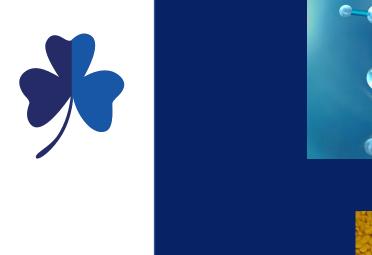
Brainfood for the Plastics Industry

Issue 22.20 – Oct 2022







Market Update

Plastics Feedstocks (Naphtha, Ethane, and Propane)

- Naphtha prices (CIF Japan) are up 7% over the past two weeks to a spot price of \$688/mt. The higher prices in naphtha and crude oil (see page 3) are helping to stabilize global polypropylene and polyethylene out of Asia which have been plummeting for several consecutive months.
- Propane prices are stable around 88cpg (cents per gallon) in Mont Belvieu, TX.
- Ethane prices increased about 8% the past two weeks to a spot price of 42cpg.

Ethylene

• Ethylene prices in the Enterprise system in Mont Belvieu, TX are about the same at 21cpp (cents per pound)

Propylene

- Physical PGP prices in Enterprise's system settled at 29.25cpp on Monday October 10th. This is down from 35cpp two weeks ago and from 41.75cpp four weeks ago.
- The current estimated monthly average for physical PGP in Mont Belvieu, TX is 29.369cpp.
- BlueClover is estimating October contract PGP to decrease by 10cpp to a contract price of 34cpp.
- Physical PGP prices are down 30% in the past four weeks. The biggest reason for this is an incredibly over supplied petrochemical market, specifically polypropylene.
- Gross profit margins are down to approximately 4cpp for Gulf Coast PDH units. This spread makes these units uneconomical to run.
- While physical pricing for PGP may slide into the mid 20s, BlueClover believes this is a good buying opportunity. Our reasons include: a strengthening global PP market after a massive correction, potential reduced capacity from the PGP supply side, and a strengthening crude oil market that has started to take hold these past two weeks.
- BlueClover is guessing that November contract PGP will come in around 36-38cpp and December contract PGP will come in around 42-44cpp.

Polypropylene

- Polypropylene ended the month of September with multi year low pricing for widespec and prime for both the domestic and export markets.
- The August PP inventories did indeed increase by approx. 76 million pounds as reported by American Chemistry Council.
- As we head into 2023 contract business, PP buyers are in a better situation than a year ago to secure volumes at more favorable pricing. That being said, producers will point to increased energy prices and labor costs to run their facility as a reason contracts need to remain higher than historical lows.

Crude Oil

At a current price of \$89.50/barrel, WTI crude oil prices are higher by 12% from two weeks ago. WTI crude prices were recently as high as \$91.35/barrel, which is a big increase from the \$80/barrel level from two weeks ago.

Oil has been a big geopolitical topic of late. Recently OPEC countries, led by Saudi Arabia, announced a supply reduction of 2 mil barrels/day starting in November. This is the first production cut by OPEC and its ally members since 2020 when Covid destroyed demand globally for refined products. In early 2020, OPEC had cut output by 10 mil barrels/day.

The recent move by Saudi Arabia is creating tension between the current USA administration and the Saudi government. The USA feels that Saudi and its OPEC nations should keep supply high to counterbalance the Russian crude oil that has been removed from the market due to sanctions. Some feel a move to cut oil production is a play that helps Putin as higher oil prices lead to higher revenue for Russia. U.S. Senator Bob Menedez, chairman of the U.S. Senate Foreign Relations Committee, said, "The United States must immediately freeze all aspects of our cooperation with Saudi Arabia, including any arms sales and security cooperation beyond what is absolutely necessary to defend U.S. personnel and interests."

Two weeks ago we wrote the following: "USA has already depleted its strategic oil stocks down to 427 million barrels. This is the lowest the strategic inventory reserve has been since 1984. Currently, the Energy Information Administration has not given a timeline on when they plan to replenish this safety stock."

