

BlueClover

All Things PP

Brainfood for the Plastics Industry

Issue 23.07 – March 2023



Market Update

Plastics Feedstocks (Naphtha, Propane, Oil and Ethane)

- Global plastics feedstocks prices have been steady the past two weeks.
- Naphtha prices (CIF Japan) are lower by about 2% over the past two weeks to a price of \$672/mt
- Propane pricing is unchanged at 78 cents per gallon (cpg) in Mont Belvieu, TX..
- Crude Oil prices are also unchanged with prices for WTI at \$73/barrel and Brent at \$79/barrel.
- Ethane prices are down 1cpg to 23cpg in Mont Belvieu, TX.

Propylene

- Compared to two weeks ago, Physical PGP prices in Enterprise's system are the same at 55cpp and unlike our last report, that pretty much is the whole story. The past two weeks of March did not have the same PGP volatility as the first two weeks of March. Between March 14 and March 28, physical PGP for March delivery traded between 55cpp and 60cpp. Compared to the first two weeks of March, when physical PGP for March delivery traded between 82cpp and 55cpp.
- The expected March calendar average price for physical PGP is around 61cpp. On March 14, BlueClover was expecting physical PGP to trade below 55cpp for the balance of March. This did not occur. BlueClover is still estimating March contract PGP to be up 10cpp to a 60cpp contract settlement price.
- We wrote in our last report that PGP pricing in the 60s and 70s leads to significantly smaller transaction size since only companies that absolutely need to purchase will do so. To put some numbers around this, there were 94 mil lbs of physical PGP traded in February with delivery that same month. So far thru March 27th, there has only been 66 mil lbs of physical PGP traded with delivery in March.
- BlueClover is expecting a significant drop in physical PGP pricing very soon (see PP section on Page 3) as a result of poor PP demand. 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. We are revising our guess at the April contract PGP range from 48-52cpp to a lower range for 46cpp-50cpp. This would be a drop of 10cpp to 14cpp from the March contract price (assuming a 60cpp March contract PGP price)
- Over the past 5 years the contract PGP has had a more than 10cpp drop in a single month only 3 times with the largest drop being an 18.5cpp price decrease from Feb to March 2021 after the TX freeze events.

Polypropylene

- About halfway through March there started to be signs that polypropylene pricing could in no way keep up with the propylene market. This was especially true for widespec materials. What makes this different than previous years (2021 and 1st half of 2022) is that in the recent years convertors and brands had strong demand for goods at the same time as any supply constraints for PGP. Past years led to a higher tide lifting the whole PGP and PP (both widespec and prime) pricing complex higher. This time the demand from convertors and brands is significantly lower year on year, leading to widespec PP resins that are transacting at discounts to physical PGP. Also, the industry had two new PP world scale units come online accounting for an approximate 12% increase of North American PP supply .
- Also in the 2021 and 1st half of 2022 time frame, the entire global energy complex had rising prices. This made the price of resin overseas expensive as well. This again is not the case in the 1st quarter of 2023. PP prices outside the USA have been down to start the year and have not rebounded. Feedstocks for PP in Europe and Asia such as crude oil, propane and naphtha have seen prices trend lower to start the first 3 months of the year. In fact, prices for PP out of Asia are still declining even though most regions are already at multi-year low price points.
- Heading into April it appears we have a perfect storm in place for PP prices to drop. This storm is made up of increasing North American and Chinese PP supply along with decreasing North American and Chinese PP demand. Not all types of PP and regions will get hit to the same degree. The biggest price decreases (more than 10cpp) will come from USA based polymer grade propylene and prime PP resin. Next we expect the widespec PP in the North American region to drop somewhat (3 to 5cpp possible price decrease) from today's price points. Lastly its highly possible that regions outside the USA actually see a little pop in PP pricing as we head into the spring.

