

Global petrochemical trends

H1 2020

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Contents

Introduction	2
Aromatics and polyester chain	2
Mixed global outlook for MX amid PX expansions	2
New capacity to pressure paraxylene margins	3
PTA under pressure amid rising supply despite expansion downstream	4
Europe, Asia tackle PET supply length, US to remain short	5
Surging MEG supply shifts global trade flows	7
Weaker demand to hit Asia OX H1 2020, but tighter supply may counter	8
Global benzene trading seen picking up with new supplies from Asia	10
Styrene faces the challenge of new supply, sluggish demand	11
Gasoline to be a key driver in global aromatics markets	12
Toluene conversion margins seen under continued pressure in H1 2020	13
Will MTBE's unexpected bull market continue in H1 2020?	14
Supply overhang to weigh on global methanol market	15
Chemical freight rates set to rise on IMO 2020 as tonnage glut caps gains	17
Olefins	18
New capacities, weaker downstream markets to weigh on ethylene in 2020	18
Asian propylene eyes support in H1 2020 from new PP plants, turnarounds	19
Butadiene capacity increases, despite expectations of weak demand	21
Polymers	22
Global PE oversupply to weigh on prices in H12020	22
Latin America looks towards the US for polyethylene direction for 2020	23
Global PP faces economic slowdowns, tepid demand in H1 2020	24
Latin American PP market to continue to look to Asia, Middle East for direction	25
China, India to dominate global PVC export markets in 2020	26
Recycled plastics	28
Economics the key challenge in global recycled plastics markets	28
Solvents and intermediates	30
Europe to turn net ACN importer in 2020; Asia, US brace for supply glut	30
Oxo-alcohol demand concerns to continue into 2020	31



INTRODUCTION

The key 2019 themes of burgeoning production capacity and US-China trade tensions echoing across global petrochemicals market will persist into the first-half of 2020, tilting the supply/demand balance and shifting trade flow patterns.

New Chinese refinery capacity that came online during 2019 set a bearish tone for aromatics prices, squeezing margins across the board from mixed xylenes and down the chain to styrene monomer.

Olefins markets like ethylene and propylene in the US, and butadiene in Asia, will also see a boost in supply due to capacity additions. A 1 million mt/year export terminal in the US will also lead to an increased supply flow of cheap ethylene from the country to the rest of the world during 2020.

US-China trade tensions added volatility in global petrochemical markets in 2019, and as the year comes to an end, the effects of the ongoing issue have now become visible across downstream petrochemical markets, such as that for plasticizer and polyester, which are seeing faltering prices and compressed margins.

Trade tensions and additional capacities have also redrawn trade flows between some geographies in 2019, a trend that is set to continue in 2020.

Some downstream capacity may move to countries in South Asia or elsewhere to avoid the tariffs resulting from the US-China trade tensions, however, that is a very gradual process.

Another development in 2019, expected to continue into 2020, is the diversion of aromatics feedstocks like mixed xylenes, benzene and toluene into the gasoline blending pool due to cost economics and squeezed margins across the aromatics chain.

Meanwhile, the International Maritime Organization's implementation of lower sulfur content for marine fuels from January 2020, should trigger a rise in chemical tanker freight costs, which will in turn likely cause an upward adjustment of chemicals prices.

Yet another result of environmentally friendly efforts in today's world is increasing demand for recycled plastics in Europe, despite higher prices and limited supply, as consumer goods firms keep setting bigger targets for the use of recycled material.

— [Samar Niazi](#)

AROMATICS AND POLYESTER CHAIN

Mixed global outlook for MX amid PX expansions

- **Signs of firmer Asian MX market in H1 2020**
- **Gasoline to guide US, Europe MX markets**

Much uncertainty still remains for the Asian isomer-grade mixed xylene market amid an increasing supply in paraxylene, even though many market participants are expecting MX to stay firm in the first half of 2020. Rising paraxylene supply has eroded MX production margins and poses a threat to MX demand. However, market participants expect firmness to persist in Asian MX in H1 2020 primarily on the projection that new PX plants in China may spur MX imports.

This became clear in mid-November when Taiwanese producer CPC Corp. awarded its 2020 annual sell tender for isomer-MX at a premium of \$2-\$3/mt to the monthly average of Platts FOB Korea MX assessments for the month of loading. The premium was a significant uptick from the discount of \$5-\$6/mt settled last year.

While Asian MX demand could see support from new PX plants, European mixed xylene demand from PX production is expected to remain low in the first half of 2020 on weak PX margins and bearish sentiments on impending startups.

More PX capacities are going to start up in Asia going forward, while there are no new MX capacities coming until the second quarter or later, when new reformers are expected to start up in China. These include a 1.8 million mt/year reforming unit at Sinopec's Zhongke refinery in Guangdong, expected to begin around the second quarter. A few other reformers are also expected to start up elsewhere in China, but exact timelines and MX capacities remain unclear.

"MX demand should increase with new PX plants, but with the current PX [margins] it will be hard to lead MX demand," a China-based trader said, adding that due to new gasoline capacities starting up in China next year, the demand for MX into gasoline sector could be sluggish in that market.

However, a northeast Asian refiner was expecting a tighter global gasoline market in 2020 due to refinery configurations following the new IMO low sulfur regulations for marine fuels, which will come into effect January 2020, adding that this could support global gasoline blendstock demand next year.

The European market may continue to see MX production reduced to contractual volumes in the first half of 2020 and

any excess exported or kept within producers' own blend pools. However, if current pricing dynamics continue, it will be difficult to see many exports out of Europe, which remains close to the highest priced region globally as strong prompt gasoline demand has kept flat prices high and a steep gasoline backwardation has added too much risk to long-haul shipments.

While operating rates are expected to stay low in Europe, should the current price trends persist, there is also the consideration that contractual volumes have to be supplied. Besides, pricing in the European paraxylene contract market has fared significantly better than the spot market in 2019. If this trend continues, there remains an incentive for producers to minimize spot paraxylene volumes but run plants sufficiently to supply contractual volumes.

Meanwhile, US xylene prices are expected to be guided by gasoline demand during the first half of 2020 amid weak chemical demand associated with new Asian paraxylene capacities. Paraxylene prices are expected to remain soft on a supply glut associated with the new refineries, a trend which has negatively impacted prices in North America, where pricing has been on a downtrend since the start of Q2 2019. Sources have said that gasoline blending will become increasingly important, setting a floor for pricing in 2020, with the market expected to tighten in Q1 amid seasonal refinery maintenance, and demand improving late Q2 as refiners switch to summer-grade gasoline production.

— [Gustav Inge Holmvik](#), [Benjamin Brooks](#), [Kevin Allen](#)

New capacity to pressure paraxylene margins

- **New Chinese plants to dampen prices**
- **Asian term contract prices to reduce**
- **EU term CPs expected to stay robust**

The near-term expectations for Asian paraxylene are bleak, as new Asian capacity will continue to come online in 2020, pressuring margins.

The new capacity — mainly in China — impacted production margins globally, which first began to fall in the second quarter of 2019. Support from downstream purified terephthalic acid has been limited due to a slow polyester market. For the US and Europe, their main export market, China, is closing its doors.

The downtrend in PX prices and margins commenced with the startup of China's Hengli Petrochemical's 4.5 million mt/year PX plant in March-April 2019. This will continue into the first half of 2020, with further capacity expected to start up in the late first half of the year.

The quantum of fall in PX prices in 2020 as a result of the new capacity remained uncertain. There will certainly be a degree of reduction in operating rates in reaction to tightening margins, sources said.

New capacity may require about three to six months, or even longer, to ramp up to full operating rates. "While news of a new plant starting up may impact prices, the supply-demand fundamentals is still dependent on operating rate and whether it can be maintained," a trader said.

PX spread to upstream, downstream markets narrows

While PX prices may rise temporarily on firmer feedstock prices, PX and downstream PTA fundamentals remain weak, making such price support unsustainable.

The average PX-naphtha spread in the first quarter of 2019 was \$560.62/mt and has since narrowed to an average of \$267.49/mt in October, according to S&P Global Platts data. Margins fell and it seems that the "good old times are over," a source said.

Amid the downtrend in PX prices and narrowing spreads, sources noted that there is a floor to the collapse in prices as producers will begin reducing operating rates on eroding PX production margins.

In the second half of 2019, non-integrated PX producers — whose primary feedstock was isomer-grade mixed xylene — cut run rates as margins turned negative. This trend is expected to spread to integrated producers as dismal margins persist.

The same scenario was seen in Europe, where the main feedstock is mixed xylene. Run rates were cut on eroded margins with plant operating far below breakeven levels.

"Considering the prices today, there's not much room for prices to fall further on the back of new supply, producers might reduce run rates if margins continue eroding, easing the impact of additional supply," an Asian trader said.

PRODUCERS FACE NARROWING SPREADS ON LENGTHENING PX SUPPLY



Source: S&P Global Platts

Long-term contractual volumes may also reduce due to thin margins. Industry sources said that as negotiations for the 2020 term contracts commence, some Asian producers may reduce contract volume and increase spot cargo, with a likelihood of lower operating rates in 2020.

In Europe, contract prices may continue to trend far above spot prices. The average premium for the European CPs over monthly average spot values was \$149/mt from January to October 2019, according to Platts data. In the second half of 2018, when spot PX premiums over mixed xylene were at multi-year highs, the ECP premium was \$106/mt.

The US was no exception to this trend of narrowing margins. On a spot basis, the PX-MX spread in the US fell to as low as \$25/mt in early November, Platts data showed. On a contract basis, economics were slightly favorable, though it still narrowed nearly 60% during the first three quarters of the year.

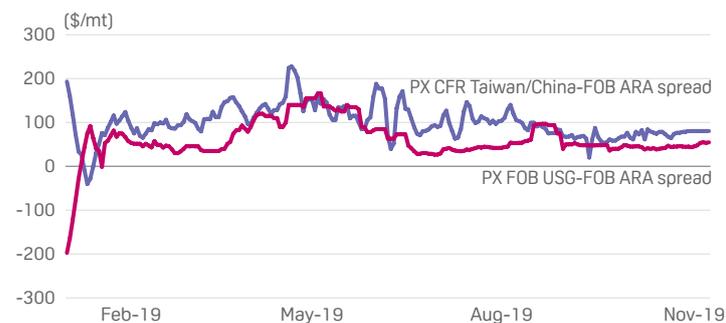
The Asian PTA-PX spread has also narrowed, hovering at a 21-month low in late-2019. Sources have attributed the weakness in the PTA and polyester markets to US-China trade tensions. Additionally, new PX capacity is expected to outpace demand from additional PTA supply in 2020, causing an oversupplied market.

While PX may track its feedstock market on narrow spreads, it may not be sustainable as support from downstream PTA has been limited. Besides its spread to upstream, narrow PTA-PX spread is also expected to persist into at least the first half of 2020.

PX market structure changed in late 2019

Asian PX market has been in a backwardated structure for most of 2019 but the market is expected to flip into a contango structure in 2020 on the longer supply. The market in 2019 has moved into a contango briefly before flipping back, especially during periods of slow buying interest. Sources noted that a switch in the market structure may only happen on steady production and physical delivery from the new plants.

EUROPE-ASIA ARBITRAGE CLOSES, US COULD ABSORB GLOBAL SUPPLY LENGTH



Source: S&P Global Platts

Arbitrage economics between Asia, Europe and the US also look to be changing. Although the arbitrage from Europe and the US to Asia looks firmly closed, Europe may look to the US in 2020 to absorb some additional global supply.

The economics are moving towards that direction toward the end of 2019, but the US buyers may not have the appetite for additional supply.

— [Regina Sher, Kevin Allen, Benjamin Brooks](#)

PTA under pressure amid rising supply despite expansion downstream

- **New PTA expansions to pressurize H1 2020 prices**
- **Emerging signs of trade flow shifts**

The purified terephthalic acid market is expected to weaken in 2020 as supply increases due to new capacity coming on stream, although weak upstream paraxylene prices amid mega-expansions in Asia, particularly China, and continuing downstream expansion are likely provide some support.

Asian PTA trade participants generally expect the PTA/PX spread to be squeezed in 2020 after it was initially discussed in the range of \$100-\$120/mt for the spot PX index-linked PTA contract formula for the year.

Moreover, there was talk that some Asian customers have lowered their 2020 term contract bids for the spread to below \$100/mt after the spot PTA/PX spread hit a 21-month low at around \$85/mt in mid-November; producers say this will be hard to accept.

The tightening margin outlook for the first half of 2020 comes after the Asian PTA/PX spread averaged \$153/mt in H1 2019 and \$147/mt over July-October for dollar-dominated PTA cargoes, based on S&P Global Platts data. This indicates the profit margin for PTA was strong in 2019, remaining well above the typical breakeven level of \$85-\$120/mt, assuming 0.665 mt of PX is required to produce 1 mt of PTA.

Rising PTA supply in China

China's active PTA capacity has increased by 4.7 million mt/year since 2018 to stand at 48.9 million mt/year in November 2019, based on Platts data.

Two more new PTA plants are expected to be brought online by early 2020; Hengli Petrochemical's 2.5 million mt/year No.4 new PTA line at Dalian and Xinjiang Zhongtai Chemical's 1.2 million mt/year at Korla in the Bayingolin Mongol Autonomous Prefecture.

Meanwhile, Yisheng Petrochemical's new 3 million mt/year No.5 PTA line, which had earlier been slated to start up in

H1 2020, will be delayed to end 2020 or early 2021, a source close to the company said.

Despite the capacity expansion, China's PTA supply was seen likely to remain balanced or lengthen slightly in H1 2020, given the country's current PET and polyester capacity of around 56.5 million mt/year, with another 2 million-3.5 million mt/year slated to be brought online by H1 2020, according to sources. Around 0.86 mt PTA is needed to produce 1 mt of PET or polyester.

There are no PTA expansion plans outside China in 2020, keeping the effective PTA capacity stable at around 20 million mt/year elsewhere in Asia and at a combined 10.2 million mt/year in Europe and the Americas.

In India, JBF Industries' 1.25 million mt/year PTA plant in Mangalore is unlikely to start up in 2020, given its neighbor ONGC Mangalore Petrochemicals Ltd., which is due to supply PX to JBF Industries' PTA operation, was seen recently offering 570,000 mt of PX via tender for January-December 2020.

Potential shift in trade flow

With China now self-sufficient in PTA, other Asian PTA suppliers have to actively explore new markets.

