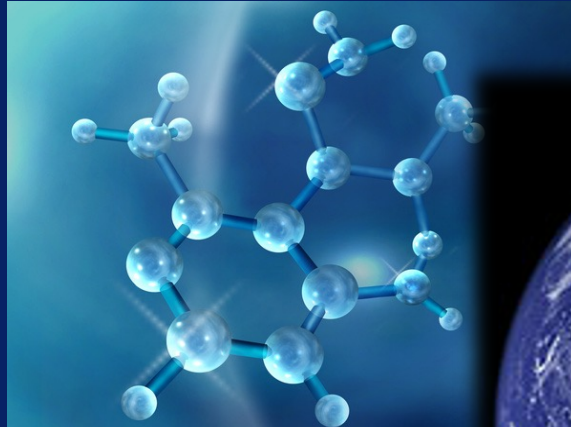


Brainfood for the Plastics Industry

Issue 23.06 – March 2023



Market Update

Plastics Feedstocks (Naphtha, Propane, Oil and Ethane)

- Naphtha prices (CIF Japan) are lower by about 3.5% over the past two weeks to a price of \$686/mt
- Propane pricing is lower by 2% to a spot price of 78.875 cents per gallon (cpg) in Mont Belvieu, TX. Both naphtha and propane are lower as a result of the lower pricing in the crude oil markets.
- Crude Oil prices are lower by 5% with prices for WTI at \$73.40/barrel today and Brent at \$79.64/barrel.
- Ethane prices are up 2cpg to 24cpg in Mont Belvieu, TX.

Ethylene

- Over the past two weeks, ethylene prices in the Enterprise system in Mont Belvieu, TX have been incredibly stable around 22 cents per pound (cpp).

Propylene

- Compared to two weeks ago, Physical PGP prices in Enterprise's system are only down 1cpp to 55cpp from 56cpp two weeks ago but that does not tell the whole story.
- According to the PetroChem Wire, on March 2, physical PGP traded at 71cpp, when the previous March trade was at 53cpp on Feb 28th. Physical PGP prices topped out at 73cpp on March 8th. Last Friday prices retreated to 69cpp, and then yesterday retreated to 55cpp. At these price points there is significantly smaller volumes transacting since it is uneconomical for many PGP derivatives producers to buy physical PGP with a number that starts with a 6 or 7.
- If prices were to remain at 55cpp for the rest of March, the expected March calendar average price for physical PGP would be 60cpp. BlueClover is estimating that the balance of March will have physical PGP pricing below 55cpp so we expect the March calendar average to settle less than 60cpp.
- At the end of February, BlueClover was expecting physical PGP prices to fall below 50cpp and the March contract PGP price to settle flat at 50cpp. Well we were wrong. We have been extremely surprised by the difficulties in getting the Enterprise and Invista PDH units up and running. Additionally, I recently learned that the Shell steam cracker in Deer Park, TX (which has a flexible feedstock stream and therefore has the option to produce significant amounts of PGP) went down in late late January due to tornado damage.
- BlueClover is now estimating March contract PGP to be up 10cpp. BlueClover still expects physical PGP pricing to fall into the 40s in the April time frame and therefore contract PGP pricing to come down in April. Our current guess for an April contract PGP range is 48-52cpp.

Polypropylene

- PP supply has been consistent in the 1st quarter of 2023 with most grades available. As we mentioned in previous reports, PP production increased in January according to ACC data.
- There is a disconnect in the market. Producers need to raise prices for prime virgin material as a result of the increased PGP feedstock costs. However, overall demand for most PP converters is lower year on year as consumers focus less on household items/durable goods and instead use their spending power on experiences/trips. This is leading to a drastic spread between widespec and prime PP pricing which is only going to get wider in March from already wide spreads in February. PP producers are selling widespec material at a loss at times because of this overall demand picture.
- As PGP prices retreat in the coming months, customers will see a decrease in the price of their prime materials but widespec pricing may decrease only marginally or not at all because it has not rallied to the same extent.