Feedstock "Spot" Prices:

<u>Product</u>	<u>Location</u>	<u>Price as of March 28</u>	<u>Price as of March 14</u>	<u>Unit</u>
Brent Crude	North Sea, Europe	78.50	79.64	USD/barrel
WTI Crude	Cushing, OK	73.17	73.40	USD/barrel
Natural Gas	Henry Hub, LA	2.10	2.57	USD/MMBtu
Naphtha	C&F Japan	672	686	USD/mt
Ethane	Mont Belvieu, TX	22.875	24.125	Cents/Gal
Propane	Mont Belvieu, TX	78	78.875	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	26	21.5	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	55	55	Cents/Lb

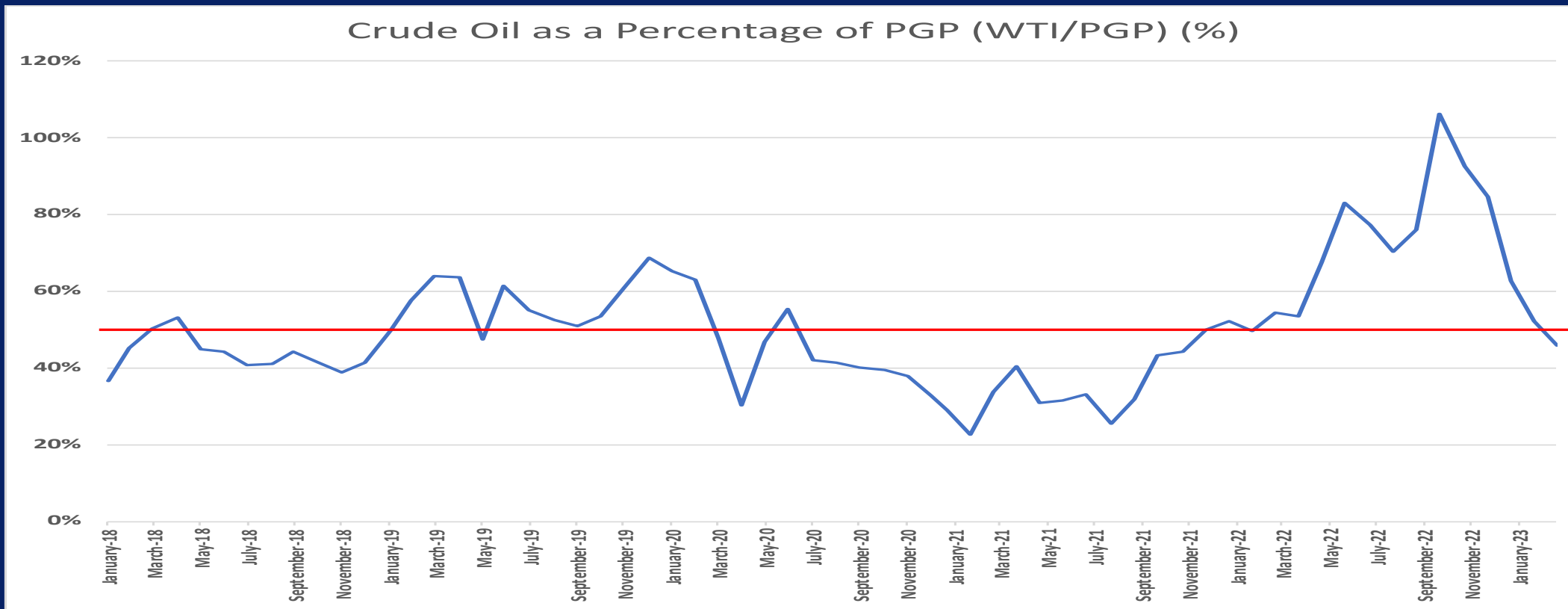
* Sources – CME, Bloomberg

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 - PGP back to being expensive relative to Crude Oil



The above graph is a favorite of ours. The percentage graphed is the WTI price in USD/lb divided by the monthly physical PGP price in USD/lb. So the most recent data point is 47% taking the current WTI crude price in \$/lb of 25.2cpp and dividing it by the spot physical PGP price of 55cpp.

The average price for this relationship since Jan 2018 is 50% and the current data point of 47% is the first time this relationship dipped below that average price since Nov 2021. In late 2021 we were in a much tighter PP market with better global demand than today.

Since October 2022 when the PGP price was cheaper than the price of crude oil in \$/lb for the first time in their history, PGP prices have been on an uptrend while crude pricing has been coming lower. You can see the sharp decline from 105% in Oct 2022 to 47% in March 2023. BlueClover estimates that this relationship will reverse course in the coming months back towards 60% and possibly higher.



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