Vietnam in particular is attracting market attention due to its PET and polyester expansions and lack of domestic PTA supply. Vietnam has brought online 600,000 mt/year new PET and polyester capacity since end 2018, with at least another 250,000 mt/year to be started up by end 2019 and in 2020, based on Platts data.

In the US, PTA demand is expected to remain relatively flat in 2020, despite earlier forecasts of it rising. Nevertheless, US PTA makers are expected to see reduced costs in 2020 due to softer PX pricing globally.

Corpus Christi Polymers LLC, a joint venture between Alpek, Indorama and Far Eastern, has revised the startup date of its new 1.1 million mt/year PET unit in Texas from 2020 to Q4 2021, Indorama announced in

November. The startup of the company's 1.3 million mt/year PTA unit at the same site will be delayed to 2022 from the initial plan of 2021.

In Europe, PTA demand has waned due to a weak local PET market amid a slowing economy and competition from Chinese PET. As a result, European PTA producers are increasingly seeking export opportunities in Asia.

European PTA exports to China totaled 22,992 mt in September, Chinese customs data showed. Exports are typically zero, or negligible at best. In addition, India imported 9,001 mt of PTA from Belgium in July and 11,987 mt in August, after rarely importing from the country earlier, latest Indian customs data showed.

However, while PTA producers in Europe are expected to continue exploring export opportunities in Asia, some trade participants doubt the flow will prove sustainable due to packaging and logistics challenges — as well as the increase in competing PTA production in China.

— [Miranda Zhang](#), [Kevin Allen](#)

Europe, Asia tackle PET supply length, US to remain short

- Feedstock capacity additions affect PET sentiment
- US to remain net short amid delayed mega-plant

The European and Asian polyethylene terephthalate and polyester markets will present a bearish outlook in 2020, led by capacity additions in Asia, slowing global economies and trade tensions. The US, on the other hand, looks set to remain a net importer of PET due to the delayed start-up of a mega-plant.

Asia facing rise in supply, challenges in upstream markets

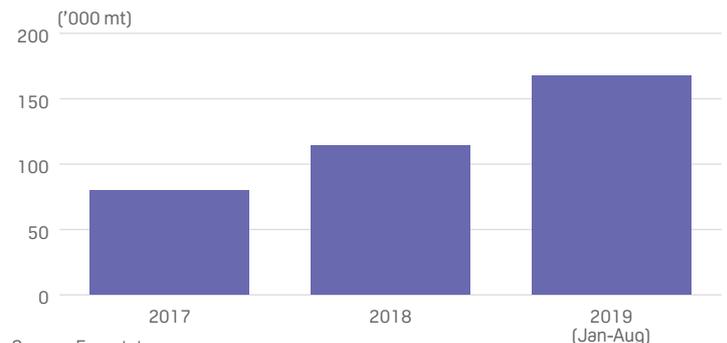
Market expectations point to bearish sentiment in 2020 due to supply length, slowing global economies and weaker feedstock prices.

LIMITED SUPPORT FROM DOWNSTREAM PTA ON WEAK POLYESTER DEMAND



Source: S&P Global Platts

CHINA RAMPS UP EUROPEAN EXPORTS IN BID TO BALANCE LONG MARKET



Source: Eurostat

The Asian PET profit margin was calculated at around \$27/mt in the first half of 2019 ahead of the traditional peak season, but turned negative from July to October, averaging minus \$1/mt, amid lackluster demand, S&P Global Platts data shows.

Rising supply will continue to weigh on Asian PET prices in 2020.

Chinese PET capacity has hit around 10 million mt/year, and three new startups expected by 2020 will increase this by 1.7 million mt/year, Platts data showed. Producers in Vietnam are also adding around 650,000 mt/year of capacity.

The Chinese polyester yarn and fibers market has grown at a steady rate of 5-7% in recent years, according to market sources and Platts data. To satisfy this, 1 million-2 million mt/year of new polyester yarn and staple fiber plants are planned by H1 2020 in China, according to sources.

Despite this growth, market sentiment is bearish due to weak upstream PX, PTA and MEG markets. Increased supply will add to uncertainty already there due to trade tensions and slowing global economies.

This will lead to reverse integration by major Chinese polyester makers, which some sources expect to happen in 2020, in order to create feedstock cost advantages. This may put non-integrated polyester producers in Asia and globally under pressure.

With demand for PET and polyester in the region expected to remain weak into 2020, Asian producers will need to continue to seek export opportunities, particularly for PET. In 2019, Europe was a ready buyer, but with the US remaining net short in 2020, Asian exporters may look there instead.

US could be outlet for asia supply length

The US is likely to remain a net PET importer in 2020 after the start-up of a large-scale PET plant was postponed to 2021. The US imported around 2.2 million mt of PET in 2018.

FEEDSTOCK CAPACITY EXPANSIONS PAINT BEARISH PICTURE FOR GLOBAL PET PRICES



Source: S&P Global Platts

This was set to change in 2020, with the slated start-up of a 1.1 million mt/year PET plant near Corpus Christi, Texas, with an associated 1.3 million mt/year purified terephthalic acid plant due to start up a year later in 2021.

However, co-owner Indorama’s revised schedule released in early November showed the PET complex now coming online between Q4 2021 and Q1 2022.

With the US staying as a net importer, it retains bandwidth to absorb added expansions in Asia in 2020.

Impact from the recycled-PET market will also likely be small in 2020 and is not expected to dent virgin volumes significantly

There is progress in this field, namely, Indorama’s joint venture with Canada’s Loop Industries to provide sustainable polyester resin for beverage and consumer packaged goods companies, targeted for Q1 2020 but US collection and recycling rates remain too low to provide significant amounts of R-PET to measurably displace virgin PET in 2020.

The key focus in the US, therefore, will be the source of its PET imports and the impact it brings to local prices.

Europe cautious of year ahead

European market participants welcomed an easing of volatility in the feedstock market at the end of 2019. Consumers took the opportunity to forward book material for Q1 2020 delivery, locking in multi-year low prices.

Whether prices stay like this depends on how the paraxylene and monoethylene glycol markets react to extra capacity slated for the end of 2019 and 2020. Further supply length, mainly in Asia, will lead to further bearish feedstock prices and will hurt PET sentiment and prices.

Significant volumes were imported from China in 2019 as Chinese producers sought to balance their market. This trend may continue but Asian exporters may also look to the US as an export market.

EUROPEAN PET BEARS THE BRUNT OF GLOBAL SUPPLY LENGTH, CHINA EXPORTS



Source: S&P Global Platts

The first quarter of 2020 may well be a quiet quarter as consumers have already booked material. In the second quarter, all eyes will be on weather forecasts for spring and summer. Producers would like to avoid building too much stock, having been caught out in 2019. Europe therefore may take a more cautious approach to pre-demand season stockpiling.

Attention on recycled PET is stronger than ever in Europe and will affect sentiment in the virgin market. However, volumes remain relatively small and it is not seen as the biggest threat to virgin demand in the short term, sources have said.

— [Benjamin Brooks](#), [Miranda Zhang](#), [Kristen Hays](#)

Surging MEG supply shifts global trade flows

- **Continuous expansion despite supply glut**
- **US origin MEG to explore other markets**

Monoethylene glycol prices are expected to come under further downward pressure in the first half of 2020 as additional capacity comes on stream, adding to ongoing uncertainty over how increasing US production can be absorbed in Asia while largest importer China maintains tariffs on imports from the US.

Trade flows shifted in 2019 after China imposed tariffs on US-origin in August 2018 and as Lotte Chemical, Sasol and MEGlobal brought a combined 1.7 million mt/year of new MEG capacity online in the US in the year.

This also came after 1.9 million mt/year of supply came on stream in China in late 2018, pressuring MEG prices globally by August 2019 to the lowest since April 2009, S&P Global Platts data showed.

With the exception of ethane-based MEG producers in the Middle East and North America, MEG manufacturers

GLOBAL MEG EXPANSIONS AND TURNAROUNDS

Company	Location	Capacity ('000 mt/year)	TA duration/ new expansion
Maruzen	Ichihara, Japan	115	May-Jul (4 weeks)
Maruzen	Yokkaichi, Japan	100	Mar-Apr (4 weeks)
Mitsubishi	Kashima, Japan	300	May-June
Lotte Chemical	Daesan, South Korea	400	Oct-Nov (3 weeks)
Lotte Chemical	Yeosu, South Korea	160	June (2 weeks)
CNOOC Shell PC	Huizhou, China	480	March-April (2-3 weeks)
Nan Ya Plastics	Mailiao, Taiwan	360	July (30 days)
Nan Ya Plastics	Mailiao, Taiwan	360	Sep (30 days)
Nan Ya Plastics	Mailiao, Taiwan	720	August (15 days)
Petro-Rabigh	Rabigh, Saudi Arabia	600	March-April
Polychem	Serang, Indonesia	145	Q1 (3 weeks)
Pengerang Refining and Petrochemical	Pengerang, Malaysia	740	New: Test run on-going
Zhejiang Petrochemical	Zhoushan, China	750	New: Dec 2019 – early 2020
Rongxin Chemical	Dalad, China	400	New: Dec 2019 – early 2020
Xinjiang Tianye	Shihezi, China	600	New: Early 2020
Hengli Petrochemical	Dalian, China	900	New: End Q1 - Q2
Nan Ya Plastics	Texas, US	828	New: End Q2

Source: Market sources

GLOBAL MEG PRICES FALL TO 10-YEAR LOW



Source: S&P Global Platts

were largely operating with negative margins for much of 2019.

Asian MEG margins averaged minus \$13/mt, minus \$112/mt and minus \$48/mt for naphtha-, ethylene- and coal-based MEG respectively over January-October, Platts data showed. European naphtha-based MEG margins averaged minus \$17/mt over July-October.

Total global MEG capacity stood at 38.1 million mt/year in November, exceeding global demand by 10%-15%, based on Platts data. Global MEG capacity has increased by around 18% since the start of 2018.

Despite this, another 3.2 million mt/year of new conventional MEG plant capacity is poised to start up by mid-2020 — Pengerang Refining and Petrochemical's 740,000 mt/year unit in Malaysia, Hengli Petrochemical's 900,000 mt/year phase 1 project at Dalian and Zhejiang Petrochemical's 750,000 mt/year MEG unit at Zhoushan in China, and Nan Ya Plastics's 828,000 mt/year MEG plant in Texas in the US.

A further 1 million mt/year of coal-based MEG capacity in China is also expected to come on stream by early 2020 — Xinjiang Tianye's 600,000 mt/year line at Shihezi and Inner Mongolia Rongxin Chemical's 400,000 mt/year unit at Dalad.

The supply glut is expected to continue with even more capacity coming online in 2022 in the US, and coal-based MEG plants in the pipeline in China. In the US, cheap ethane feedstock has encouraged ethylene cracker and MEG expansions, while in China, the key drivers are downstream polyester reverse integration for feedstock competitiveness and utilizing domestic coal stocks.

Estimated annual global growth for downstream polyester is around 4% in 2020, according to Platts analytics.

As a result, MEG demand growth is unlikely to keep pace with the supply increase. However, the potential for sharp price declines remains limited as record-low margins prompt less competitive MEG makers to reduce rates.

China, which imported 10 million mt of MEG in 2018 and is on track to surpass this in 2019, has imposed 25% tariffs on US MEG since August 2018.

US-origin MEG accounted for only around 2% of China's total imports in 2017 and H1 2018, limiting the impact of the tariffs on China's MEG market. However it has forced US producers to explore other markets, as China was the US' second-largest export market behind Mexico in 2017.

US exports to China fell 58% year on year to 27,073 mt over January-August, US International Trade Commission data showed.

However, total US exports surged 83% over the same period, pointing to increased buying appetite for US MEG outside China. Belgium has overtaken China to become the second largest destination for US MEG, receiving 138,406 mt over January-August, more than doubling from 58,983 mt the year before.

Contract talks prove challenging

Term contract negotiations for 2020 have proven challenging amid weak macroeconomic indicators and the increase in capacity.

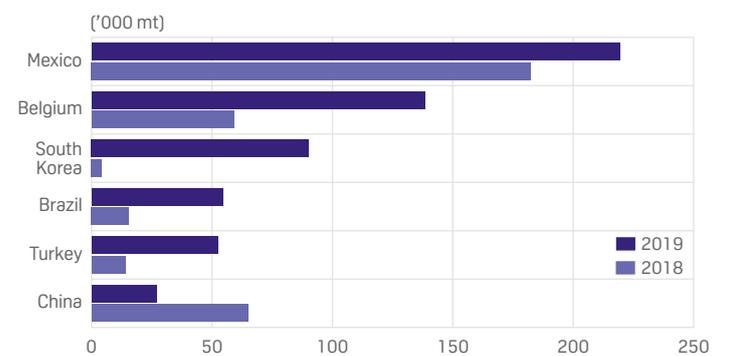
Initial indications by Chinese buyers were at a double-digit discount to the CFR China price index for 2020; discounts for 2019 were mostly at low single digits.

These bids were met with resistance from most Asian MEG producers grappling with weak margins.

For Asian polyester producers, supply reliability may be more critical than a bigger discount as MEG is a secondary feedstock, a trader said. As such, contract volume demand from Asian end-users should remain high, the source added.

Buyers in Europe are increasingly shunning local naphtha-based MEG due to the availability of lower-priced ethane-based MEG from the US, forcing changes to traditional term contract arrangements.

US MEG TRADE FLOWS SHIFTING AMID US-CHINA TRADE WAR



Source: US International Trade Commission

Data is based on Jan-Aug

While 2019 contract prices were based on fixed-price monthly settlements between producers and sellers, some European buyers are demanding a floating price contract formula for 2020 that includes spot prices due to the wide spread between 2019 term contract and spot values. Some MEG producers were heard to have agreed, and one trader reported being poised to agreeing to include references to Asian spot pricing in some of its 2020 European term contract formulas.

The gap between European spot and monthly contract prices has averaged 24% to date in 2019, according to Platts data, with spot prices still significantly cheaper despite the typical discount of 15%-17% offered for 2019 term contract volumes, a trader said.

There was also discussion about the contract price mechanism being based on naphtha costs given the increased use of LPG as feedstock for crackers in Europe. Naphtha currently accounts for 65% of cracker feedstock and LPG the balance, and some contend that reflecting cheaper LPG feedstock costs in pricing mechanisms would more accurately reflect their lower MEG production costs.