Given the global production cuts from OPEC, the administration continues to go to the proverbial and literal well for more product. David Turk, the Energy Department Deputy Sectretary, recently stated, "We still have some additional ability to use the Strategic Petroleum Reserve over the coming weeks and months as needed."

If oil prices jump much higher from here, the USA government will have limited tools as they continue to use the emergency stock pile to help pressure prices lower in non-emergency times.

BlueClover currently holds a constructive view on crude oil with greater upside pricing than downside.

Natural Gas

Natural gas prices are about the same from two weeks ago at \$6.50/mmbtu in Henry Hub, LA.

Feedstock "Spot" Prices:

<u>Product</u>	<u>Location</u>	Price as of Oct 11	Price as of Sep 26	<u>Unit</u>
Brent Crude	North Sea, Europe	94.56	86.85	USD/barrel
WTI Crude	Cushing, OK	89.49	79.61	USD/barrel
Natural Gas	Henry Hub, LA	6.49	6.55	USD/MMBtu
Naphtha	C&F Japan	688	642	USD/mt
Ethane	Mont Belvieu, TX	42	38.375	Cents/Gal
Propane	Mont Belvieu, TX	88	88.25	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	20.625	20.5	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	29.25	35.125	Cents/Lb

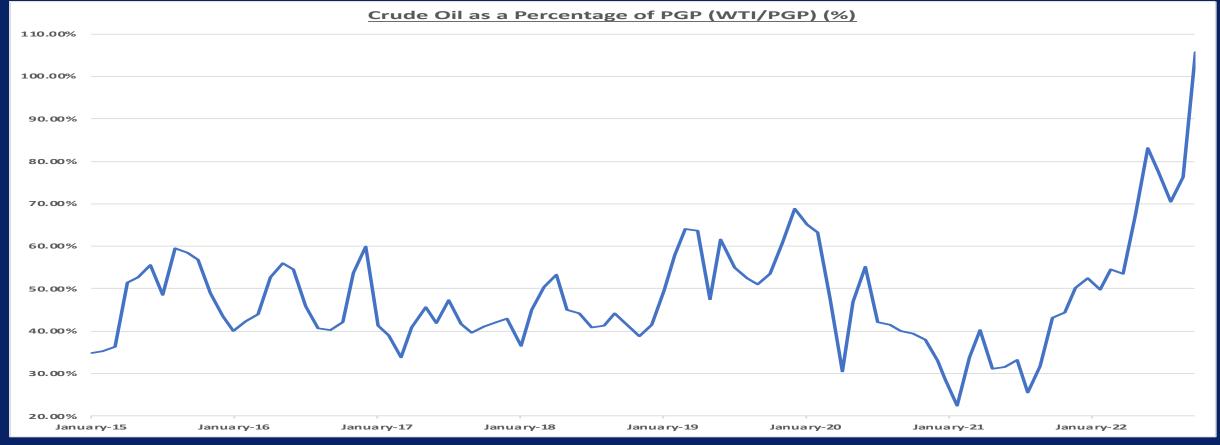


Inventory

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 - Crude Oil More Expensive than Polymer Grade Propylene – 1st time!



So for the first time in at least 8 years, and we would venture to guess ever, the price of WTI crude oil in \$/lb, currently around \$0.31/lb, is more expensive than the spot price of PGP, currently around \$0.29/lb. Historically PGP trades at a premium, so when you divide the cheaper WTI price by the more expensive price you get a percentage that is less than 100%. But we have just broken this trend on the other side by reaching 106% because the WTI price is more expensive.

We believe this is not a relationship that can hold over the medium to long term. PGP is derived from naphtha and propane globally, both of which are feedstocks of the refining process. In the short term, this relationship can get even more out of whack as clearly the PGP market has not found its bottom yet. However, if a company is structurally bullish crude oil over the winter into next spring, it may be a good time to consider locking into forward prices for some PGP/PP future exposure.

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