PIPE
01/13/2020	PAPER	0.18750	Feb'20	Mt B-NOVA	PIPE
01/10/2020	SPREAD	0.00500	Jan'20/Feb'20	Mt B-NOVA	PIPE
01/09/2020	PHYSICAL	0.18500	Jan'20	Mt B-NOVA	PIPE
01/09/2020	INDEX	PCW 30 Day Avg. + 0.0	Jan'20	TX-Other	PIPE
01/08/2020	SPREAD	0.01000	Jan'20	Mt B-NOVA vs Choctaw	PIPE
01/08/2020	PAPER	0.19000	Mar'20	Mt B-NOVA	PIPE
01/07/2020	SPREAD	0.00250	Jan'20/Q2'20	Mt B-NOVA	PIPE
01/07/2020	SPREAD	0.00500	Jan'20	Mt B-NOVA vs Choctaw	PIPE
01/06/2020	INDEX	PCW Calendar Avg. + 0.0	Jan'20	Choctaw	PIPE
12/23/2019	INDEX	PCW 30 Day Avg. + 0.0	Q1'20	LA-Other	PIPE
12/20/2019	PHYSICAL	0.16000	Dec'19	Mt B-NOVA	PIPE
12/20/2019	PHYSICAL	0.16000	Jan'20	Mt B-NOVA	PIPE
12/20/2019	INDEX	PCW Calendar Avg. + 0.0	Jan'20	Choctaw	PIPE
12/19/2019	PHYSICAL	0.14375	Dec'19	LA-Other	PIPE
12/18/2019	INDEX	PCW 30 Day Avg. + 0.0	Dec'19	TX-Other	PIPE
12/17/2019	PHYSICAL	0.15500	Dec'19	Mt B-NOVA	PIPE
12/17/2019	INDEX	PCW Calendar Avg. + 0.0	Dec'19	Mt B-NOVA	PIPE
12/17/2019	INDEX	PCW Calendar Avg. + 0.0	Dec'19	Mt B-NOVA	PIPE
12/17/2019	INDEX	PCW Calendar Avg. + 0.0	Jan'20	Mt B-NOVA	PIPE
12/17/2019	INDEX	PCW Calendar Avg. + 0.0	Jan'20	Mt B-NOVA	PIPE
12/17/2019	PAPER	0.16250	Cal+1'20	Mt B-NOVA	PIPE
12/17/2019	PAPER	0.16250	Cal+1'20	Mt B-NOVA	PIPE
12/17/2019	PHYSICAL	0.14500	Dec'19	Choctaw	PIPE

Spot PGP Trade Data

TODAY'S TRADING RANGES	LOW	HIGH	MIDPOINT
PGP MtB-EPC	----	----	----
PGP TX Non-MtB	----	----	----
MTD TRADING RANGES	LOW	HIGH	MIDPOINT
PGP MtB-EPC	0.29000	0.31625	0.30312
PGP TX Non-MtB	0.30500	0.31000	0.30750
CALENDAR AVERAGES	MTD JAN	DEC	CHANGE
30-Day MtB-EPC	0.30523	0.30077	0.00445
WEIGHTED AVERAGES	MTD FEB	MTD JAN	DEC
30-Day MtB-EPC	----	0.30867	0.30175
30-Day TX All	----	0.30839	0.30175
45-Day MtB-EPC	----	0.30786	0.30198
45-Day TX All	----	0.30778	0.30198
SPOT VOLUMES (MM LBS)	MTD JAN	DEC	
Current Mo. Phys 30d	83.0	108.7	
Current Mo. Phys 45d	89.0	114.7	
Next Month Phys 45d	0.0	6.0	
Forward Phys	0.0	32.0	
Spreads Phys	68.0	48.0	
Index Phys	14.0	0.0	
All Paper	60.0	50.0	