— [Miranda Zhang](#), [Kristen Hays](#), [Miguel Cambeiro](#)

Weaker demand to hit Asia OX H1 2020, but tighter supply may counter

- **Changing downstream requirements to hit demand**
- **China becomes more self-reliant on OX**
- **Suppliers and buyers in gridlock**

The Asian orthoxylene market looks balanced to slightly long in the first-half of next year due to weaker downstream demand from phthalic anhydride manufacturers while supply also tightens as co-product paraxylene's producers trim run rates, hitting both PX and OX output.

Demand from PA producers is expected to decline on lower operating rates at their plants, while PX producers reduce run rates amid low prices and margins.

"The entire chain is [suffering]," an OX buyer at a PA plant in South Asia said, adding that the plant's production will be reduced from December due to low prices and high feedstock costs.

PA plants were recently hit by tanking prices as demand evaporated in late 2019, and this looks set to continue, market sources said. The PA CFR China weekly marker fell to \$800/mt on November 14, from \$905/mt CFR on January 3, according to S&P Global Platts data.

Additionally, PA manufacturers said demand in the second-half of the year has been hit partially by US-China trade

tensions, leading downstream dioctyl phthalate producers to reduce or shutdown operations at their plants.

PA demand in China, Taiwan and other markets has also been dented as downstream plasticizer makers' move to purified terephthalic acid-based dioctyl terephthalate feedstock, market sources said. The move to DOTP feedstock — which is of lower quality than DOP but is safer for human usage — represents a longer-term shift for plasticizer producers. This move would hit PA, DOP and subsequently feedstock OX demand, a major PA producer in the region said.

Asian PA plants have suffered due to these negative factors, with prices falling and plants reducing operations across China, Japan, South Korea and Taiwan.

Another trend hitting China's domestic demand is the price competition between OX and naphthalene feedstock, which has shifted a few Chinese PA manufacturers operations' to naphthalene-based feedstock, producers said. In October, Chinese domestic PA produced from OX feedstock was pricing around Yuan 7,000/mt, while naphthalene-based PA was priced around Yuan 6,000-6,200/mt, said a market source who owns capacity in China.

China's self-reliance on OX increases

China, the largest OX buyer in Northeast Asia, imported only 55,190 mt from January until October, down 78% from the same period last year, according to China customs data. It also exported 8,003 mt during the same period, compared with none a year earlier, showing its switch in roles.

China's self-reliance and ability to export OX is due to new aromatics capacity additions in 2019. Although China exported some cargoes during H1 2019, the trend has not sustained due to domestic prices being higher than export prices, keeping the barrels within the country.

Chinese supply increased with the March start-up of Fuhaichuang's No. 2 aromatics unit at Gulei, in Fujian province, with a nameplate capacity of 240,000 mt/year of OX, as well as Sinopec Hainan's No. 2 facility start-up

in October, with a nameplate OX production capacity of 100,000 mt/year. OX production from the Sinopec Hainan plant is 2,000-5,000 mt/month and feeds Sinopec's key term customers within China, a source close to the company said.

Currently, most OX production within China is from Sinopec-owned refineries, although Fuhaichuang, which closed one of its PX production lines during September only to restart in early October, also supplies cargoes domestically, market sources said. Sinopec aims to export OX cargoes to Southeast Asia or Europe, a source close to the company said, but current domestic OX prices have pushed Chinese suppliers to supply cargoes to domestic buyers only. During November, the Sinopec listed price for OX was Yuan 6,300-6,700/mt, which translates to \$764.10-\$813.40 on an import parity basis, with an exchange rate of 7.0397.

Stalemate between buyers and sellers

On the supply side, a stalemate between buyers and sellers has limited OX cargoes available for sale, market sources said. OX producers can't lower prices because feedstock mixed xylenes prices have been robust since August.

The marker for isomer-MX averaged at \$707.70/mt CFR Taiwan during October-November, versus an OX average price of \$768.60/mt CFR China over the same period, according to Platts data. PA manufacturers are currently willing to pay a maximum of \$730-\$740/mt CFR China for OX cargoes as they struggle with negative PA margins, the buyers said.

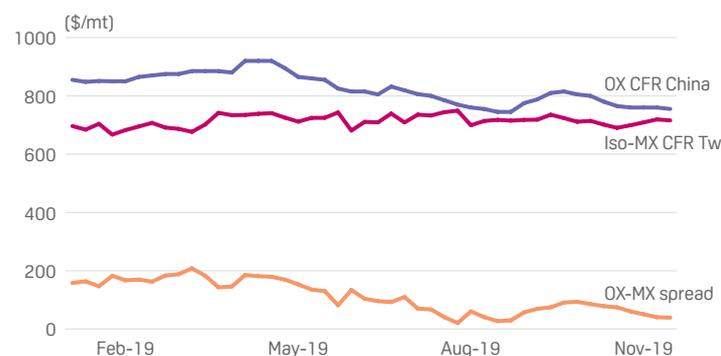
South Korean and Chinese aromatics producers, which include Lotte Petrochemical, SK Global Chemical and Qingdao Lidong whose units run on MX feedstock, reduced or completely shutdown production as PX margins became adverse in September, sources close to the company said. This also curtailed the supply of Asian OX cargoes in the export pool. The situation is expected to continue into the new year as swing OX producers from India, Thailand, South Korea and Japan limit OX cargo supply.

Meanwhile, demand from European buyers has shifted from OX to Russian DOTP imports from the new Sibur-owned 100,000 mt/year DOTP plant commissioned in June in the city of Perm, sources close to the matter said. Due to the freight advantage, European buyers find it cheaper to take Russian DOTP, and this also caters to changing requirements driven by safety concerns.

The start of term talks

Asian OX 2020 term cargo discussions are still in the initial stages, with expectations that these would be delayed into 2020. South Korean and Japanese producers were eying a reduction in PX operating rates in 2020 due to the lack of economic viability, and this will hit the volume of OX term cargoes on offer to the market.

MARGINS FOR OX PRODUCTION NARROW IN 2019



Source: S&P Global Platts

According to market sources, a 2020 term contract offer to a Taiwanese buyer for a 2,000 mt fixed cargo plus 2,000 mt optional cargo per month was at a fixed price, but most Asian buyers prefer a floating price basis.

Another seller said he would ideally like to peg his term contract to either a fixed price or a fixed premium over a mixed xylenes CFR China price, but again buyers may not agree.

— *Samar Niazi, Benjamin Brooks*

Global benzene trading seen picking up with new supplies from Asia

- **Global demand for Asian benzene to outstrip supply growth**
- **New plants in Brunei, Malaysia will increase available supply**
- **US seen starting 2020 relatively tight on lower Korean imports nearing year-end**

Global benzene trading is expected to pick up in 2020 with new capacity from Asia and increased import demand from the US turning the market tighter than this year, according to market participants.

New plants including the Hengyi Brunei PMB petrochemical project and Malaysia's Refinery and Petrochemical Integrated Development facility are expected to achieve on-specification production near the end of this year, adding 500,000 mt/year and 168,000 mt/year of benzene to the market, respectively.

They both could carry a tax-free Form E advantage for export to China, creating stiffer competition between North Asian producers, whose material carries an import tax of 1.2-2%, and Southeast Asian sellers for Chinese demand.

Demand for Korean and Japanese benzene from US end-users is expected to stay healthy in 2020. One producer pegged US demand for imports at 150,000 mt/month with Asian supply filling most of the requirements. In the first three quarters of 2019, North Asian benzene accounted

for 46% of total US imports, compared with India's 4% share in the US.

The US benzene market was dependent on imports for H2 2019, largely due to limited output from toluene conversion units. STDP margins were negative for much of H2 2019 due to weak paraxylene pricing and unit operators ran at nominal rates or shut down entirely.

US and China remain key demand centers for benzene

The US should start the new year relatively tight as a decline in benzene imports from Korea kept the market snug in December. Even as year-end ad valorem taxes dampen demand, the market is expected to remain tight during Q1 as refiners in the US Gulf undergo maintenance.

Key variables include the downstream styrene markets, where pricing has been soft due to muted demand in the polystyrene and ABS markets, in part due to ongoing US-China trade tensions. Styrene prices are likely to remain under pressure even if there is a resolution in US-China trade tensions as new Asian capacity may exceed 2.3 million mt in 2019. Looking into H1 2020, benzene production will be dented as US refiners shift toward summer gasoline, traders said. Historically demand for toluene as a blendstock increases during the summer.

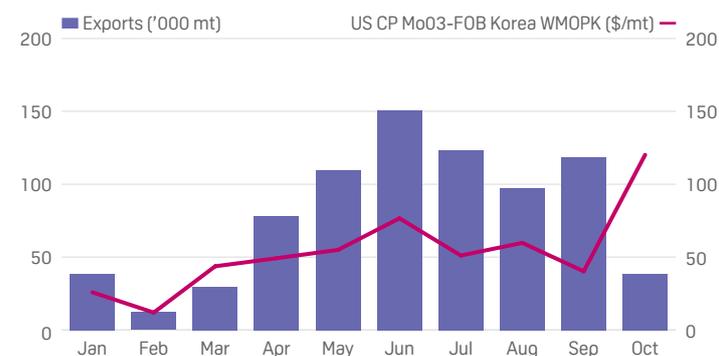
Meanwhile, buyers in East China still express preference for North Asian material due to geographical proximity for their term demand. Purchases on both the spot and term bases are slated to be better in 2020, than 2019, with the start-up of downstream styrene monomer plants, such as Hengli Refinery's Phase II styrene unit with a nameplate capacity of 720,000 mt/year, market participants said.

With the demand growth expected to outstrip supply growth, traders said they expect a wider spot CFR China-FOB Korea arbitrage for 2020. The average spread in the first nine months of 2019 was -\$1.57/mt, according to S&P Global Platts data.

Global trade to pick up amid supply-demand shifts

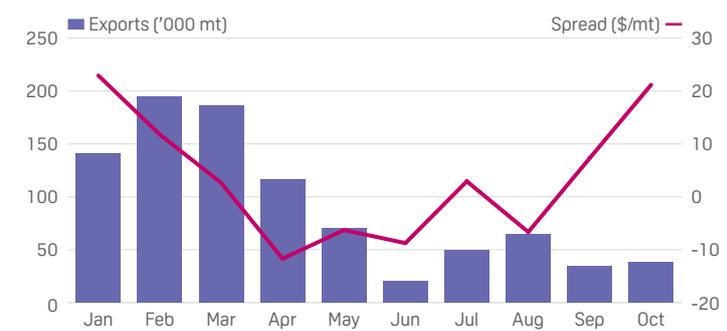
Other risks are a slowdown in the global economy which could narrow production margins of downstream benzene products such as styrene, phenol/acetone, caprolactam,

BENZENE EXPORTS TO US FROM KOREA PEAK MID-YEAR 2019



Source: S&P Global Platts, Korea Industry & Trade Statistics, Market sources

2019 KOREAN BENZENE EXPORTS TO CHINA EXPERIENCE HIGH CORRELATION WITH CFR CHINA-FOB KOREA SPREADS



Source: S&P Global Platts, Korea Industry & Trade Statistics, Market sources

and methylene diphenyl diisocyanate (MDI). The demand outlook remains unclear with macroeconomic indicators looking volatile, traders said. “[It’s] survival of the fittest,” an Asian trader commented.

As margins narrow, plants with lower production costs and other relative competitive advantages should continue to run, while others may shut, market participants said.

With limited growth in the Southeast Asian downstream market, an increase in supply of Southeast Asian material may mean cheaper feedstock costs for regional downstream buyers and could prompt producers to seek alternative demand outlets.

This is a trend already seen in 2019, with Thai benzene moving to Europe and the US, while material from Singapore had been sold to the Middle East in mid-2019. This is set to continue into 2020, with demand from Europe for Asian benzene set to improve.

The European market has fluctuated between tight and over supply conditions. A current oversupply in the benzene market could ease in the beginning of 2020, with a strong gasoline market in Europe attracting more pyrolysis gasoline into the gasoline blend pool instead of going towards aromatics production, participants said.

Production from toluene disproportionation is also expected to be weak, with strong blend value persisting and a weak paraxylene market.

Downstream indicators in Europe point to a challenging market for benzene in H1 2020. Derivative products have struggled in H2 2019, with lower run rates for many products. The nylon chain has come under pressure, as it is linked to the automotive industry.

Phenolics markets in Europe are similarly under pressure, with downstream purchasers of benzene set to negotiate lower volumes for 2020, traders said. Capacity utilizations have been heard as low as 65%-70% of nameplate already.

— [Tess Tseng, Kevin Allen, Simon Price](#)

Styrene faces the challenge of new supply, sluggish demand

- **Supply growth set to outpace global demand**
- **Downstream demand weak amid economic uncertainty**
- **Arbitrage opportunities from EU to Asia to fade**

The global styrene market faces the challenge of new supply from Asia and sluggish downstream demand in 2020, according to market participants.

Asia

The Asian styrene monomer market is expected to see a longer supply-demand balance in the first half of 2020, due to rising capacity in China and slow demand from downstream markets.

China, the largest importer of styrene in Asia, will significantly reduce its imports, with new supply slated to start in December and the first quarter of 2020, sources said. The start of Zhejiang Petrochemical’s 1.2 million mt/year styrene plant and Hengli’s 720,000 mt/year plant means supply will outpace demand growth, weighing on the market and adding to length.

The full impact of the new capacities is expected to be felt after the second quarter of 2020 when new capacities stabilize, leaving some buffer time for market participants to react. Producers in Korea and Taiwan are turning to their local markets or markets outside of China to hedge against lackluster demand there. In the meantime, plant turnarounds, especially in Mainland China and Taiwan, over March and April, are expected to tighten Asian styrene supplies, providing price support.

Asian styrene established a downward trend in late 2019 and sank to a four-year low of \$867/mt on November 11, on ample supply and bearish sentiment. Lackluster demand and increasing supply were the key drivers, and the trend is expected to continue. However, most Asian styrene producers are running at normal rates and sources said they expect rates to remain stable in 1H 2020, with a weak yet positive margin.

Downstream demand remains unclear as end users hold back amid volatile styrene prices. Concerns over global uncertainties, especially US-Chinese trade tensions, also cast a shadow over Asian acrylonitrile-butadiene-styrene (ABS) and polystyrene. Slowing demand from the downstream markets since the fourth quarter may lead to lower operating rates to minimize losses and balance supply, sources said. Any improvement in the Asian downstream market next year is expected come from domestic Chinese demand.

