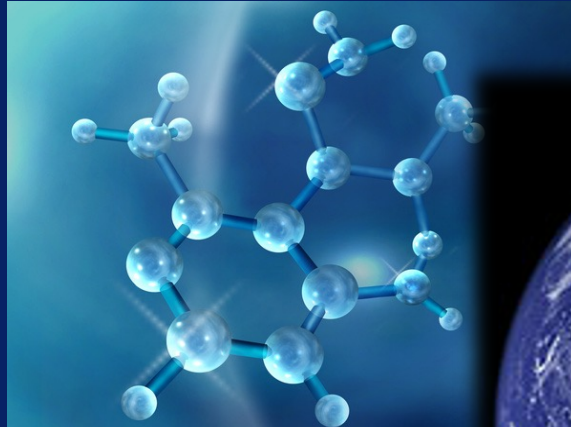


Brainfood for the Plastics Industry

Issue 23.02 – Jan 2023



Market Update

Plastics Feedstocks (Naphtha, Ethane, and Propane)

- Following the large price jumps in crude oil, naphtha prices (CIF Japan) crept higher by 10% over the past two weeks to a price of \$715/mt
- Naphtha moving higher lifted propane pricing by 6% over the last two weeks to a spot price of 82cpg (cents per gallon) in Mont Belvieu, TX. With the much warmer weather to start January, one may have expected propane prices to drop however the rise in naphtha pricing is having a greater impact on propane. Both naphtha and propane are energy feedstocks and trade as international products so an increase in the price of one commodity usually pulls the other along.
- Ethane prices slid lower by 10% since Jan 4th and this is after a 20% drop in December. The spot price is now 25.25cpg in Mont Belvieu. The lower ethane prices are a continuation from a significant number of cracker outages last month. With the reduction in ethane demand from the cracker outages, ethane supply has piled up.

Ethylene

- Over the past two weeks, ethylene prices in the Enterprise system in Mont Belvieu, TX increased about 12% to a spot price of 21cpp.

Propylene

- Physical PGP prices in Enterprise's system are up 25% to a spot price of 43.25cpp from approx. 35cpp on Jan 4th. Physical PGP prices are up 44% since early December when they were closer to 30cpp.
- The month to date January 2023 monthly average price for physical PGP in Mont Belvieu, TX is 38cpp but if physical prices remain north of 40cpp to finish the month this monthly average number will increase to over 40cpp.
- PGP remains in demand due to the December freeze production outages that impacted olefin supply.
- The PGP prices along the forward curve are transacting at a discount to the spot pricing. For example the transacted price today for a PGP trade that settles in the 3rd quarter of 2023 is 40.25cpp. This price is 3pp lower than the spot January price of 43.25. When commodity prices are lower out the forward curve its typically the result of a limited supplies to meet current demand for the product.
- Since early December, BlueClover was guesstimating that January contract PGP pricing will settle between 37cpp and 40cpp. Today, we will revise our guesstimate to the higher end of this range and call for contract PGP in January to settle at 40cpp.

Polypropylene

- PP supply remains tight this month and for the supply that is available, producers are expecting price increases from the Nov-December price lows. Producers are showing offers that are anywhere between 6-10cpp higher than where material transacted in the last two months of 2022.
- Many PP buyers, especially those that may not follow the physical PGP markets daily, are reluctant to pay as they are still evaluating prices and/or forecasts that are not keeping up with the strong rally in propylene. PP producers remain disciplined in their price offerings.
- In these final 10 business days of January, BlueClover expects buyers to step up and pay the PP producers close to their asking prices.

Crude Oil

- Since our last report on January 5th, crude oil prices have been rallying. Prices for WTI crude oil are up 9% since then to a spot price of \$80.83/barrel.
- One group that does not love the rising crude oil prices are those responsible to refill the U.S. Strategic Petroleum Reserve (SPR). This Reserve held a little over 700 million barrels between 2010 and 2012. Since then, US Presidents have been drawing these stocks down in the effort to help lower gasoline and heating oil prices. The Reserve now sits at 372 million barrels, its lowest inventory level in 39 years. Adjusted for oil demand, the inventory levels are much lower than it was in 1984. In 1984, the US demand for crude oil was 15.73 mil barrels per day. In 2022, this number was closer to 19 mil barrels per day.
- The Department of Energy (DOE) has stated they will look to purchase oil to restock the SPR when the price levels for WTI remain in the \$70 range consistently. Perhaps it's just a coincidence but the market does not seem to want to let the price level reach the DOE's goals. The market is forcing the DOE to make a tough decision: replenish the safety stock with more expensive inventory than originally hoped or leave the storage amounts at current levels and hope for no supply shocks.

Natural Gas

- The fall out in natural gas continues as its down 9% the past two weeks to a spot price of \$3.69/mmbtu. Natural gas prices dropped approximately 25% in December 2022.
- Benchmark prices do not always reflect what folks are paying. The price reported above is the market price for natural gas at a physical storage hub in Henry Hub, LA. Typically there are price differences for what folks across the county pay as a result of pipeline transportation costs and such. As of last week, the natural gas price in California was trading at \$19/mmbtu, a 5x increase in the price at Henry Hub. Production of natural gas in CA has been halved over the past 10 years and more acutely there is a major outage on a 30inch pipeline which brings gas from West Texas to California. Two thirds of CA households are heated with gas.