Spot Polymer Grade Propylene Trades

TRADE DATE	DEAL TYPE	PRICE	DELIVERY TIME	SYSTEM	MODE
01/16/2020	SPREAD	-0.00250	Jan'20/Feb'20	MtB-EPC	PIPE
01/16/2020	PAPER	0.31750	Q4'20	MtB-EPC	PIPE
01/15/2020	PHYSICAL	0.29000	Jan'20	MtB-EPC	PIPE
01/15/2020	PAPER	0.31750	Q4'20	MtB-EPC	PIPE
01/15/2020	PAPER	0.31750	Q4'20	MtB-EPC	PIPE
01/14/2020	PAPER	0.32500	Q4'20	MtB-EPC	PIPE
01/14/2020	PAPER	0.32250	Q4'20	MtB-EPC	PIPE
01/13/2020	PHYSICAL	0.30000	Jan'20	MtB-EPC	PIPE
01/13/2020	PHYSICAL	0.30000	Jan'20	MtB-EPC	PIPE
01/13/2020	PHYSICAL	0.30000	Jan'20	MtB-EPC	PIPE
01/13/2020	PHYSICAL	0.30000	Jan'20	MtB-EPC	PIPE
01/13/2020	PAPER	0.32000	Q3'20	MtB-EPC	PIPE
01/10/2020	PHYSICAL	0.30500	Jan'20	MtB-EPC	PIPE
01/10/2020	SPREAD	-0.00250	Jan'20/Feb'20	MtB-EPC	PIPE
01/09/2020	PHYSICAL	0.30750	Jan'20	MtB-EPC	PIPE
01/09/2020	SPREAD	-0.00250	Jan'20/Feb'20	MtB-EPC	PIPE
01/09/2020	PAPER	0.32250	Q2'20	MtB-EPC	PIPE
01/09/2020	PAPER	0.32250	Q2'20	MtB-EPC	PIPE
01/08/2020	PHYSICAL	0.31250	Jan'20	MtB-EPC	PIPE
01/08/2020	SPREAD	-0.00250	Jan'20/Feb'20	MtB-EPC	PIPE
01/08/2020	SPREAD	-0.00250	Jan'20/Feb'20	MtB-EPC	PIPE
01/08/2020	INDEX	Monthly Contract - 0.03000	Jan'20	MtB-EPC	PIPE
01/07/2020	PHYSICAL	0.31000	Jan'20	TX-Other	PIPE
01/07/2020	PHYSICAL	0.31500	Jan'20	MtB-EPC	PIPE
01/07/2020	PHYSICAL	0.31500	Jan'20	MtB-EPC	PIPE
01/07/2020	SPREAD	-0.00500	Jan'20/Q2'20	MtB-EPC	PIPE
01/06/2020	PHYSICAL	0.31500	Jan'20	MtB-EPC	PIPE
01/06/2020	PHYSICAL	0.31500	Jan'20	MtB-EPC	PIPE
01/03/2020	PHYSICAL	0.30500	Jan'20	TX-Other	PIPE
01/03/2020	PHYSICAL	0.31000	Jan'20	TX-Other	PIPE
01/03/2020	PHYSICAL	0.31500	Jan'20	MtB-EPC	PIPE