US

US styrene prices are poised to remain under pressure amid lagging demand and a longer market in 2020 due to antidumping duties imposed by China on US material, which effectively eliminates arbitrage opportunities from the US to China.

Demand was further muted by trade tensions and slow growth downstream. These factors are expected to continue putting the US styrene market under pressure in H1 2020. Exactly how the new styrene monomer capacities in China will affect the market is contingent on run rates. However, H1 2020 trade flows out of the US are not expected to change significantly as sellers continue to look to Europe, Latin America and Taiwan.

North American producers have cost advantages via cheap ethylene, but sources said high-cost producers elsewhere could be forced to shut plants. There was some expectation that US participants would move away from a benzene-plus type contract towards formula-based pricing, which includes variables such as feedstocks and natural gas.

Europe

European styrene is expected to remain long in 2020 as the market continues to get to grips with US imports, subdued downstream demand and new Chinese capacities.

The European market has been at the center of a shift in trade flows, with the region becoming the hub for global styrene flows. Europe has also seen an increase in exports to growing economies such as India.

New Chinese styrene capacities will cause increasing self-sufficiency and thus the EU-China trade flow route that emerged in H2 2018 may gradually fade.

An increasing discount between spot and contract European styrene prices could cause a fundamental change in the way contract volumes are priced, according to buyers and sellers. Rising imports and weak demand weighed on the spot market in 2019, resulting in a growing disconnect between spot and industry-settled contract prices. In response, buyers pushed for amendments to 2020 contract formulas to include more spot pricing elements, which they hope will lower their costs.

Downstream, the derivatives markets will be underpinned by economic conditions in Europe.

The polystyrene market faces continued pressure from a shift away to other polymers deemed more recyclable. Next year marks the penultimate year before the European ban on single-use plastics is implemented, with many end users seeking PP, PE and PET.

Many producers have readjusted production portfolios. Total in 2019 closed a plant in Spain, while Styrolution convert a polystyrene line to ABS. This is expected to cause pockets of tightness, although the effect will be short lived as the demand decline continues.

While demand for general purpose polystyrene continues to decline, extruded polystyrene (XPS) demand is set to be healthy. XPS is typically used in the construction sector.

The ABS sector faced a difficult 2019 due to several factors: a slowdown in the automotive sector as well as weak end-user consumption underpinned by economic slowdown. The global automotive industry is expected to remain slow into 2020.

Furthermore, the arbitrage from Asia to Europe is expected to stay open as South Korean ABS remains competitively

priced. "The window does not close, it is a constant arbitrage," a European producer said.

While demand for ABS from the automotive is expected to be weak, from other sectors such as electronics and other household goods it is expected to remain stable.

— *Olu Shaw, Kevin Allen, Sophia Yao*

Gasoline to be a key driver in global aromatics markets

- **US aromatics to be more reliant on blending demand**
- **India to raise gasoline specs in 2020**

Octanes demand from the gasoline segment is expected to be the key driver for the US aromatics market in 2020, with demand from the chemical segment for both toluene and mixed xylenes seen lagging, as length in the global paraxylene market negatively impacts production economics in the US.

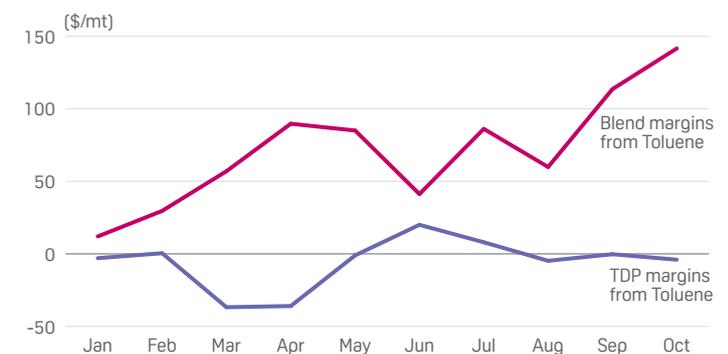
The expectation is that weak paraxylene pricing will keep the PX-MX spread narrow, resulting in weaker demand for mixed xylenes and poor economics for crystallization and Parex units. Similarly, weaker paraxylene pricing is expected to pressure toluene conversion economics, curbing demand for toluene from STDP units.

These dynamics will put increasing importance on aromatics as octane boosters, particularly toluene.

If demand for aromatics as an octane booster slackens, as historically happens during winter gasoline production, aromatics prices could contract and extraction economics would become increasingly important. Weaker pricing could lead producers to push reformate directly into the gasoline pool, thereby tightening aromatics availability in North America.

Toward the latter part of H1 2020, demand from the gasoline segment should be firm and blend values will set a floor for both toluene and mixed xylenes.

GASOLINE BLENDING DRIVES TOLUENE DEMAND IN 2019



Source: S&P Global Platts Analytics

In Europe, toluene enjoyed support from octane demand in Q4 2019 and was favored over mixed xylenes for blending due to its higher octane rates and ample supply.

Due to mixed xylenes' lower RON value, it has attracted lower bids from gasoline blenders, but these have failed to entice producers, with limited spot packages for sale. This is unlikely to change, with demand for mixed xylenes from both chemical and gasoline markets set to remain low in the first half of 2020.

The gasoline market is expected to see good support in H1, with the ripple effect of the IMO 2020 regulations for marine fuel coming into effect from January 1. This leaves room for toluene premiums to gasoline to maintain a higher level, despite the market currently showing a deep backwardation that has kept interest in material locked to the prompt end of the market.

New plants in China

Meanwhile in Asia, there is an expectation among producers and traders that isomer-MX pricing will remain firm in H1 2020 due to the startup of new paraxylene plants in China, several of which are expected to buy mixed xylenes during their start-up phase.

In the second half of 2019, strong demand for aromatics gasoline blendstocks was also observed, especially in the third quarter.

India is set to introduce the next stage of BS-VI gasoline standards in April 2020, which could also impact aromatics demand and supply balances. The next stage of BS-VI gasoline standards in India will primarily reduce the sulfur content from 50 ppm previously to 10 ppm from April 2020 onwards, while the aromatics content remains unchanged from 35% previously.

According to S&P Global Platts petrochemicals analyst Eshwar Yennigalla, the switch in gasoline specs in India could support demand for aromatics for blending purposes.

“Due to the change in sulfur specifications, the various blend components used to achieve the desired could

be different from the previous gasoline blends to cover the resultant octane changes. This could result in higher toluene, MX and reformat blending relative to naphtha and directly disrupt their availability for benzene and PX production especially in the first half of 2020,” Yennigalla said.

— [Gustav Inge Holmvik, Kevin Allen, Simon Price](#)

Toluene conversion margins seen under continued pressure in H1 2020

- Global paraxylene glut weighs on STDP margins
- Asian economics poised to improve

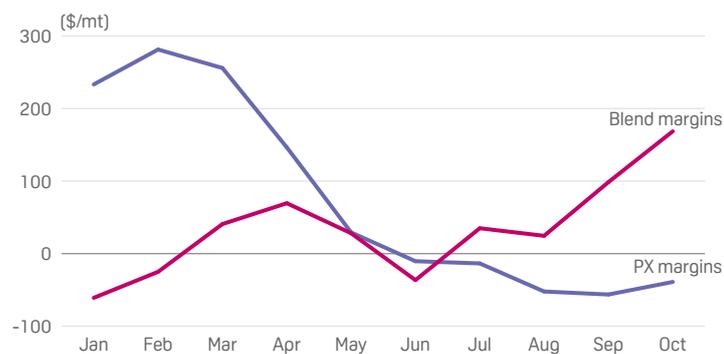
Toluene conversion margins in North America are expected to come under continued pressure during the first part of 2020 as a result of anticipated softness in paraxylene prices.

Selective toluene disproportionation margins (STDP) in the US spent a good portion of the latter half of 2019 in negative territory and economics were dented by lower paraxylene prices as new capacities came online in Asia. Asian producers such as Hengli, Hengyi and Zhejiang have brought over 8 million mt of new paraxylene capacity online and further capacity additions are expected in 2020 and 2021. These new capacities have put paraxylene prices under pressure across the globe and have hurt toluene conversion margins.

These volumes are significant as they will keep pressure on aromatics pricing as Korean and Japanese producers are forced to find new homes for displaced material and likely run at reduced rates. Multiple Asian paraxylene producers cut rates in H2 2019 and that trend is expected to continue into 2020.

Dynamics in the European market were similar and sources said the expectation is that there will be little incentive to run disproportionation. The European toluene market has enjoyed strong support from the gasoline sector as a blendstock, following a lack of demand from the TDI chemical sector. Without strong movements to benzene prices, weak incentive for TDP is expected to remain beyond

ASIAN MX SWITCHES FROM PX TO GASOLINE FOCUS MID-2019



Source: S&P Global Platts Analytics

US STDP MARGINS NEGATIVE FOR MOST OF 2019



Source: S&P Global Platts

internal capture. With benzene volatility increasing over the course of 2019, however, a guaranteed run period required by some producers of two to three months will be difficult to obtain, sources have said.

The two primary factors affecting STDP margins in the US will be the start-up and run rates of downstream PTA units as well as toluene demand from the gasoline segment. Related to PTA, Xinfengming/Dushan Energy has already partially started production at its 2.2 million mt/year PTA unit at Zhejiang, while Shengda is slated to start up a world-scale PTA unit at Sichuan. These two units have a PX requirement of just over 2.4 million mt/year at full rates.

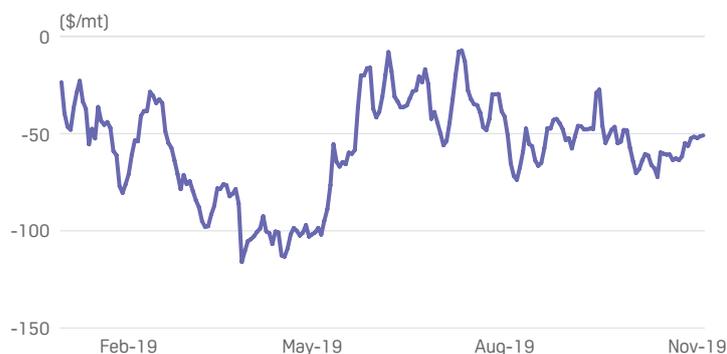
Demand for toluene as a blendstock will also play a key role in STDP profitability. Heading into the winter, toluene demand from blenders in the US has been strong as its properties allow for a significant octane boost without affecting RVP requirements as blenders take advantage of low cost blendstocks. However, if that demand wanes and pushes prices lower as benzene tightens in line with seasonal refinery maintenance by US Gulf Coast refiners in the first quarter, STDP margins could return to profitability in the first half of 2020.

“We are already witnessing a lowering of operating rates at various PX plants across Northeast Asia and this has led to a change in MX pricing dynamics, with MX being priced closer to blending economics, leading to current weaker than normal TDP margins,” said S&P Global Platts Analytics’ Eshwar Yennigalla. “However, these margins are projected to improve in H1 2020 as indirect gains in gasoline octane premiums from the IMO 2020 bunker fuel spec change-related impact would improve MX prices, albeit marginally.”

Asian TDP margins were on average negative by more than \$50/mt in 2019 up to the time of writing in early November, S&P Global Platts data shows. That makes it the worst year for Asian TDP producers in recent years, with both 2017 and 2018 seeing marginal profits.

— *Gustav Inge Holmvik, Kevin Allen, Simon Price*

ASIAN TDP MARGINS NEGATIVE IN 2019 AMID WEAK BENZENE



Source: S&P Global Platts

Will MTBE’s unexpected bull market continue in H1 2020?

- **Asia supply to lengthen; demand for high-octane gasoline key driver**
- **Europe to begin year balanced to tight**
- **US maintenance to keep prices supported**

Tight supply and demand conditions in Northwest Europe and the US Gulf Coast MTBE markets at the end of 2019 will likely see high MTBE values carry over into the beginning of 2020. Markets are expected to rebalance later in H1 as new capacities come online in Malaysia and China. Meanwhile, concerns of diminishing shorts for oxygenated gasoline will be mitigated by overall healthy demand for high-octane blendstocks as the swift to low sulphur fuels support high-octane prices around the globe.

Asia supply to lengthen, demand for high-octane gasoline key driver

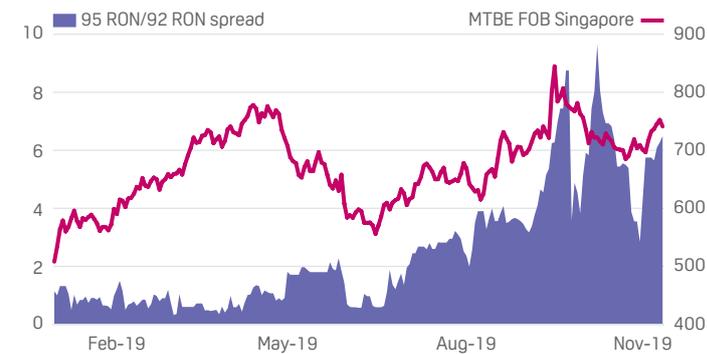
Asian MTBE supply is expected to remain long in the first half of 2020, with around 850,000 mt/year of new capacity coming online in the fourth quarter of 2019.

Malaysia’s Pengerang Refining and Petrochemical, or PRefChem, started a test-run at its new 750,000 mt/year MTBE plant at the RAPID refinery in early November, and China’s Rongsheng Petrochemical is also planning to start up operations at its new 100,000 mt/year MTBE unit before the close of 2019.

“RAPID [start-up] will be the ‘big factor’, as [the refinery] can produce either 95 RON or 92 RON gasolines [as well as MTBE]; therefore, the gasoline market will be under pressure,” a trader based in Singapore said.

Despite around 1.75 million mt/year of new MTBE capacity added last year, Asia’s MTBE and gasoline markets were unexpectedly bullish at the end of 2019 on the back of wide inter-RON spreads triggered by outages in the US and at Saudi Arabia’s Abqaiq oil facility attack.

ASIA MTBE BOLSTERED BY WIDE INTER-RON SPREADS (\$/mt)



Source: S&P Global Platts

The FOB Singapore MTBE marker hit an all-year high of \$844.50/mt on September 18, while the inter-RON spread for 95/92 RON surged to a historical high of \$9.65/b on October 9, S&P Global Platts data showed.

