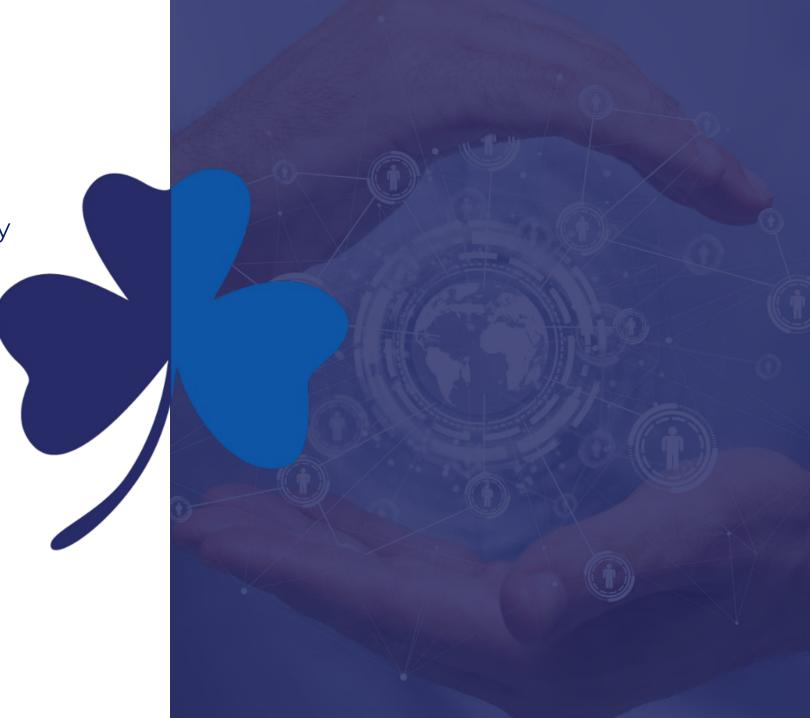
BlueClover

All Things PP

Brainfood for the Plastics Industry

Issue 23.20 - Oct 2023



Market Update

Plastics Feedstocks (Oil, Naphtha, Propane)

- Since our last report, oil and naphtha are unchanged in price, while propane pricing is slightly lower.
- WTI crude oil is unchanged over the past two weeks hanging around \$85/barrel.
- The probably consensus was for crude to rally after the Israeli Palestine conflict but the opposite has happened. On top of strong supply reserves from Saudi Arabia that we mentioned in our report two weeks ago, recent economic data out of Europe are signaling fears of a recession. Business activity in Germany as measured by the PMI (Purchasing Managers Index) fell for a fourth straight month. Some analysts are stating that a recession in Germany is already underway. PMI economic data out of Britain is signaling economic contraction and is also lower month on month.
- Naphtha prices (CIF Japan) are unchanged around \$665/mt
- Physical propane prices in Mont Belvieu, TX are down about 5% to a spot price of 65.75 cents per gallon (cpg).

Propylene

- Physical PGP prices are up over 11% to a spot price of 45.25cpp as of Monday Oct 23rd from 40.5cpp on Tuesday Oct 10th.
- Physical PGP prices were trading between 38.5cpp and 41.5cpp from the middle of September thru the middle of last week. On Wed Oct 18th the physical PGP price jumped up to 45cpp and on Thursday Oct 19th it jumped up to 46cpp. Since then physical prices have retreated a bit. There is news in the market that Enterprise's 2nd PDH unit is having production issues this month.
- The month to date calendar average for PGP is up to 42.4cpp according to the PetroChem Wire (The month to date average was 40.5cpp as of October 10th so pricing has been very strong in the 2nd half of October). BlueClover is revising our October contract PGP price guess to 44cpp (up from 42cpp in our last report). This would be a 5cpp increase from the Sept Contract PGP price.
- The estimated October gross PDH margin is around 23cpp. This is the highest gross margin since Feb and March 2023 and before that you would have to go back to April 2022 according to BlueClover calculations. So the PDH margin has only been higher than October's projected number in two out of the past 17 months. (See trader toolbox for the graph). This premium over propane speaks to the tightness we have experienced in PGP supply but if that supply were to come back online we may be in store for lower pricing to end the year.
- BlueClover is estimating Nov Contract PGP at 38cpp (up from 37cpp in our last report) and December contract PGP at 36cpp (up from 35cpp in our last report).

