

BlueClover

All Things PP

Brainfood for the Plastics Industry

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Market Update

Plastics Feedstocks (Oil, Naphtha, Propane)

- Global polypropylene feedstocks prices have been increasing the past two weeks, most notably crude oil.
- Crude Oil pricing is up big these past two weeks after OPEC and its ally nations announced further production cuts in early April. Prices rallied over 11% in two weeks with WTI trading around \$81/barrel today and Brent around \$85/barrel.
- Naphtha prices (CIF Japan) are up small from \$672/mt to \$679/mt
- Propane pricing is up about 4% from 78 cents per gallon (cpg) to 81cpg in Mont Belvieu, TX..

Propylene

- Two weeks ago we wrote the following when physical PGP prices were at 55cpp, *“BlueClover is expecting a significant drop in physical PGP pricing very soon... We expect PGP pricing to fall into the low 40s in April and would not be surprised if it fell beyond that into the upper 30s”*.
- Since that report, physical PGP pricing has been decreasing steadily and as of Monday April 10th was valued at 42cpp. Buyers of physical PGP for April delivery have been scarce, and we expect pricing to drop into the upper 30s in the second half of April.
- March contract PGP settled up 8cpp to a monthly contract price of 58cpp. This surprised us as we were expecting a 10cpp increase and would have put the margin of error on the side of greater than 10cpp not less than it. The March monthly calendar average for physical PGP was 60.4cpp according to the PetroChemWire (PCW). Even the March physical PGP weighted average price (which calculates price based on volumes transacted instead of daily settlements) was also 60.4cpp according to PCW.
- While we expect the April monthly calendar average for physical PGP to settle between 40 and 42cpp, BlueClover only expects contract PGP to drop 10cpp this month. Our expectation would be for the margin of error to fall on the side of a steeper discount, maybe 11 or 12cpp. As a reminder the contract PGP price has dropped by more than 10cpp only 3 times since Jan 2018.
- The higher crude pricing may have some follow thru into propane pricing which is already up 4% in two weeks. Propane demand is seasonally lower since we are exiting winter but if prices continue to rally towards 85cpg, this may help support PGP pricing due to propane dehydrogenation (PDH) economics. If a PDH unit wants to realize gross profit of 12cpp (this number does not net out any fixed or variable costs) and at 85cpg for Mont Belvieu propane (4cpg higher than today) the PDH units would need to sell physical PGP at 36cpp. But keep in mind, these gross profits averaged 8.5cpp from Sept thru December 2022 as physical PGP prices averaged 32cpp over that same time frame.

Polypropylene

- Two weeks ago, we highlighted the weak demand in 2023 despite the higher feedstock pricing of PGP in the 1st quarter. Essentially prices for many grades of PP (especially widespec) did not rally as much as in previous years because of the tepid demand.
- In this edition we can help to put some general numbers around it. PP inventories are expected to rise 52 mil lbs to end March after rising 54 mil lbs to end Feb. Again, despite higher pricing in Feb and March, inventories were climbing. Also, in March North American PP production dropped by 6% compared to Feb 2023 and yet still inventories built higher. Accordingly, to our calculations, PP inventory levels in North America are sitting at a very healthy 42 days of demand.
- BlueClover expects pricing for prime PP to drop with polymer grade propylene and we expect to see some margin compression for spot prime cars as compared to the 1st quarter of 2023. Pricing for widespec, specifically homopolymer and impact copolymer with a sub 2 izod, has already seen price declines to end the month of March. While we expect prices to continue to slide lower it will not be to the same scale as prime materials.
- Something to take note of with crude oil and naphtha pricing increasing the past two weeks (mainly crude oil). With Asian naphtha to polypropylene margins already on multiyear lows, price increases in crude oil and naphtha may have follow thru into price increases for PP globally. This helps with PP pricing here in the USA as imports would become more expensive and USA producers can potentially raise their export PP pricing and send more volume there helping to balance an oversupply in the USA at this moment.