Looking ahead, gasoline specification changes in Malaysia and India next year as well as the implementation of the E10 gasoline mandate in China will shift demand for oxygenated additives, including MTBE, market sources said.

The impact of E10 implementation on global gasoline balances is still under question, however, due to inadequate ethanol capacity in the local market. Faltering Chinese gasoline car sales as well as a slowing manufacturing sector have added to concerns over demand for gasoline blendstocks next year.

Chinese motor vehicle sales in the first half of 2019 plunged 14.35% year on year to 12.18 million units, according to China's National Bureau of Statistics, reigniting worries of a second consecutive year of falling sales. China's Purchasing Manager's Index has also remained below the 50 mark for five consecutive months since May, NBS data showed.

Europe to begin the year balanced to tight

In the European market, firmer buying interest is expected during the typically slow January-February period due to low stocks following a tight supply and demand balance in the second half of 2019.

According to sources, stocks are also likely to be sold off by the close of the first quarter in anticipation of the switch to summer-grade gasoline and ahead of strong seasonal buying interest in that market. "A pick-up is expected after March, towards April," a trader said.

The adoption of E10 in counties like the Netherlands and France will largely be driven by sentiment. However, given the difficulties of including separate tank space for E5, E10 and 98 RON gasoline, service stations may opt to provide only E10 and 98 RON, sources say. This will lead to narrower spreads between 95 RON and 98 RON gasoline, leading to stronger demand for the latter, more premium grade of gasoline and hence stronger demand for high-octane blendstocks such as MTBE.

The MTBE market is likely to be well supplied in the first half of 2020, as lower stock levels, high MTBE prices and gasoline backwardation at the close of 2019 are expected to cause only short-term disruption to the supply environment. There are also no planned turnarounds expected in Europe or supporting regions such as Russia.

Finally, freight prices are expected to increase due to the adoption of the new global bunker fuels mandate. This may discourage long-haul voyages and disrupt MTBE and gasoline

arbitrage plays between the US, Europe and Asia. Tighter global gasoline balances as refineries re-orientate away from max gasoline to max distillate production mode is expected to lead to steeper premiums of blendstocks into gasoline.

US maintenance to keep prices supported

The US Gulf Coast MTBE market was buoyed by demand from Mexico's gasoline sector in 2019, a trend market sources say will continue into 2020.

In the year to date through August, US production of MTBE has averaged 1.725 million barrels per month, up 5% from the same period of 2018. Of that production, the US exported about 1.1 million barrels per month, more than 65% of which went to Mexico. Another 18% went to Chile.

Heavy turnarounds are expected in the first quarter, however, while traders expect the Asian market to be long.

"I do not see any signals that the arb from Asia to Europe would again be wide open as it was in 2019, but I won't rule out the opportunity either," a trader said.

— *Stergios Zacharakis, Michelle Kim, Juan Carlos Manzano*

Supply overhang to weigh on global methanol market

- **New global capacities in 2020**
- **Demand outlook weak despite MTO start-ups**
- **Southeast Asia's methanol appetite to grow**

Global spot methanol prices were on a steady decline throughout 2019, falling from 2018's multi-year highs.

Europe was affected the most, becoming the lowest-priced region, with the FOB Rotterdam spot price tumbling below \$230/mt in October, down 30% from January, according to S&P Global Platts data. During the same period, spot prices in China and the US fell 13% and 22%, respectively.

GLOBAL METHANOL PRICES IN 2019 UNDER PRESSURE ON SUPPLY



Source: S&P Global Platts

New plants starting up, weaker demand and changes in trade policies are among the factors behind the downward trend in global prices and the first half of 2020 does not look any different.

New plants start up in 2020

At least 4.3 million mt/year of new capacity coming online in Iran and Trinidad and Tobago will add to an already oversupplied market in 2020. Caribbean Gas Chemical has delayed the start-up of its 1 million mt/year methanol plant in La Brea, Trinidad and Tobago, to the first quarter of 2020. In Iran, Bushehr Petrochemical started its 1.65 million mt/year plant in November, with market sources anticipating exports beginning in the first quarter of 2020. Middle East Kimiaye Pars Company has targeted commissioning its 1.65 million mt/year site during the same period. Meanwhile in the US, Liberty One's 200,000 mt/year plant will start production in 2020. Other projects, including Yuhuang Chemical's joint venture with Koch Methanol Investments, a 1.7 million mt/year plant in St James, Louisiana, have been pushed back to Q3 2020.

Trade policy changes, including sanctions against Iran and a 25% tariff on methanol exports from the US into China, have led to new flows, with China and Europe mostly having to absorb new supplies despite slower demand.

Chinese customs data showed that China imported 7.66 million mt of methanol from January to September compared to 5.47 million mt over the same period of 2018, already 3% higher than the 7.4 million mt of total imports recorded for 2018 as a whole. The increase was partially driven by higher Iranian imports, as the country is unable to supply Europe due to the sanctions. Trinidad and Tobago, Venezuela, Malaysia and Indonesia's methanol exports to China totaled 1.66 million mt from January to September, exceeding a combined total of 857,680 mt from the same countries for the whole of 2018.

With more methanol from Trinidad and Tobago heading to China, Europe has seen lower volumes, with imports

between January and August at 902,000 mt, down 17% from the same period in 2018, according to Eurostat data. However, overall imports into Europe increased slightly from 2018, with growing supplies from Russia and the US.

Russia has become Europe's largest supplier with 1.09 million mt exported between January and August, up 24% from the same period in 2018. Imports from the US reached all-time high as the country moved to a net export position in 2019, with Europe receiving around 576,000 mt between January and August.

Going forward, market players expect the flows seen in 2019 to continue into 2020.

Demand from MTOS in doubt despite methanol affordability

While ample supply is expected to flow to China, some length could be absorbed by new methanol-to-olefins capacities. Fund Energy is slated to restart its 900,000 mt/year Changzhou MTO in the first quarter of 2020, while Tianjin Bohua Chemical Industry will start its 1.8 million mt/year plant in the fourth quarter of 2020.

Current MTO to polypropylene margins support MTO profitability into 2020 as PP prices fluctuate upwards in a limited range, underpinned by stable demand and occasional supply constraints in China. However, MTO-monoethylene glycol margins have not been so favorable in 2019, as Chinese ethylene supply increased considerably over domestic demand with newly added ethylene units coming into operation in 2019.

An estimated 18 million mt/year increase in Chinese ethylene capacity over 2020-2021 will likely exert downward pressure on ethylene prices, and MTO plants could be compelled to buy ethylene to make MEG and other ethylene-based derivatives, instead of using methanol as a feedstock.

If demand from MTOs weakens in 2020, new plants coming online will have to find alternative demand centers or applications. However, European demand growth from traditional markets like formaldehyde will be limited if the continent's economic growth continues to slow.

New demand outlets emerging

In Southeast Asia, methanol demand is expected to be steady to firm in 2020 as Thailand targets a 10% blend of biodiesel into its gasoil pool in its transport sector from 7% currently mandated, also known as B7. Indonesia and Malaysia also aim to increase their biodiesel blending in their transport sector by 10% next year to B30 and B20, respectively.

About 10%-13% of methanol goes into making palm methyl ester and higher biodiesel blending mandates in Southeast Asia could see an incremental demand of 80,000-195,000 mt/year of methanol next year, with most biodiesel

CHINA'S MTOS PROFITABLE ON PP, BUT NOT MEG



Source: S&P Global Platts

producers locking in term contracts, resulting in limited spot trading activity, as in 2019.

Ultimately, most sellers prefer to send methanol to the more lucrative Chinese market where import volumes are 8 million mt/year compared to Southeast Asia's small, but growing, 3.5 million mt/year market.

— [Lara Berton, Esther Ng](#)

Chemical freight rates set to rise on IMO 2020 as tonnage glut caps gains

- Long-haul routes most affected by higher fuel costs
- Trade patterns shift as China demand dips

Liquid chemical freight rates are expected to rise in the new year as fuel costs increase due to the International Maritime Organization's 0.5% sulfur cap on marine fuels from January 2020, even as global tonnage oversupply and China's weak demand outlook apply downward pressure, market participants said in November.

"The only place I know that tonnage is not long is Baltics," a trader in Europe said. The impact of cost is greater on long haul voyages where the effect of the fuel price is more significant, the trader added.

Nonetheless, charterers are expecting freight rates to increase moving into January, with estimates heard mostly in the range of 10%-20%, and some higher.

That estimate could equate to an increase of \$3-\$6/mt for a route like South Korea to East China, \$5-\$11/mt for South Korea to the US Gulf Coast and a sharply higher \$50-\$60/mt for a butadiene cargo on a longer route such as Northwest Europe to Far East Asia.

The likelihood of rising freight rates is also a key factor for those negotiating CFR contracts for 2020, a Northeast Asian producer said in November, adding there is a great deal of uncertainty about the freight element of the contracts.

The chemical tanker segment has one of the lowest uptakes of Exhaust Gas Cleaning Systems or EGCS, more widely known as scrubbers, in global shipping.

"Chemical tankers are smaller and consume relatively less fuel and also spend a lot more time in port than the bigger ships, which have typically opted for scrubbers," said Bjoern Kristian Roed, Odfjell's manager of investor relations and research, earlier this year. The Norwegian company operates one of the world's largest fleets of chemical tankers.

This means that the chemical tanker fleet will be largely dependent on new low sulfur fuels, which are expected to be more expensive than traditional high-sulfur options.

The spread between Singapore Marine Fuel 0.5%S and FOB Singapore 380 CST HSFO hit a year-to-date high of \$203.16/mt October 22 as IMO 2020 loomed, S&P Global Platts data showed.

"Based on discussions in recent contract renegotiations, we expect to recover the increase in our fuel costs through bunker surcharge clauses, thanks to a shared understanding among all parties that it is economically unfeasible for the shipping industry to absorb these costs," said Niels G. Stolt-Nielsen, CEO of Stolt-Nielsen Limited, another major chemical tanker owner, in the company's November earnings release.

US and European freight rates are also expected to be higher in the first half of 2020 amid expectations that trade lanes will be altered by additional chemical capacities coming online in Asia, in addition to IMO 2020-related higher fuel costs.

"Ships need to move from IFO 380 to either MGO or VLSFO, which costs between \$200-\$300/mt more than IFO 380," a source said. "Those fuel costs will apply for 2020 and beyond meaning rates will rise."

However, some participants anticipated the impact will be limited, expecting that costs would be absorbed and subsequently passed on.

Focus on new capacities

Much of the chemical shipping sector's focus in Asia remained on new capacities in China, where demand for products such as paraxylene and styrene was expected to soften.

Almost 2 million mt/year of new styrene capacity is expected to start up in China in late 2019 or early 2020 and a further 2 million mt/year by the end of 2021. Similar dynamics were seen in PX, where more than 10 million mt/year of new capacity is expected to come online over 2019 into early 2020.

These new capacities are expected to displace imported material that has historically come from either the US or other Asian countries, and will shift trade patterns, sources said.

Trade flows are also expected to continue to be impacted by US-China trade tensions, though sources have noted that the positive impact of a resolution to the dispute would be dampened by previously announced antidumping duties on products like styrene.

Overall, the impact on aromatics is expected to be seen largely in diminished demand for both PX and styrene in H1 2020 as freight rates inevitably rise.

— [Gustav Inge Holmvik, Kevin Allen, Stergios Zacharakis](#)

OLEFINS

New capacities, weaker downstream markets to weigh on ethylene in 2020

- US exports to rise after new Enterprise terminal starts up
- Steam cracker operations likely to decline in 2020

A rise in ethylene production capacities in the US and Asia, the start-up of a new export terminal in the US and expected weakness in ethylene's downstream markets paint a heavy supply picture of the global ethylene market for 2020, which will in turn weigh on spot prices.

"We do not have positive thoughts on the outlook for next year because of the downstream markets," an Asia-based market source said.

In the US, around 8.18 million mt/year of new ethylene production capacity has come on stream since 2017, with another 2 million mt/year planned by the end of 2019, according to company announcements. Another six naphtha-fed steam crackers with 8.3 million mt/year of capacity are slated to start-up late 2020 and beyond.

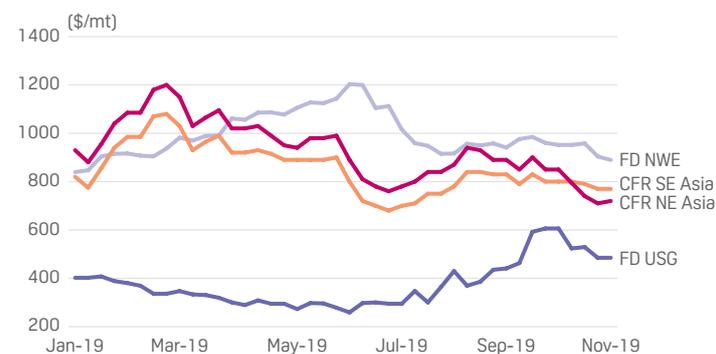
In Asia, China's Hengli Petrochemical and Zhejiang Petrochemical would add a total of 2.9 million mt/year of ethylene capacity in 2019-2020.

On the other hand, spot ethylene demand would likely be pressured by declining downstream demand and prices, such as for polyethylene and monoethylene glycol, market sources said.

New US terminal to raise outflow, hit Europe's output

The US currently has a single ethylene export terminal, operated by Targa Resources deep in the Houston Ship Channel, with an export capacity of 300,000 mt/year, though actual outflows average about 200,000 mt/

US ETHYLENE TO REMAIN THE LOWEST-PRICED REGION



Source: S&P Global Platts

H1 2020 EUROPEAN STEAM CRACKER TURNAROUNDS SCHEDULE

Owner	Type	Location	Capacity ('000 mt/yr)		Offline
			Ethylene	Propylene	
Versalis	CRK	Priolo	490	250	Jan-Feb
Repsol	FCC	La Coruna		70	Q1
Sabir	CRK	Wilton	865	415	Spring
Dow	CRK	Tarragona	675	300	Spring
Shell	CRK	Wesseling	260	165	Q2
Ineos	CRK	Dormagen 5	544	325	April-May
ExxonMobil	Ethylene plant	Mossmorran	830		Summer

Source: S&P Global Platts, Industry sources

year. Enterprise Products Partners' new 1 million mt/year export terminal will ramp up throughout 2020 and launch its second phase in the fourth quarter of 2020. Once fully operational, the gap between spot US ethylene prices and those in Asia and Europe will likely narrow with less landlocked product, beginning in 2020, though ethane-based US ethylene will retain its cost advantage.