Spot RGP Trade Data

TODAY'S TRADING RANGES	LOW	HIGH	MIDPOINT
RGP MtB-E	----	----	----
RGP TX Non-MtB	----	----	----
RGP Non-TX	----	----	----
MTD TRADING RANGES	LOW	HIGH	MIDPOINT
RGP MtB-E	0.15000	0.16000	0.15500
RGP TX Non-MtB	0.20500	0.20750	0.20625
RGP Non-TX	----	----	----
CALENDAR AVERAGES	MTD JAN	DEC	CHANGE
30-Day RGP Pipe	0.16000	0.16345	-0.00345
WEIGHTED AVERAGES	MTD FEB	MTD JAN	DEC
30-Day Pipe MtB-E	----	0.15667	0.16894
30-Day All TX	----	0.17901	0.17469
30-Day All TX/Non-TX	----	0.17901	0.17775
45-Day Pipe MtB-E	----	0.15667	0.16894
45-Day All TX	----	0.17901	0.17469
45-Day All TX/Non-TX	----	0.17901	0.17775
SPOT VOLUMES (MM LBS)	MTD JAN	DEC	
Current Mo. Pipe 30d	75.0	165.0	
Current Mo. Pipe 45d	75.0	165.0	
Next Month Pipe 45d	0.0	0.0	
Current Mo. All 30d	136.0	232.0	
Current Mo. All 45d	136.0	232.0	
Next Month All 45d	0.0	0.0	
Forward Phys	0.0	0.0	
Spreads Phys	0.0	0.0	
Index Phys	0.0	21.0	

Spot Refinery Grade Propylene Trades

TRADE DATE	DEAL TYPE	PRICE	DELIVERY TIME	SYSTEM	MODE
01/15/2020	PHYSICAL	0.15000	Jan'20	MtB-EPC	PIPE
01/15/2020	PHYSICAL	0.20500	Jan'20	TX-Other	RAIL
01/08/2020	PHYSICAL	0.16000	Jan'20	MtB-EPC	PIPE
01/08/2020	PHYSICAL	0.16000	Jan'20	MtB-EPC	PIPE
01/08/2020	PHYSICAL	0.20750	Jan'20	TX-Other	RAIL
01/03/2020	PHYSICAL	0.20750	Jan'20	TX-Other	RAIL
12/31/2019	PHYSICAL	0.16500	Dec'19	MtB-EPC	PIPE
12/17/2019	INDEX	Other + 0.02500	Dec'19	Non-TX	RAIL
12/17/2019	PHYSICAL	0.19500	Dec'19	TX-Other	RAIL
12/12/2019	PHYSICAL	0.16000	Dec'19	MtB-EPC	PIPE
12/10/2019	PHYSICAL	0.17500	Dec'19	MtB-EPC	PIPE
12/10/2019	PHYSICAL	0.17500	Dec'19	MtB-EPC	PIPE
12/10/2019	PHYSICAL	0.17500	Dec'19	MtB-EPC	PIPE
12/10/2019	PHYSICAL	0.20250	Dec'19	TX-Other	RAIL
12/06/2019	PHYSICAL	0.20000	Dec'19	Non-TX	RAIL
12/05/2019	PHYSICAL	0.16000	Dec'19	MtB-EPC	PIPE

Steam Cracker Shutdown Summary

MTD EST ETHYLENE OUTPUT		MTD OVERALL OPERATING RATES		YTD OVERALL OPERATING RATES		YTD EST ETHYLENE OUTPUT	
MTD Max GC Capacity	3.68078 B	Texas	87.36%	Texas	87.36%	YTD Max GC Capacity	3.68078 B
MTD Est GC Output	3.17295 B	Louisiana	83.45%	Louisiana	83.45%	YTD Est GC Output	3.17295 B
MTD LBS OUT	0.50783 B	Gulf Coast	86.20%	Gulf Coast	86.20%	YTD LBS OUT	0.50783 B

CURRENT OUTAGES	SITE	MM LBS/DAY	% COUNTRY	START DATE	STATUS	PLANNED	TOTAL DAYS DOWN	EST. MM LBS OUT
Formosa Plastics Corp. USA	Point Comfort Olefins III	7.53425	3.17%	01-Jan-20	Shut	P	16	120.54800
Indorama	Lake Charles	2.23419	0.94%	01-Jan-20	Shut	P	16	35.74704
Shintech	Plaquemine	3.02000	1.27%	01-Jan-20	Shut	P	16	48.32000
Westlake/Lotte Chem	Lake Charles	6.02740	2.54%	01-Jan-20	Shut	P	16	96.43840
Chevron Phillips Chemical Co. LP	Cedar Bayou Olefins 1	5.04110	2.12%	22-Dec-19	Reduced	U	26	65.53430
ExxonMobil Chemical Co.	Baytown Olefins Plant XI	6.30137	2.65%	03-Aug-19	Reduced	U	167	526.16523
ExxonMobil Chemical Co.	Baytown Olefins Plant	6.98630	2.94%	31-Jul-19	Restarting	U	170	950.13680
Eastman Chemical Co.	Longview HCC-3	0.84932	0.36%	15-Oct-18	Idle	P	459	389.83788