Market Update

Polypropylene

- Given the pop in PGP pricing last week, producers and buyers are in a holding pattern to see which side will blink first. PP producers feel
 PGP prices moving higher which impacts their cost of production and are therefore raising prices for widespec and prime PP. Also we
 are coming off a slightly reduced supply period where certain PP reactors were down. These are the primary reasons for the higher PP
 price offers out there today.
- However the demand from the buy side remains very weak. What we wrote in our last report remains the case..."The market is
 handling the reduction in supply well as demand is starting to subdue. We are past some of the orders that would make its way to the
 store shelf for the holiday shopping period...convertors see more risk to 'paying up' in price as compared to buying in August and early
 September when PGP and PP prices were cheaper."
- The supply-demand numbers as reported by the American Chemistry Council support this. In September, production fell by 10% and demand fell by 7% as compared to August when adjusted for days in each month. While this kept the PP market snug because of lost PP capacity, prices are not being driven higher by strong growing demand. In fact the Sept demand number was tied with July as the lowest in the past five months. A lot of this data points to what was a big August restock for convertors with some carry over in September. Then as production fell it was met with many convertors sitting pretty with inventory and/or anticipating lower prices to end the year.

Feedstock "Spot" Prices:

<u>Product</u>	<u>Location</u>	Price as of Oct 24	Price as of Oct 11	<u>Unit</u>
Brent Crude	North Sea, Europe	89.79	86.92	USD/barrel
WTI Crude	Cushing, OK	85.45	85.19	USD/barrel
Natural Gas	Henry Hub, LA	2.97	3.37	USD/MMBtu
Naphtha	C&F Japan	665	660	USD/mt
Ethane	Mont Belvieu, TX	26.25	28.25	Cents/Gal
Propane	Mont Belvieu, TX	65.75	69	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	21.5	22.625	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	45.25	40.5	Cents/Lb

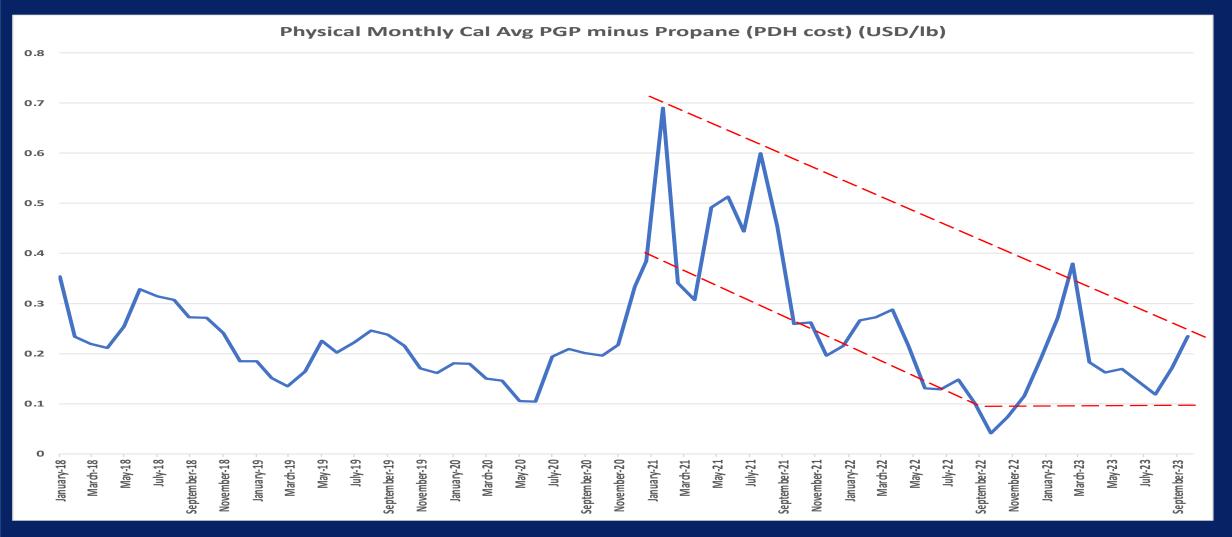
Repro Supply Options



We are working on a more detailed repro line card that should be available in our next report.



Trader Toolbox



The above graph is an almost 6 year graph of historical monthly gross margins between the physical PGP monthly cal average price and the monthly propane (Mt Belvieu) price after the propane has been converted to a \$/lb PDH feedstock price. As you can see the margins on these units have been moving lower from the early 2021 peaks with each peak lower than the previous. The red line turns flat at around 10cpp representing an estimated total cost of production (fixed and variable). While anything can happen in the short term there is certainly room for PGP to move lower in price for this spread to return to the 10 to 20cpp range, where it has sat for most of the 18 months excluding some outliers.

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