Feedstock “Spot” Prices:

<u>Product</u>	<u>Location</u>	<u>Price as of Jan 17</u>	<u>Price as of Jan 4</u>	<u>Unit</u>
Brent Crude	North Sea, Europe	86.34	79.10	USD/barrel
WTI Crude	Cushing, OK	80.83	74.10	USD/barrel
Natural Gas	Henry Hub, LA	3.69	4.06	USD/MMBtu
Naphtha	C&F Japan	715	648	USD/mt
Ethane	Mont Belvieu, TX	25.25	27.875	Cents/Gal
Propane	Mont Belvieu, TX	82	77.25	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	21.25	18.875	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	43.25	34.5	Cents/Lb

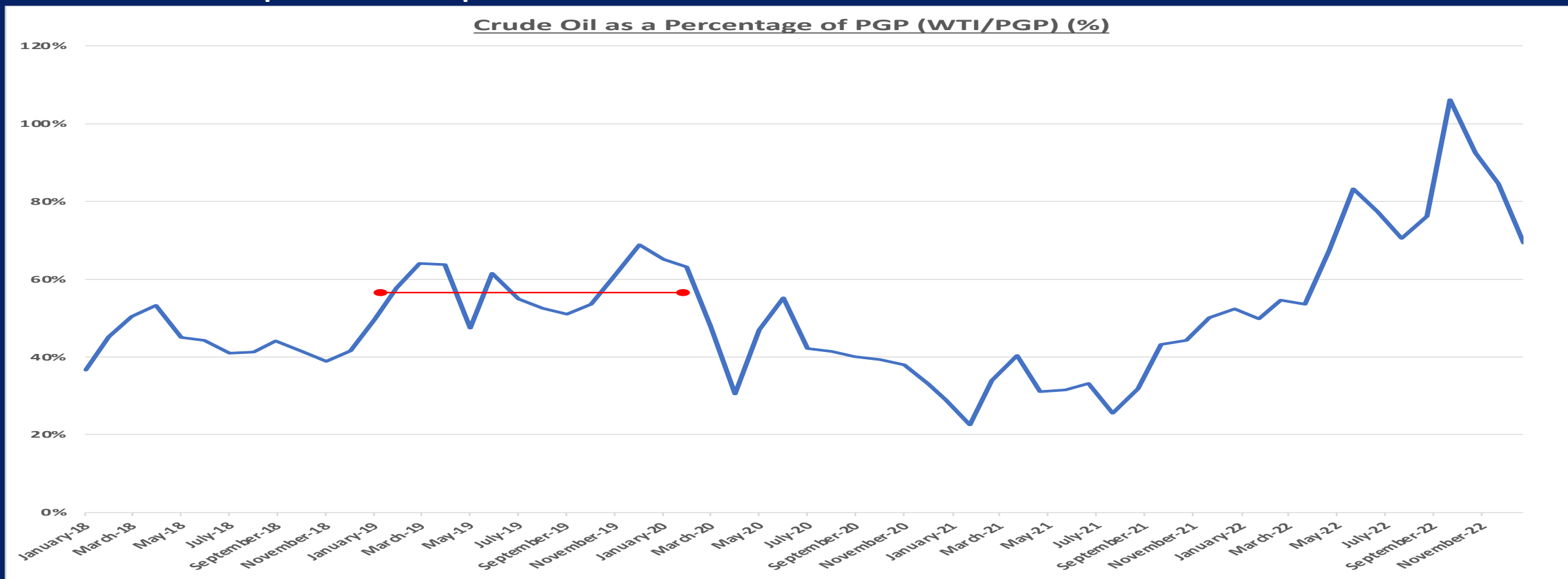
* Sources – CME, Bloomberg

Inventory

HERO GREEN™ (Post Consumer PP Repro)		
Grade	Description	Location
HG3GR1	3 melt HomoPP - Grey	Midwest
HG16GR1	16 melt HomoPP. Grey	Midwest
HG22GR1	22 melt HomoPP - Grey	Midwest
HG6BK1	6 melt HomoPP - Black	Midwest
HG3GR3	3 melt CoPP 3.6 izod - Grey	Midwest
HG35GR3	35 melt CoPP 1.4 izod - Grey	Midwest



Trader Toolbox - PGP prices still cheap??



Above is a 5 year chart of the relationship between WTI and crude oil as a %. Typically WTI, as measured in \$/lb, is cheaper than PGP so this percentage is usually less than 100%. You can see this relationship inversed (greater than 100%) with PGP being cheaper than crude oil in Oct 2022 when the monthly average physical PGP price was \$0.285/lb. As this line decreases since Oct 2022, PGP is becoming more expensive relative to crude oil.

What we would like to point out is that while PGP pricing has increased significantly since the 4thquarter of 2022, it might have more room to run up according to its historical relationship with crude oil. Back in 2019, that last year the PP and PGP market was very long, this relationship averaged 57% . That same % today with crude oil prices as they are today would put physical PGP at 49cpp. The question is how much different is the PGP/PP market in 2023 than it was in 2019?



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