PAST OUTAGES	SITE	MM LBS/DAY	% COUNTRY	START DATE	END DATE	PLANNED	TOTAL DAYS DOWN	EST. MM LBS OUT
Chevron Phillips Chemical Co. LP	Sweeny 22	1.64384	0.69%	09-May-18	08-Jan-20	P	610	992.71400
Motiva	Port Arthur Olefins	3.69863	1.56%	25-Nov-19	end-Dec-19	U	Reduced	Reduced
INEOS Olefins and Polymers USA	Chocolate Bayou OP-1	5.61644	2.37%	15-Dec-19	15-Dec-19	U	1	5.56028
Chevron Phillips Chemical Co. LP	Sweeny 33	6.16438	2.60%	24-Nov-19	24-Nov-19	U	1	5.54794
Eastman Chemical Co.	Longview HCC-4	2.52603	1.06%	23-Nov-19	24-Nov-19	U	2	5.00154
Motiva	Port Arthur Olefins	3.69863	1.56%	14-Nov-19	24-Nov-19	U	11	40.68493
INEOS Olefins and Polymers USA	Chocolate Bayou OP-1	5.61644	2.37%	14-Oct-19	early-Nov-19	U	Reduced	123.56168
INEOS Olefins and Polymers USA	Chocolate Bayou OP-2	5.82192	2.45%	14-Oct-19	early-Nov-19	U	Reduced	128.08224
Shell Chemicals Ltd.	Norco GO-1	3.83562	1.62%	mid-Jul-19	early-Nov-19	P	Reduced	Reduced
Dow Chemical Co.	Freeport TX-7	4.41096	1.86%	03-Oct-19	04-Oct-19	U	2	4.41096
ExxonMobil Chemical Co.	Beaumont USC 2	2.46575	1.04%	19-Sep-19	30-Sep-19	U	12	29.58900
ExxonMobil Chemical Co.	Beaumont USC 1	2.46575	1.04%	19-Sep-19	30-Sep-19	U	12	29.58900

QUESTIONS

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Ethylene cash costs were lower. Jan ethane-based costs were down 0.1 cpp at 7.8 cpp. Propane-based costs were down 0.4 cpp at 11.3 cpp. Butane-based costs were down 0.9 cpp at 18.9 cpp. The ethane-ethylene spread moved from 16.1 cpp to 16.2 cpp. The spread between ethane and HDPE BM (FOB Houston) was 0.1 cpp wider at 26.7 cpp. The propane-PGP spread moved from 19 cpp to 19.6 cpp. The spread between propane and HoPP raffia (FOB Houston) was 0.6 cpp wider at 30.6 cpp.

Jan HDPE BM was steady at 32 cpp railcar FOB Houston, with no new trades reported. LLDPE butene fim was flat at 31 cpp railcar FOB Houston. Jan HoPP raffia/IM export offers were seen at 40.5 cpp railcar FOB Houston. In Latin America, HoPP raffia/IM was at \$1050/mt (47.6 cpp) delivered Central America for larger volumes. In the domestic resale market, offgrade HDPE IM was quoted at 35 cpp railcar delivered, and offgrade HDPE BM HIC was quoted at 37-38 cpp railcar delivered. Generic prime HDPE BM HIC was assessed at 40-43 cpp railcar delivered. Generic prime HDPE IM was at 38-42 cpp railcar delivered. Offgrade GPPS availability was around 58 cpp railcar delivered, while offgrade HIPS availability was discussed in the low- to mid-60s cpp railcar delivered. In the PE contract market, Dow Chemical notified customers that it has revised its previously announced Jan price increase to 4 cpp from 5 cpp. The company announced an additional 5 cpp increase, effective Feb 1.