As a result of new US capacities, European producers would need to reduce ethylene production rates and offer prices, in light of additional imports into the region, market sources said.

They added that ethylene cargoes from the US were unlikely to move to China in the near-term amid US-China trade tensions. According to the Chinese customs department, the country's total ethylene imports for January-September rose 8% from a year earlier. China's ethylene imports from the US, however, plunged 88% over the same period, the data showed.

European producers battle for market share

European ethylene producers will try to keep their market share amid the competitive inflow from the US, and will likely do so by leveraging on contract prices as well as offering attractive spot volumes to domestic customers, according to market sources.

Over January-September, US ethylene exports totaled 223,422 mt, up 39.5% from a year earlier, the latest customs data showed. Of the total, US ethylene exports to Taiwan fell 22% from a year earlier to 49,015 mt. On the other hand, US ethylene exports to Belgium was 98,089 mt for January-September compared to 7,323 mt a year earlier, while exports to Spain was 11,477 mt compared to 20 mt, the data showed.

In Asia, for 2020, a heavy steam cracker turnaround schedule is expected in Japan compared to 2019. However, market sources said the expected supply tightness would be easily covered by additional capacities.

The European steam cracker turnaround schedule is not expected to be as heavy as in 2019, so supply in the first half of 2020 will likely be healthy to heavy, given the expected weak macroeconomic environment.

Naphtha feedstock price expected to firm in 2020

Market participants expect the naphtha feedstock price to firm in 2020, following the implementation of the International Maritime Organization's global sulfur limit for marine fuels at 0.5% from January 1, 2020, down from 3.5% currently. The market price for crude oil and naphtha will likely rise as crude runs increase to meet rising demand for distillate bunker fuels.

In Asia, the ethylene/naphtha spread narrowed to an average of \$152.63/mt on October 25, 2019, the lowest level since May 2012, and lower than the typical breakeven spread of \$300-\$350/mt, S&P Global Platts data showed. But steam cracker operations remained high in 2019, supported by healthy margins for propylene and butadiene production, which would likely fade out in 2020, according to market sources.

In Europe, the crackers are already reported to be turning down operating rates in order to cope with a tough combination of weak derivative demand and ethylene imports from the US, sources said.

Meanwhile, the market is anticipating an impact from Enterprise's new ethylene export terminal. Spot CIF Northwest Europe ethylene prices will average \$1,008/

mt in 2020, compared with \$1,068/mt in 2019, according to S&P Global Platts Analytics. Naphtha prices are expected to rise in 2020 along with crude prices, further exacerbating the gap between LPG and naphtha prices.

US ethylene prices are expected to maintain their advantage over other regions on the back of cheap ethane, but cracker outages can cause volatility, sources said. In June, US spot ethylene hit an all-time low of 11.75 cents/lb FD Mont Belvieu. By late November, prices reached 23 cents/lb, but had fallen to 16.25 cents/lb by mid-December.

— [Kristen Hays](#), [Miguel Cambeiro](#), [Fumiko Dobashi](#), [Shermaine Ang](#)

Asian propylene eyes support in H1 2020 from new PP plants, turnarounds

- **Two PDH plants to start in China in 2020**
- **More new PP plants to add to Asian demand**
- **Five steam crackers in Japan scheduled for turnaround**

Propylene markets in Southeast Asia, Taiwan and Japan are expected to be supported in the first half of 2020 by the startup of downstream polypropylene plants and a heavier-than-usual turnaround schedule.

In Japan, five steam crackers with a total propylene capacity of over 1.2 million mt/year have turnarounds planned in H1, heavier than in the same period of 2019, S&P Global Platts records show.

South Korea's Hyosung Chemical plans to start its 300,000 mt/year PP plant in Vietnam over December-January and its propane hydrogenation or PDH plant only by Q4 2020, likely resulting in it seeking feedstock propylene in the spot market in H1.

Thai IRPC's steam cracker, which can produce 310,000/mt year of propylene, is scheduled to undergo turnaround in January-February. In Taiwan, CPC plans to shut its No. 6 steam cracker with 430,000 mt/year of propylene capacity at Lingyuan in February for turnaround, and Taiwanese contract buyers expect spot supply there will tighten in H1 as a result.

However, the startup of Pengerang Refining and Petrochemical's new cracker in Malaysia was expected to have a minimal impact on spot propylene prices as its output will be largely consumed captively for PP production.

In China, the propylene market may face downward pressure in H1 due to rising supply and weakness downstream.

China's Fujian Meide Petrochemical's 660,000 mt/year and Zhejiang Huahong New Material's 450,000 mt/year

KEY OLEFINS EXPANSION PLANTS IN ASIA ('000 mt/yr)

Company	Location	Ethylene	Propylene	Butadiene	Startup
RAPID	Malaysia	1,200	600	180	2019
Heng Li	China	1,500	750	140	2019-20
Zhejiang Petrochemical	China	1,400	700	200	2019-20
JG Summit	Philippines	300 > 400	190 > 240	70	H1-2020
Shenghong	China	1,100			2021
BST	Thailand			80	2021
Hyundai Oilbank/Lotte	Korea, Daesan	750			H1-2021
GS Caltex	Korea, Yeosu	700			2022

Source: S&P Global Platts

ASIA'S STEAM CRACKER TURNAROUND IN 2020 (mt/yr)

Company	Location	Ethylene capacity	Propylene capacity	Turnaround dates
Japan				
Idemitsu	Tokuyama	623,000	450,000	Sep-Oct, 60 days
Maruzen	Chiba	550,000	230,000	May-June
Mitsubishi Chem	Kashima 2	526,000	260,000	May-June
JXTG (ex-JX)	Kawasaki	404,000	260,000	Mar-Apr
Tosoh Corp	Yokkaichi	527,000	270,000	Mar-Apr, 30-40 days
South Korea				
Lotte	Yeochon	1,200,000	500,000	5 Oct-3 Dec
SK Energy	Ulsan 2	660,000	350,000	Oct, 1 month
YNCC	Yeochon 2	580,000	270,000	Q4, 60 days
Taiwan				
Formosa	Mai Liao 3	1,200,000	600,000	Aug-Sep, 1.5 months
CPC	Lin Yuan 6	720,000	430,000	Feb, 2 months
Malaysia				
Titan	Pasir Gudang 2	500,000	260,000	early March, 45 days
Thailand				
Map Ta Phut Olefins	Map Ta Phut	900,000	400,000	May-June
PTT Chemical	Map Ta Phut (I4-1)	515,000	310,000	Jan-Feb 40 days
	Map Ta Phut (I4-2)	400,000	50,000	mid-Jan/mid-Feb
	Map Ta Phut (I-1)	461,000	127,000	March
Singapore				
Exxon Mobil	Pulau Ayer Chawan	800,000	435,000	March-May

Source: S&P Global Platts

PDH plants are both due to start up in Q1, reducing China’s reliance on imports.

“We will not have turnarounds for our two PDH plants in H1 and I have not heard other PDH plants in China planning turnarounds,” said a source at a PDH plant in east China, adding the lighter-than-usual turnaround season may increase domestic supply.

The new PP capacity may absorb some of this, but an oversupplied PP market would eventually weigh on both PP and propylene prices in China, the source added.

European demand weak

European demand is expected to remain weak in H1 2020, with geopolitical issues such as Brexit and slowing economies impacting demand from key derivatives. However, changes to feedstock dynamics due to IMO 2020 could tighten global supply and lend support to prices as the year progresses.

IMO 2020 could potentially tighten gasoline supply, which may in turn impact naphtha prices.

Europe will be susceptible to IMO 2020’s impact given it relies more on naphtha as feedstock for cracking than the US and the Middle East, despite recent investments to increase flexibility in its feedstock usage.

Increased US polyethylene imports into Europe may also drag down European PE production and subsequently, cracker run rates.

Europe’s propylene capacity is also expected to inch down to 1.89 million mt/year by next June from 1.91 million mt/year in December 2019, according Platts Analytics.

Europe’s net propylene imports rose 196,000 mt on year over January–August to 439,000 mt, Eurostat data showed. The US supplied 185,000 mt, up from 164,000 mt a year earlier.

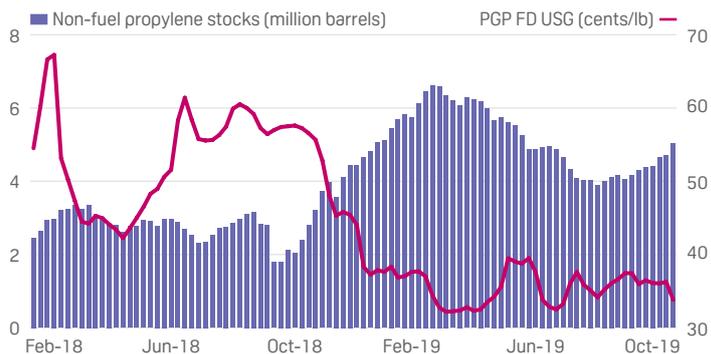
However traders were seeing fewer offers from the US in late 2019 and did not to see any structured contracts

US-EUROPE PROPYLENE SPOT PRICE ABRITRAGE CLOSES IN SECOND HALF OF 2019



* Arbitrage calculated using S&P Global Platts propylene polymer grade FD US, European polymer grade propylene and freight for 5-10kt parcel
Source: S&P Global Platts, US Energy Information Administration

HIGH US PROPYLENE STOCKS PRESSURE PRICES THROUGH 2019



Source: S&P Global Platts, US Energy Information Administration

in place for 2020 after the price spread between US and Europe narrowed, making it less attractive for US exporters to sell to Europe.

The spread between delivered US Gulf and NWE propylene averaged \$116/mt in October, down sharply from \$343/mt in June, Platts data showed.

US inventories high

Increased reliability at US PDH plants in recent years has resulted in sharp increases in propylene stocks in 2019, pressuring down prices, and some market participants expect high inventories to persist into 2020.

One source expected this to continue until additional downstream facilities came online, while another noted PP was long globally. However, a third source said propylene supply in Q1 could potentially tighten in view of unconfirmed talk of PDH plant turnarounds.

US non-fuel propylene stocks were up 56% on year at end October, latest data showed.

While outages at PDH plants lowered inventory levels in H2 2019 from the year-to-date high reached in February, stocks remained solidly above 2018 levels, keeping propylene prices lower for most of 2019 than the year before.

In addition, most US propylene production facilities are landlocked, crimping exports. The US has one propylene export terminal operated by Enterprise at its LNG export terminal on the Houston Ship Channel, which can load up to 5,000 mt/day of propylene, and is under expansion.

Enterprise is also moving ahead on a second 750,000 mt/year PDH plant at its Mont Belvieu natural gas liquids hub, with LyondellBasell as its anchor customer. LyondellBasell considered building its own PDH plant, but CEO Bob Patel told investors in September it was focused on derivatives rather than olefin production.

PetroLogistics, which built the first US PDH plant, a 658,0000 mt/year facility later acquired by Flint Hills

Resources, announced plans in July to build a 500,000 mt/year PDH plant on the US Gulf Coast.

— [Melvin Yeo](#), [Astrid Torres](#), [Kristen Hays](#)

Butadiene capacity increases, despite expectations of weak demand

- New butadiene plants to start in Asia
- Demand seen weak amid bearish downstream

Strong global butadiene supply looks set to continue in the first half of 2020, as new capacity comes online in Asia, despite expectations that downstream demand will remain weak.

Although H1 2020 will see more butadiene turnarounds in Asia than the same period of 2019, particularly in Japan, any shortfall looks likely be offset by the expected start-up of new butadiene units.

In China, new butadiene plants include a 140,000 mt/year unit by Hengli Petrochemical and a 200,000 mt/year unit by Zhejiang Petrochemical.

In Malaysia, Pengerang Refining and Petrochemical (PRefChem) brought online its new 180,000 mt/year butadiene unit in October-November. The company looks set to export all the butadiene produced as it has no downstream units that use butadiene.

However, Asia looks set to continue to receive deepsea cargoes from abroad, despite China continuing to increase its domestic capacity.

In 2019, the CFR China butadiene price benchmark averaged at \$1,119/mt to the end of October, according to S&P Global Platts data. That was a significant decrease from 2018 when the CFR China butadiene price averaged \$1,430.56/mt.

As a result of falling butadiene prices in 2019, the spread to feedstock naphtha fell to an average of \$601/mt for the

ASIA'S BUTADIENE PLANT TURNAROUNDS IN 2020

Company	Location	Size (mt/yr)	Turnaround dates
South Korea			
Lotte	Yeosu	130,000	Oct-Dec
Taiwan			
CPC	Linyuan 6	90,000	Feb
Formosa (3)	Mai Liao	180,000	mid-Aug to end Oct
Japan			
JSR	Yokkaichi	148,000	Feb-Apr
JSR	Kashima	120,000	early May-early July
Chiba BD 2	Chiba	85,000	May-June
JXTG (ex-JX)	Kawasaki	70,000	Mar-Apr
Zeon	Tokuyama	180,000	Sep-Oct

Source: S&P Global Platts, Company sources

US TO CHINA ARBITRAGE CLOSED ON PAPER DURING MOST OF 2019



* The arbitrage was calculated by subtracting Platts freight rate assessment and Platts weekly CIF USG price from the CFR China weekly price.
Source: S&P Global Platts

first 10 months of 2019 compared with \$814.46/mt in 2018, according to Platts data. As steam cracker production yields of butadiene are low compared to ethylene and propylene, poor or negative butadiene margins will not typically affect operations.

But the market will continue to monitor steam cracker operating rates in Asia closely, with falling ethylene margins potentially leading to run cuts in 2020. In 2019, ethylene margins fell into a negative territory, which prompted talk of possible cuts, although healthy margins for propylene kept steam cracker operations running fully. Operating rate cuts don't look all that likely in H1 2020 given there are a number of steam cracker turnarounds during the period.

Crackers and feedstocks to dictate Europe's direction

In Europe, views are mixed on the 2020 outlook for butadiene, with direction dependent on feedstock.

