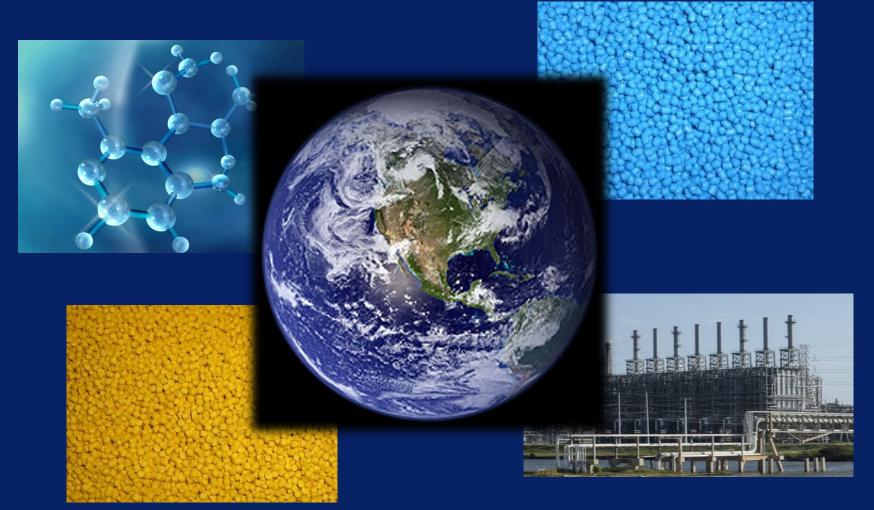
Brainfood for the Plastics Industry

Issue 21.22- Oct 2021





Market Update

Crude Oil

Crude oil prices are higher again these past two weeks. WTI prices increased about 4% to a spot price of \$84/barrel and Brent prices increased 3% to a spot price of \$86/barrel.

All the same themes in the energy space remain in place. We wrote one-month ago in Brainfood Issue 21.20 that "the overall industry consensus appears to be bullish crude oil." The market is heading directly towards industry analysts' expectations of crude oil prices reaching \$90/barrel in the 4th quarter. At that point \$100/barrel becomes a psychological benchmark that we at Blueclover would be surprised if crude oil prices don't reach that price point.

Natural Gas prices have been screaming higher in Europe and Asia (as we discuss below) which is causing some gas to oil switching as a source of fuel consumption globally. Goldman Sachs is estimating that gas to oil demand switching can account for as much as 1 million barrels/day of new crude oil demand.

Global oil demand is very close to its pre-covid era high point while crude exporting nations remain extremely disciplined in not increasing its current rate of output. We have been highlighting the producer's priority for profit all year long. Well now the proof is in the profit pudding. The top 5 oil producing companies in the USA are estimated to report about \$29 billion in free cash flow combined among them in the 3rd quarter. This would be the highest amount since the beginning of 2008.

Natural Gas

Natural gas prices are up about 9% to \$5.90/mmbtu which is where pricing for natural gas was about a month ago. There has been a demonstrated need for natural gas around the world with USA inventories averaging about 4% below its five year average and Europe averaging about 15% its five year average. The USA is producing about 92 billion cubic feet per day (bcfd) in October, up from 91 bcfd in September but still below its 95 bcfd in Nov 2019.

Even though natural gas prices are becoming much more expensive in the USA at close to \$6/mmbtu, to put things in perspective the price of natural gas in Europe is around \$31/mmbtu and in Asia is around \$33/mmbtu. The higher natural gas prices are a serious inflationary issue in Asia and Europe. The USA is limited on how much we can export, with the current export capacity capped at 10.5 bcfd. The USA's investment in natural gas production infrastructure for much of the 2010s is significant in keeping our natural gas costs relatively low.

Natural Gas prices are moving higher for the same reasons as crude oil, there is a global demand for the fossil fuel (especially as countries like China make a broader shift away from coal) but many producers continue to hold back on supply as compared to 2019 production levels to maximize profits and reallocate capitol into green projects.

Market Update

Plastics Feedstocks (Naphtha, Ethane, and Propane)

- Naphtha pricing (CIF Japan) is up 4% to a spot price of \$790/mt.
- Ethane prices in Mont Belvieu, TX are stable around 42 cents per gallon (cpg).
- Propane prices in Mont Belvieu, TX surprisingly fell slightly to 141 cpg from 145 cpg. The Wall Street Journal recently published an <u>article</u> about how retail propane is going to be expensive this winter...something we have been saying here at BlueClover for weeks now.

Ethylene

• Ethylene prices in the Enterprise system in Mont Belvieu, TX increased to 38cpp from 33cpp.