Feedstock “Spot” Prices:

<u>Product</u>	<u>Location</u>	<u>Price as of April 11</u>	<u>Price as of March 28</u>	<u>Unit</u>
Brent Crude	North Sea, Europe	85.43	78.50	USD/barrel
WTI Crude	Cushing, OK	81.41	73.17	USD/barrel
Natural Gas	Henry Hub, LA	2.17	2.10	USD/MMBtu
Naphtha	C&F Japan	679	672	USD/mt
Ethane	Mont Belvieu, TX	21.375	22.875	Cents/Gal
Propane	Mont Belvieu, TX	81	78	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	22.5	26	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	42	55	Cents/Lb

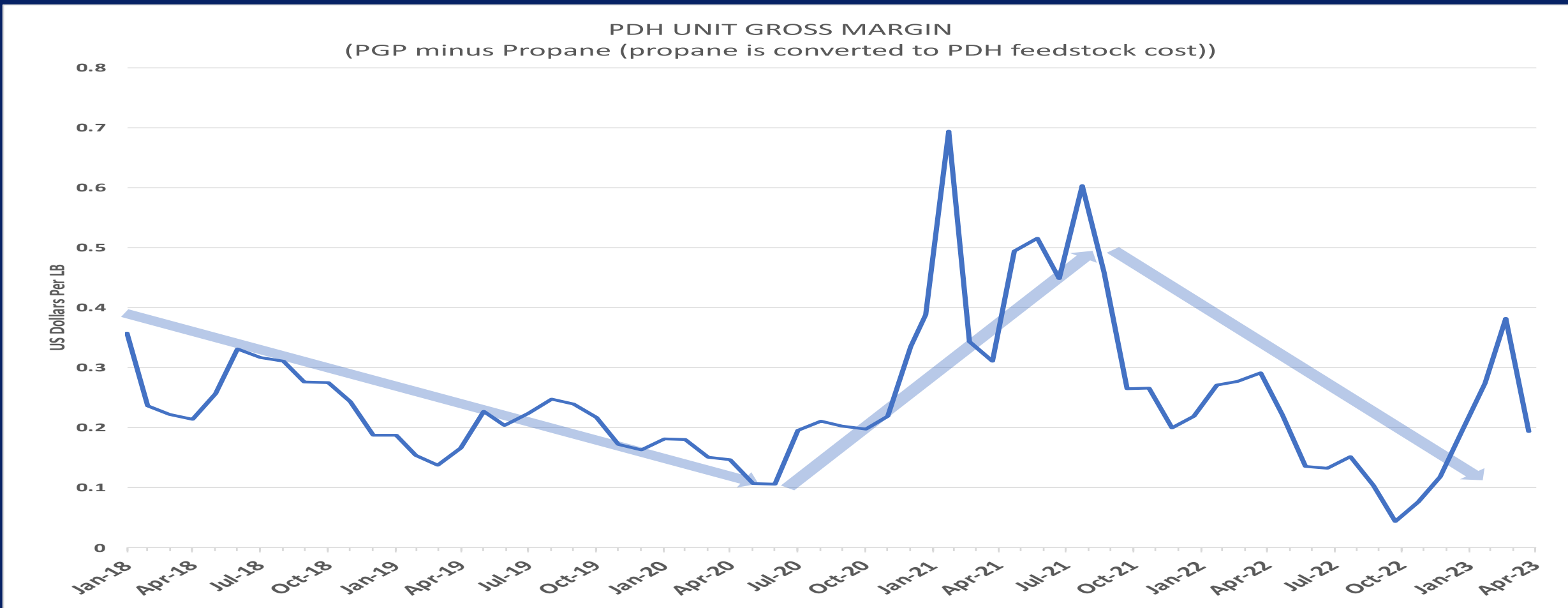
* Sources – CME, Bloomberg

Inventory

HERO GREEN™ (Post Consumer PP Repro)		
Grade	Description	Location
HG7BK1	7 melt HomoPP - Black	Midwest
HG3GR1	3 melt HomoPP - Grey	Midwest
HG16GR1	16 melt HomoPP - Grey	Midwest
HG22GR1	22 melt HomoPP - Grey (SOLD OUT)	Midwest
HG3GR3	3 melt CoPP 3.4 izod - Grey	Midwest
HG35GR3	35 melt CoPP 1.1 izod - Grey	Midwest
HERO GREEN™ (Post Consumer HDPE Repro)		
Grade	Description	Location
HG7GRPE	7 melt HDPE Grey - 0.94 - 0.954 density	Midwest



Trader Toolbox - 5 Years of PDH Gross Margins - Three Eras



The above graphs the gross profit margin of a gulf coast PDH unit on a monthly basis going back to Jan 2018. We have imposed three trendline arrows. The first arrow runs from Jan 2018 to the middle of 2020 when there was solid supply of PP and demand was ok. The second arrow runs from the summer of 2020 to September 2021 which was the Covid Commodity Supercycle and prices for PP were high as result of supply constraints and roaring demand. The last trendline goes from Sept 2021 thru today and represents a market that is long PP. The first quarter of 2023 bucked that trend in a surprising manner but most folks expect the lower margins for PDH units to return in the 2nd quarter.



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