Feedstock "Spot" Prices:

<u>Product</u>	<u>Location</u>	<u>Price as of March 14</u>	<u>Price as of Feb 28</u>	<u>Unit</u>
Brent Crude	North Sea, Europe	79.64	83.98	USD/barrel
WTI Crude	Cushing, OK	73.40	77.46	USD/barrel
Natural Gas	Henry Hub, LA	2.57	2.62	USD/MMBtu
Naphtha	C&F Japan	686	712	USD/mt
Ethane	Mont Belvieu, TX	24.125	22.5	Cents/Gal
Propane	Mont Belvieu, TX	78.875	80.5	Cents/Gal
Ethylene (Enterprise system)	Mont Belvieu, TX	21.5	22.5	Cents/Lb
PG Propylene (Enterprise)	Mont Belvieu, TX	55	56	Cents/Lb

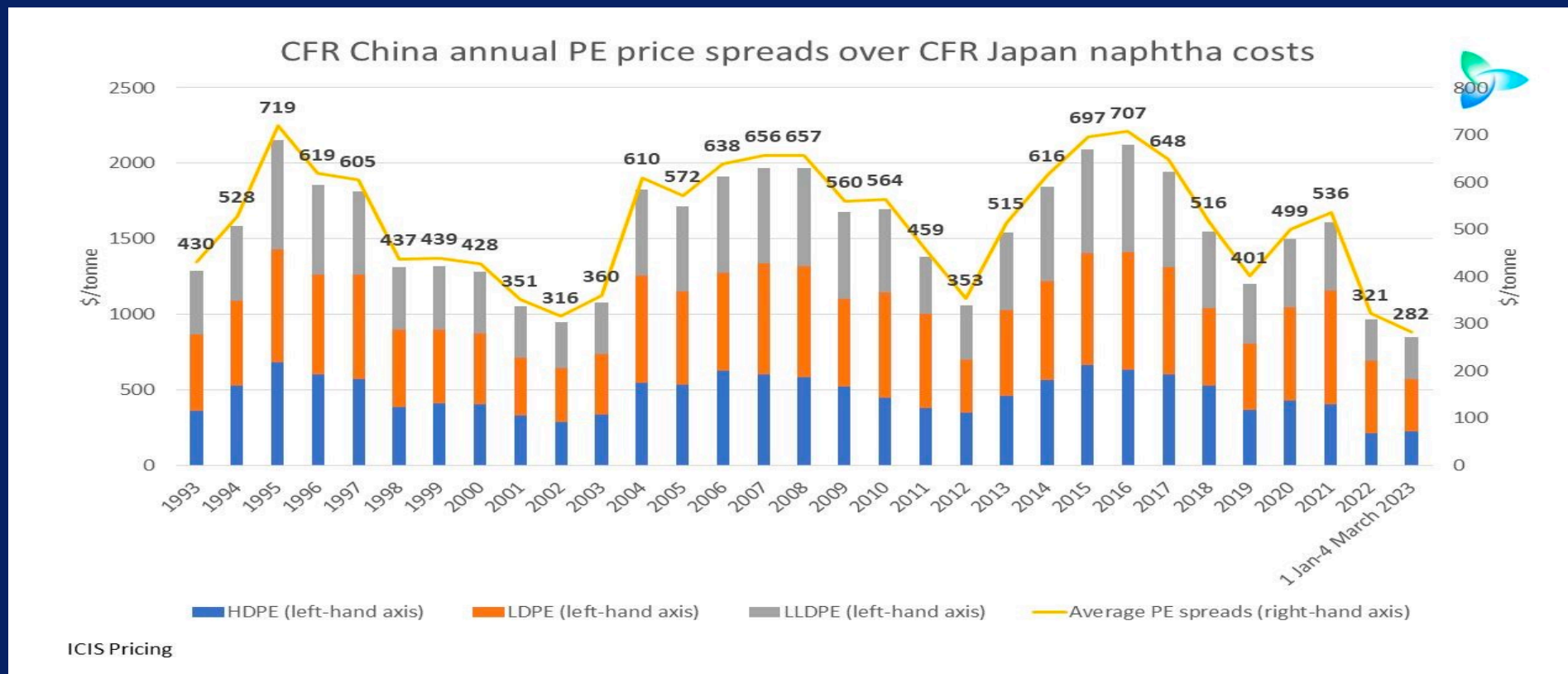
* Sources – CME, Bloomberg

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 - Lowest PE to Naphtha Spreads in 30 Years!



Source: ICIS – John Richardson (<https://www.linkedin.com/in/john-richardson-b9216b2/recent-activity/>)

The above slide was taken from a LinkedIn Post from John Richardson of ICIS. John puts out incredibly great information combining with world of macroeconomics (supply/demand) and global petrochemicals.

The slide above is a 30 year chart detailing the spread of the 3 major PE grades on a China port price basis minus the price of Naphtha. The average is the yellow line. Essentially, for decades from 2000 to 2020 these spreads were very high as a result of incredible Chinese demand and PE supply that could not keep up. However since the start of the 2020's China demand has been waning (shifting demographics and a reduction in cheap credit) and significant amounts of PE capacity has come on globally. This has resulted in the lowest average spread in 30 years! Simply put, there is a massive over capacity of polymers globally and there will need to be supply side rationalization in the coming years. Check out John's posts (see link under the graph), they are extremely informative.



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