OPIS NEWS: Vessels Piling Up in US Gulf Coast as Fog Stymies Movement

Vessel movement on the Houston Ship Channel resumed Thursday afternoon at about 3 p.m. CT to outgoing traffic only, as inboard traffic remains stopped, according to the Houston Pilots.

Pilot services had been suspended along the US Gulf Coast in the regions of the Houston Ship Channel, Lake Charles and Sabine Pass because of fog this week. The pilots are responsible for boarding vessels and safely navigating the ships through the channel waters.

Thursday afternoon other regions were also seeing vessel movement begin to return. Lake Charles pilot service had also resumed Thursday for inbound ship traffic. Algiers Point near New Orleans on the Mississippi River was opened to traffic after being closed in the morning with the fog.

Vessels have been piling up around the US Gulf ports this week with the poor weather. As of Thursday afternoon, there were heard to be close to 100 ships waiting to move in and out of the Houston Ship Channel.

The National Weather Service forecast has a dense fog advisory until 10 p.m. CT Thursday for much of the Gulf Coast region. Forecasts show fog continuing through the weekend and clearing up at the start of the week.

--Eric Wieser, eric.wieser@ihsmarkit.com

OPIS NEWS: ICAP Technical Analyst Reiterates 'Ugly Bearish' Call on US Propane

While ample production and a ramp-up in fractionation capacity are commonly cited as some of the biggest factors weighing on propane prices, the slightly more esoteric study of technical indicators could also suggest exceptionally bearish conditions on the horizon, one market source said.

Walter Zimmerman, a technical analyst with ICAP Corporates LLC, said in a Jan 15 note that, in the most extreme case, Mont Belvieu propane prices could eventually target a bargain-basement value of around 26.4 cpg or lower. For Conway, the downside might be even more "ugly bearish" at potentially sub-17 cpg levels, he added.

Zimmerman pointed to prior research from Sep 2018 that suggested if Mont Belvieu propane could not "decisively exceed" \$1.16/gal, a longer-term downside target of 32.55 cpg might be in the cards. Since then, propane markets steadily eroded down to the upper 30 cpg range over the summer of 2019 and recovered to test its "most bearish case resistance" at 55.4 cpg in Dec.

"This is right where propane hit a brick wall," Zimmerman's analysis stated, with Mont Belvieu prices having recently reversed again, falling to 40 cpg and below. "The decisive reversal lower from [55.4 cpg] keeps the door open for an eventual test" of 21.1-26.4 cpg, he added.

Mont Belvieu propane has approached - but never surpassed - this price band just twice in the past 20 years, hitting around 29 cpg in Jan 2016 and 26.6875 cpg in Dec 2001, OPIS TimeSeries data shows. The last time this market fell below Zimmerman's target was on Apr 8, 1999, when TET (Lone Star) and non-TET (Enterprise) propane anys each averaged 26 cpg, according to TimeSeries.

A fall to the mid-20s cpg is not guaranteed, OPIS notes, as technical analysis is more exclusively a study of numerical price patterns and trends, absent fundamental factors. Moreover, Zimmerman points to several areas of support that could spark a rebound if they hold - at 41-42 cpg in "the most bullish case" and further down in the upper and mid-30s cpg.

Thursday's price action showed Mont Belvieu non-TET propane trading at 39.625-40.25 cpg and TET at 41.25-43 cpg. Conway propane was moving at 37.625-39 cpg.

--Jessica Marron, jmarron@opisnet.com