"We feel the market is divided into one of two camps: one, very long with abundant material throughout the year; two, reduced run rates/lighter cracker runs will result in a tightening of the market," one consumer told Platts.

Sources said that lower cracker run rates were dependent on US polyethylene imports, with any increase resulting in less demand for European ethylene. This would lead to a need for rebalancing ethylene by cutting cracker run rates, subsequently resulting in lower butadiene volumes.

European consumers also look set to reduce contractual volumes in 2020, amid concerns from some that they were over-contracted in 2019. Well over 90% of butadiene transactions in Europe are typically carried out via contract. Sellers had been heard pushing for longer-term deals to make up for potentially reduced contract volumes.

Concerns were heard from certain quarters that butadiene storage capacity in Europe may be in short supply if length in the market develops.

Weak demand curtails US pricing

Following an extended period of static spot pricing, US butadiene market participants anticipate more of the same for H1 2020, with longstanding fundamentals of ample supply and muted demand remaining unchanged.

However, pricing fallout was expected to rise in early 2020 from two major explosions and fires that hit TPC Group's butadiene and raffinate complex east of Houston along the Houston Ship Channel in late November 2019. The site produces up to 20% of US butadiene. While oversupply muted immediate impacts, both spot and contract pricing could rise in January with butadiene production halted and no timeline for restart, sources said.

US spot butadiene entered November at 37.50 cents/lb, stable from late July and trending flat to lower through year-end 2019. Over the same period contract prices declined, first settling down 3 cents at 43 cents/lb for July before a 3 cent decline to 40 cents/lb for August followed by another 2 cent drop to 38 cents/lb for November, the lowest level for the US butadiene contract since August 2016.

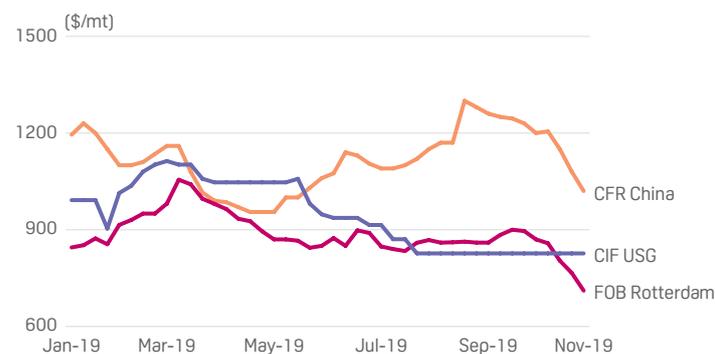
With most customers having their inventory needs fulfilled on a contract basis throughout the year, both spot volumes and demand were virtually nonexistent.

"Demand has been lackluster for some time now, with many buyers taking contract minimums or less," one source said. "C4 availability should remain mostly stable despite the fact that propane and butane are no longer as advantaged over ethane as we saw the last quarter or so."

In the second half of 2019 butadiene was described as long by market sources, with bearish market conditions set to linger into the new year.

According to market sources, the expectation is that these market conditions will hold. With a depressed automotive industry, there is little downstream demand for butadiene in the form of derivative synthetic rubber (SBR).

FOB ROTTERDAM AT 3-YEAR LOW ON EXPORT MARKET WEAKNESS



Source: S&P Global Platts

However, as one source put it, "There always seems a very fine line between a long and a short market, so it does not take much for things to change."

— *Callum Colford, MK Bower, Fumiko Dobashi*

POLYMERS

Global PE oversupply to weigh on prices in H12020

- PE trade flows shifting amid US-China trade war
- Increased US imports pressuring European pricing
- Asia demand growing, but below previous peaks

The US natural gas shale boom's bountiful cheap ethane feedstock has given producers a key supply cost advantage, bringing about an infrastructure renaissance transforming the US into a global supplier, with its sights increasingly on Asia, the largest demand center.

However, with the first wave of new US crackers and polyethylene plants reaching its end, global polyethylene markets will enter 2020 facing oversupply and pressured prices, with demand expected to lag behind throughout the year.

Asia, Europe and Turkey see similar challenges with abundant resin supply amid economic slowdowns and continued uncertainty stemming from the US-China trade war.

Thirteen new PE plants in the first wave of startups from 2017-2019 will increase North American PE capacity by 35% to more than 27 million mt/year. The 15 plants slated to start up through the 2020s will push that overall capacity up by another 26% to 34.35 million mt/year.

Prices are showing oversupply pressure. By early November 2019, HDPE blow-molding prices had fallen 43% to \$782/mt FAS Houston since mid-March 2018. In the same span, LLDPE fell 41% to \$772/mt FAS, and LDPE fell 37% to \$871/mt FAS.

At least one of the new plants slated to start up by year-end 2019 will ramp up in early 2020, that being LyondellBasell's new 550,000 HDPE plant alongside the Houston Ship Channel. The plant had been slated for startup in mid-2019. However, market participants expect price pressure from oversupply to linger into 2020.

"We don't see prices rising in Q1 2020," a PE trader said. "Globally, there's already so much supply."

PE imports to challenge European pricing

Over the course of 2019, fallout from that US capacity expansion has been sorely felt in Europe. Spot pricing for some grades, in particular HDPE, have fallen 19% since June under the weight of cheaper US imports. Further decreases are expected for the remainder of 2019 and well into 2020, the result of a double whammy of a weak global economy and increased US imports set to challenge high-cost European producers.

Net imports of HDPE into the EU more than tripled to 732,007 mt from January to August, compared with 274,300 mt in the same period in 2018. That increase stemmed mainly from a jump in US imports of lower cost resin, European statistics agency Eurostat data showed. US HDPE film import cargoes at the start of November saw DDP trucks offered below Eur900/mt (\$983), and even as low as Eur800, down from the June high of Eur1,170/mt.

Market participants question when availability of such low spot prices will impact the system of monthly contract prices that dominates European supply. In other ethylene derivatives contracts, such as glycols, spot was already reflected in 2020 monthly contract formulas. A weak 2020 awaits both sellers and buyers as they grapple with anticipated reduced consumer demand.

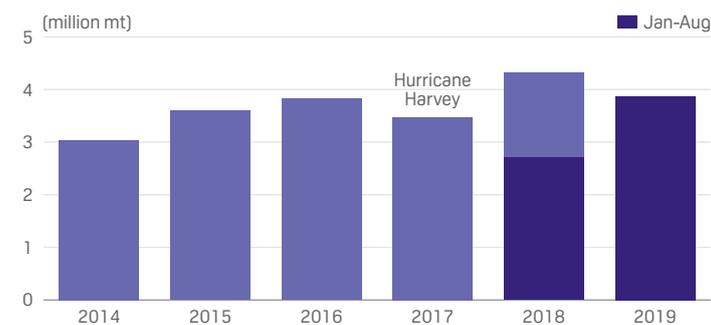
In the same vein as Europe, supply is expected to remain abundant in the Turkish market amid incoming US volumes with structurally low demand.

Asian wait-and-see approach to PE supply

With most parts of the world experiencing an economic slowdown, Asian buyers adopted a wait-and-see approach throughout 2019. Market players fear this trend will continue globally, with sources taking market cues from Asia, as the region accounts for 60% of global demand.

While polyethylene demand in China continues to grow, it has not matched the same peak levels seen in previous years, sources said.

US POLYETHYLENE EXPORTS GROWING AS NEW CAPACITY COME ONLINE



Average PE demand growth was expected to rise in line with GDP growth forecasts across most of Asia in 2020, market sources said. Consumer convenience and portion control will lend support to the boom in packaging, and hence higher PE demand.

However, China's PE demand is expected to be negatively impacted by about 2% annually, or 1 million-2 million mt, of plastic production if tariffs persist, market sources said, even though the US in October held off on increasing those taxes to 30% from 25%.

On the other hand, some end-users outside of China said they have more finished product orders from the US, but were cautious to expand aggressively due to the current volatile macroeconomics from the trade dispute.

Asia's PE surplus will continue to be absorbed by China's demand through some redirection of regional cargoes, sellers said. Some participants were expecting more Southeast Asian cargoes to be exported to China due to regional plant expansions and the ASEAN-China free trade agreement.

The Asian PE market was forecast to be in net deficit of 14 million mt/year in 2020, with a spike in demand expected in March during China's seasonal peak manufacturing period. Middle East producer sources estimate that around 12 million mt/year of PE in 2020 will continue to diversify end-product portfolios, where competition is less intense.

China remains the third-largest export market for US PE despite 25% tariffs on US HDPE and linear low density PE in place since August 2018. While flows of US material have increased to Europe, Vietnam, Turkey and Brazil, Asia remains the largest global demand center, with China at the top.

— [Kristen Hays, Hui Heng, Miguel Cambeiro](#)

Latin America looks towards the US for polyethylene direction for 2020

- Global deceleration could impact region's growth
- Political tensions could affect activity in the region

Latin America is expected to enter 2020 with the pressure from international markets, including the US regarding its polyethylene imports, driving prices in the region accordingly with the American exports market.

Hikes are expected in the global market on the International Maritime Organization rule change at the beginning of the year.

In the West Coast South America and Brazil, PE prices are expected to follow the US direction, and expectations are not favorable for large hikes in the coming months -

expect for the IMO pressure. Ongoing political tensions in Bolivia, Chile, Ecuador and Peru could affect imports during the first few months of 2020. The US market will continue to be the benchmark for regional producers in determining pricing.

Market participants in the region will also eye the US for local currency exchange-rate volatility. Local producers typically set their domestic prices based on international prices and currency exchange. For buyers in Latin America, price volatility and devaluation of the currency against the US dollar has driven buying lower in some cases, limiting participants to committing to lower volume sizes.

Regional producers in Latin America will continue facing the right equilibrium between pricing and market share. The challenge is expected to intensify as international price volatility and exchange-rate fluctuations continue in H1 2020.

In the Brazilian market, expectation for the first half of the year lies on the tax reform, which will be discussed in the local congress in the coming months. With the pension reform approved in the fourth quarter, foreign investments are being watched by the industry, betting on higher consumption. South American, and more specifically, Brazilian pricing is largely more correlated to Houston pricing moves than to Asia or Northwest Europe, S&P Global Platts data showed.

Brazil is expected to produce 2.61 million mt of polyethylene in 2020, in line with the expectation for 2019, according to S&P Global Platts Analytics, with a trade surplus of around 250,000 mt for the year.

Mexico is expected to produce 1.32 million mt of PE in 2020, also in line with 2019. The country would have a trade surplus of more than 1 million mt - in great portion represented by US imports. In domestic markets, the pricing trend is more relevant to the Mexican market due to its proximity to the US, while it shows less relevance for Argentina's domestic market.

LATIN HDPE FILM PRICES HIGHLY CORRELATED TO USGC MOVEMENTS



Source: S&P Global Platts

Argentina is expected to produce 581,000 mt of PE in 2020, nearly unchanged year on year. However, the country's economic and political situation is also attached to market expectations. Argentina's Presidential election in late October is expected to change several economic factors in the country for the next four years, and it may alter expectations for the petrochemical sector in the near future, sources said. Argentina's central bank restricted US dollar purchases to \$200 a month - down from \$10,000 a month — until December, when Fernandez took charge, a strategy to retain investors by reducing the US dollar demand and to stabilize the Argentine peso. That would hamper imports due to the limit of US dollars purchase, benefiting local producers, which could generate pricing increases due to less competition.

— [Guilherme Baida](#)

Global PP faces economic slowdowns, tepid demand in H1 2020

- **Global market expected to be balanced to long in 2020**
- **US PP exports expected to be soft amid limited feedstock**

Polypropylene faces mixed prospects in Asia and continued demand weakness in the US and Europe going into 2020, with expectations that downward pricing trend from 2019 will linger amid slow demand and rising supply.

While each region has unique prospects for PP, the global polypropylene market is expected to remain generally balanced to long through 2023 and tighten past 2024, according to S&P Global Analytics. The majority of the new PP production is expected to come online from 2021 to 2023, creating the so-called low margin, trough years, Platts Analytics data showed.

Asian outlook mixed amid naphtha cost-push

The outlook for Asian PP for the first half of 2020 was mixed amid a cost-push from expected higher naphtha prices and several PP startups in the region.

However, market sources said healthy demand from various sectors, including molded plastics, stretchable plastics and automobiles, might spur demand for demand for various PP grades.

Some end-users, however, were more pessimistic, seeing slowdowns in home appliances and fast-moving goods amid certain Asian governments launching anti-plastic movements, they said.

Despite the current lull, average PP demand growth at 7%-8% was expected to rise in line with GDP growth forecasts across most of Asia, and be slightly higher in China and India.

Some traders estimate that Asia will be net short 2 million mt/year of PP in 2020 despite more production capacity, as demand was set to improve significantly. Supply, particularly of copolymer grades, will remain tight as demand surpasses another 3 million-4 million mt/year of new PP capacity in 2020, mainly in China, according to Platts Analytics.

That capacity boost is expected to open arbitrage opportunities to export Chinese homopolymer PP to Southeast Asia and Latin America, industry sources said.

Some excess Asian homopolymer supply was expected to flow into South America, which has a deficit of around 1 million mt/year in 2020, according to Platts Analytics.

Many producers also plan to sell more material in Bangladesh, Pakistan and India in coming months, with cumulative import demand of 1.4 million mt/year in 2019, up around 10% year on year, according to seller estimates.

No new capacity was seen coming online in the Middle East, a key supply region, which exports around 4 million mt/year of PP, according to Platts Analytics.

Europe facing pressure from oversupply

In Europe, price pressure from oversupply was expected to continue into 2020 as producers struggle to destock.

European PP spot prices fell 17% from Eur1,200/mt at the start of 2019 to Eur1,000/mt in early November, according to S&P Global Platts data. That decline stemmed from long supply and weak demand, pressured by Brexit and a regional economic slowdown that hit the automotive industry. Environmental pressures reducing consumer plastic use also siphoned demand.

In addition, converters over committed to contractual volumes in anticipation of a heavy turnaround season for upstream propylene that failed to tighten downstream PP supply. The spread between spot and contract widened by 53% to Eur245/mt from January to early November, which is expected to prompt buyers to take less volume on contract in favor of cheaper spot volumes.

GLOBAL POLYPROPYLENE HOMO INJECTION SPOT PRICES SLIDE IN H2



Source: S&P Global Platts

However, if feedstock propylene supply tightens and costs rise due to IMO 2020, PP could follow suit. European PP monthly capacity is expected to increase to 1.14 million mt in June 2020 from 1.12 million mt in December 2019, according to Platts Analytics data.