<u>Propylene</u>

- Spot physical PGP prices are currently around 62cpp, only down about 2cpp from our last report.
- The estimated calendar monthly average for physical PGP in Mont Belvieu, TX for October is about 66.5cpp.
- In our last report, we estimated October contract PGP to be down 12cpp. Given some estimates discussed in the market we are revising our forecast to be down 10cpp to 74cpp. If physical PGP prices remain in the low 60s than BlueClover would estimate another contract PGP decrease in November to the tune of about 8cpp.
- Refinery Grade Propylene has remained in the low to mid 20cpp range for many months. Pricing for RGP in pipe is currently 23cpp.
- BlueClover had been expecting physical PGP pricing to fall throughout the 4th quarter as a result of PGP derivative demand destruction. The velocity (how quickly the PGP price fell) was a bit surprising. Given the market trends lower in both PGP and PP, BlueClover does expect physical PGP pricing to slide into the mid 50s cpp range next month.

<u>Polypropylene</u>

- Polypropylene pricing has fallen even more than PGP. In mid September widespec HomoPP was transacting north of a \$1.10/lb. Today pricing is between the
 upper 70s and the mid 80s depending on melt flow/add package. This is a decrease of about 30cpp as compare with physical PGP which fell about 20cpp over
 the same time period.
- Many buyers purchased security volume ahead of and during the hurricane season. This combined with strong operating capacity among PP producers
 (currently about 90% versus 80% last September 2020) has led to a long market at a time in the calendar when convertors and large consumer goods companies
 are past their holiday resin buying needs. This is compounding the fall in PP prices.



Feedstock "Spot" Prices:

<u>Product</u>	<u>Location</u>	Price as of Oct 26	Price as of Oct 12	<u>Unit</u>
Brent Crude	North Sea, Europe	85.86	83.19	USD/barrel
WTI Crude	Cushing, OK	83.64	80.45	USD/barrel
Natural Gas	Henry Hub, LA	5.89	5.42	USD/MMBtu
Naphtha	C&F Japan	790	759	USD/mt
Ethane	Mont Belvieu, TX	42	43.375	Cents/Gal
Propane	Mont Belvieu, TX	140.75	144.75	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	38	33	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	62	64.5	Cents/Lb

^{*} Sources – CME, Bloomberg

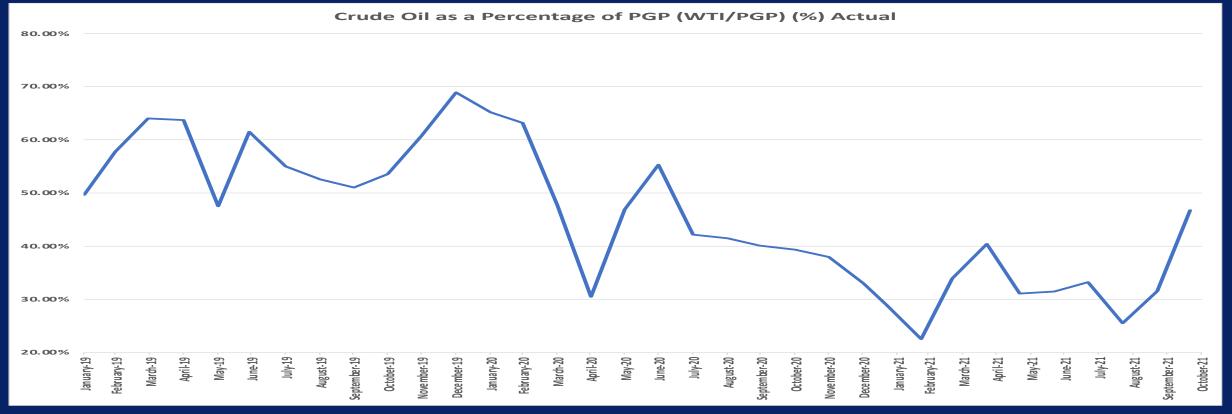
Inventory

HERO PRIME™				
Grade	Description	Location		
	Sold Out			

Brainfood Special (Enquire about competitive pricing for the Brainfood Special)

HERO FLEX™				
Grade	Description	Location		
	Sold Out			

Trader Toolbox – The PGP to Crude Relationship back to July 2020 levels



Since July 2020 when the Crude Oil as a % of PGP was about 42%, the price spread has pretty much been south of 40% and at times dipping into the low to mid 20s as a %. When this % is low, it means that PGP is very expensive relative to crude oil. What's also been interesting is that crude oil prices have been rallying since July 202, but PGP prices have still far outperformed.

Now at the end of October with WTI crude oil pricing around \$84/barrel and physical PGP around 62cpp, this relationship has returned to more of a historical average at 46%.

If crude oil prices rally to \$90/barrel while physical PGP prices fall to 55cpp, this % relationship would adjust to 55% which is within its 2019 range. So historically speaking both products have room to continue their price rallies and price slides independent of each other.

Why BlueClover?

BlueClover is the informed sourcing solution—bridging the gap between upstream knowledge, resin procurement and price risk management.

- Trusting relationship with a professional distribution company that trades polypropylene across a wide range of qualities at a multitude of price points for both spot and contract business.
- ❖ Full access to our Price Risk Management Team.
 - ❖ Work closely with our price risk management team with decades of commodity trading experience to determine when fixed pricing programs make sense for your business.
 - Access to BlueClover's internal research and analysis along with potential outsourcing to industry experts on commodity markets.

Please visit our website below for more information.



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