US oversupply to linger

In the US, 2020 is expected to bring more of the same seen in the second half of 2019: excess inventory and low demand.

US export opportunities shriveled in late 2019, pushing spot prices for homopolymer injection-grade PP below \$1,000/mt FAS Houston for the first time since January 2017, according to Platts data.

US producers maintained relatively stable PP pricing on the back of arbitrage opportunities for propylene to Europe, but once that window closed and supply rose after turnarounds, propylene prices dipped. With nothing to prop it up, PP pricing tumbled to a near three-year low.

And more supply is coming. Braskem's new 450,000 mt/year PP plant near Houston was on course to start up in H2 2020, though market players expect startup in the third quarter of next year. In addition, no new propane dehydrogenation units are expected to start up before 2023, leaving feedstock propylene less competitive.

"Until new PDH units come online and keep US propylene prices more competitively in line with other regions of the world, US PP will continue to remain more of a regional product," one source said.

One producer source forecast an uptick in domestic demand and firmer spot pricing with slightly shrinking contract spreads following year-end renewals. Trader sources said producers must manage inventories and, in turn, pricing transparency. Those measures weren't apparent as year-end approached, leaving market participants resigned to a quiet export market.

"I don't know if that changes in December or changes next year or we keep plodding along," one source said. "That's where it's stuck right now. You're either going to rationalize the usage rates or we'll continue to be fractured."

— *Kristen Hays, MK Bower, Hui Heng, Harry Morton*

Latin American PP market to continue to look to Asia, Middle East for direction

- Latin PP consumption to be relatively stable net year
- Regional producers fight for market share

The Latin American polypropylene market is expected to continue to look to the Middle East and Asia for direction instead of the US in 2020, sources say.

Latin American polypropylene markets will continue to eye US propylene, the region's main source for the feedstock, but polypropylene pellet players will continue to look toward the Middle East and Asia, which are markets more impacted by oil and naphtha prices.

Polypropylene markets may see a boost in supplies, particularly in Latin America's leading economy - Brazil, amid sluggish demand throughout the end of the quarter, which is expected to carry on through the first few months of 2020, the sources said.

However, consumption is expected to increase on seasonal demand, but remain stable when compared with the year-ago period, sources said.

The region has been closely eyeing pricing trends in the Middle East and Asia.

Latin American countries - in particular Argentina and Colombia - are exporters of homo-polymer and copolymer materials, respectively.

Brazilian CFR homopolymer and copolymer film and US Houston FAS pricing are historically correlated, with Brazilian prices also moving in tandem with Asian and Middle East prices, according to data from S&P Global Platts.

South American polypropylene market participants have varied options, with imports coming from Asia and the Middle East, and supply from Argentina and Colombia representing over 60% of the market in 2019 for homo-polymer, and Colombia representing over 26% of the market in copolymer products, followed closely by Saudi Arabia with 23%.

On the other hand, West Coast South America PP copolymer film and homo-polymer CFR prices are more positively linked to US Houston FAS prices movements than to other regions, but also very closely tied to the Middle East.

Pricing in the region could also be impacted by the US-China trade war, which has already affected Asian demand

LATIN PP COPOL PRICES KEEP TRACK OF ASIAN AND USGC TRENDS



Source: S&P Global Platts

for downstream goods, leading to cautious buying interest earlier in the year.

Along the West Coast of South America, regional producers are expected to continue the battle to retain customers and to be the preferred source over imports. Sources have said Colombian players were extremely aggressive in prices during 2019, and the expectations are for a similar scenario in 2020. Colombia is expected to have a surplus of 194,000 mt of PP available for export in 2020, S&P Global Platts Analytics estimates.

As a result, Latin America is expected to remain the most likely destination for the remainder, which has been influencing local prices since the beginning of 2019, when trade flows were affected by US-China trade tensions.

Latin American market participants are expected to continue to see an uptick in offers from the Middle East, Asia and the US. Buyers will have to plan more for Asian shipments, as they come with a longer delivery time, which is talked at between 60 and 90 days, compared with a 30-day delivery window advantage from the US.

— [Guilherme Baida](#)

China, India to dominate global PVC export markets in 2020

- **PVC outlook seen weak amid economic downturns, uncertainty**
- **Caustic soda to remain pressured by amply supply, industrial downturns**

China and India — the top global markets for construction staple polyvinyl chloride — will play a major role in the export markets in 2020 after both countries lifted antidumping duties on PVC from many regions, opening the door to new trade flows.

China's Ministry of Commerce announced in October that antidumping duties on PVC imports from the US, Taiwan, Japan and South Korea had been removed in late September.

Market sources said Asian makers may start moving additional cargoes into China, while reducing quantities to other areas, such as India, where competition is intensifying after the Indian government in July lifted antidumping duties on material from a string of regions, including the EU, Japan, Malaysia and Indonesia.

India needs to import about 2 million mt/year to satisfy domestic demand. A government plan to increase supplies for making plastic pipes and ensure clean water supply in rural areas signals further demand growth.

However, since lifting the duties, incoming low-priced deepsea cargoes have depressed prices in the highest-priced market. The CFR India price averaged \$902.44/mt for January-October this year, compared to \$967.55/mt in 2018, S&P Global Platts data showed.

Sources will continue to monitor the European market as cargo availability from Europe could persist into 2020 amid sluggish demand there.

For Europe, the first half of 2020 will continue the dynamics from the latter part of 2019 with squeezed margins. However, Europe can keep exploiting improved export opportunities, where it could be highly competitive. Sluggish domestic demand linked to political and economic uncertainties is also expected to continue, paired with feedstock cost volatility.

“Poorest prices in Europe are clearly lower than standard prices in export markets. Certainly, this will give an incentive to European producers to release a bit of the pressure by diverting more volumes to export, where the netback is now clearly improved and even better than with some biggest European converters,” a European producer source said.

The US, however, has largely been left out of such gains. India lowered antidumping duties on material from US producers, but did not eliminate them, leaving duty-free exporters with a sharp advantage.

However, China likely will become a much more important export market for US PVC after US and Chinese trade negotiators agreed that the US would not impose more tariffs on Chinese products in mid-December 2019, negating a response from China that had been expected to include tariffs on US PVC. China is the second-largest export market for US PVC behind Canada.

Outlook weak

Despite some inroads for other regions to get material to China and India duty-free, PVC, which tends to grow at one times GDP, still faces gloomy times in 2020 with economic

slowdowns seen in China and Europe as well as signs of what some see as an industrial recession in the US.

About 60% of PVC is used in construction, so PVC markets tend to rise and fall with the economy. The International Monetary Fund projects global growth at 3% for 2019, the lowest since the 2008-2009 global financial crash.

For 2020, the IMF sees growth at 3.4%, a 0.2 percentage point downward revision from April. While the 2020 outlook assumes improved economic performance in Latin America, the Middle East, and some other regions, it assumes continued uncertainty as well, with uncertainty in Europe and projected slowdowns in the US and China.

“Demand overall remains poor,” a US market source said, noting that end-users increasingly demand low pricing seen unworkable given freight and other costs. “We are seeing new thresholds for numbers we haven’t seen in a long time.”

However, PVC producers maintain that despite the current weakness, global demand is expected to outstrip supply over time given the lack of significant PVC capacity additions compared to other polymers, namely polyethylene. Also, cheap US ethane maintains a cost advantage over naphtha-fed feedstock elsewhere.

“Global PVC demand has increased from over 30 million tons to roughly 40 million tons the last 10 years and is projected to increase to over 50 million tons by 2021, driven by construction and infrastructure requirements, particularly in a lot of the emerging markets,” Westlake Chemical’s treasurer Jeff Holy said at an energy conference in November.

Caustic soda braces for weakness

The global caustic soda market is bracing for continued weakness into 2020 as well, with producers facing prolonged rate cuts to dent ample supply that has depressed pricing amid lukewarm demand.

“The outlook is not great. Markets are bearish, stocks are high and there is no interest from buyers,” a European market source said.

GLOBAL PVC PRICES HEADED FOR MULTI-YEAR LOW LEVELS IN 2020



Source: S&P Global Platts

GLOBAL CAUSTIC SODA SPOT PRICES TO MANTAIN 2019’S WEAKNESS



Source: S&P Global Platts

Olin, the world's largest chlor-alkali producer, reported a 77% decline in third quarter earnings compared to a year earlier, having seen a significant slowdown in chemical demand.

Those slowdowns illustrate declines in global industrial activity and slower economic growth, which Westlake CEO Albert Chao attributed to continued uncertainty in international trade — namely the US-China trade dispute — that has pressured prices over the past year.

India demand seen key

In Asia, market sources said India demand was key for 2020. In 2019, some Northeast Asian producers — such as South Korea and Japan — were unable to export their cargoes to India due to additional requirements to gain the Bureau of India Standard (BIS) certificate for caustic soda exports.

A market source said most Northeast Asian makers have since gained BIS certificate for their caustic soda products, which will normalize exports from Northeast Asia to India in H1 2020.

India typically imports around 400,000-500,000 mt of caustic soda annually and its demand from alumina is expected to rise with new alumina refineries on tap. Of the total caustic soda imports, around 300,000 mt would be exported to East India from Asian producers, while the remaining volume would come mainly from the Middle East to West India.

Market participants are also closely monitoring the operating rates of Emirates Global Aluminium's 2 million mt/year alumina refinery, which started up in early 2019 and is yet to reach full capacity.

The resumption of full rates in 2019 of Norsk Hydro's 6.3 million mt/year Alunorte alumina refinery in Brazil did not lift US spot export caustic soda prices as expected, because the company receives its feedstock via contract.

US caustic soda exports also face pressure from the shutdown of the JISCO Alpart 1.6 million mt/year alumina plant in Jamaica for up to two years for a major upgrade.

Olin's executives expect caustic soda pressure to linger, but as in the case of PVC, the lack of significant global chlor-alkali capacity expansions indicates supply will tighten over time as demand rises, if not in the short term.

“Current industry economics do not support world-scale chlor alkali investments. Ultimately, over the long term, supply and demand balances will tighten, resulting in upward pricing momentum,” Olin CEO John Fischer said.

— *Kristen Hays, Ora Lazic, Fumiko Dobashi*

RECYCLED PLASTICS

Economics the key challenge in global recycled plastics markets

- **Virgin, recycled PET disconnect expected to grow**
- **Collection rates remain key issue in US**
- **Asian recyclers push for higher-value recycled market**

Unfavorable economics in the recycled plastics markets are expected to continue in the first half of 2020 but media and consumer pressure should boost demand globally.

S&P Global Platts Analytics forecasts global recycled plastics volumes reaching nearly 20 million mt in 2020, or 8% of total virgin demand. This is up from just under 18 million mt in 2019, or 7% of total virgin demand.

Europe leads way, with demand outpacing supply

In Europe customers have already pre-bought material for Q1 2020 on expectations of scarce supplies and prices at a premium to virgin.

Collection rates and quality will remain the key supply constraints.

In the recycled PET market specifically, the disconnect to virgin prices seen in 2019 should continue in 2020.

In the R-PET bottle-to-bottle market, 2019 proved there is demand for R-PET at higher prices than virgin resin. Likewise, buyers in the R-HDPE market are also becoming less cost-sensitive as media and consumer pressure ramps up and deadlines for companies' minimum recycled content targets fast approach.

Like the R-PET market, R-HDPE supply is likely to remain tight and buying interest strong through 2020. R-PET will remain the go-to plastic of choice for its recyclability, though, placing more pressure on this industry than HDPE.

DISCONNECT TO VIRGIN PRICES SET TO CONTINUE



Source: S&P Global Platts

As a result, further R-PET volumes are expected to displace virgin resin demand, while for R-HDPE the effect may be less significant.

New R-PET plants starting up by next year, including Biffa’s 37,000 mt/year Seaham plant in northeast England and Morssinkhof-Rymoplast’s 40,000 mt/year plant in Leipzig, Germany, are expected to directly displace virgin volumes. In response, some virgin resin producers are trying to incorporate R-PET into their contract volumes for 2020 by offering hybrid pellets.

Economics, collection rates hold US back

Economics - essentially how much more consumers are willing to pay for recycled plastic packaging - is also a key issue in the US.

Part of the reason for the high cost of recycled plastics relates to the other big challenge facing the US - supply of raw materials; collecting waste in enough bulk to make it economically recyclable. For example, single-use grocery bags in the US can be recycled if collected in bulk but those thrown in a consumer’s curbside recycling bin go to landfill because, in small quantities, they cannot.

While company commitments show progress is being made, at a government level the US lags other countries. The US was not a signatory to the Basel Convention’s

PLANNED INFRASTRUCTURE TAPS INTO HIGHER VALUE RECYCLED PLASTICS MARKETS

Company name	Location	Product	Capacity c. (mt)	Expected start up
PTT Global Chemical and Alpa Packaging	Rayong, Thailand	R-PET and R-HDPE	50,000 combined	Late 2020
Veolia Services Indonesia	East Java, Indonesia	R-PET	25,000	Early 2020
Coca-Cola Philippines	Manila, Philippines	R-PET	16,000	Mid-late 2020
ALBA Group Asia, Bagoio Waste Management & Recycling and Swire Beverage Holdings	Tuen Mun, Hong Kong	R-PET and R-HDPE	35,000 combined	Mid 2020

Source: Market sources

agreement in May to ban mixed, unrecyclable and contaminated plastic waste exports. But most of the other 187 nations present that did help pass the amendment to the Basel Convention ensured the US has far fewer outlets for its plastic waste. And with one of the lowest plastic waste collection rates of developed countries, at 29.3% of PET, HDPE and PP bottles in 2017, according to industry body the Association of Plastics Recyclers, the US will face significant challenges treating its waste domestically.

Asia eyes progress to higher-value recycled plastics

After years of importing largely unusable waste from the West, and subsequent import bans, Asia has come to the forefront of the media’s attention on plastic waste. Recycling in Asia has been fairly underdeveloped, but there are signs of positive change.

Japan is the leading Asian country for plastics recycling, with more than 90% post-consumer PET bottles collected, according to the Council for PET Bottle Recycling. Several Japanese companies have started or plan to start using recycled PET for bottled drinks, including Asahi Soft Drinks Co., Ltd., Suntory Group, Coca-Cola (Japan) Co. and Seven & I Holdings Co.

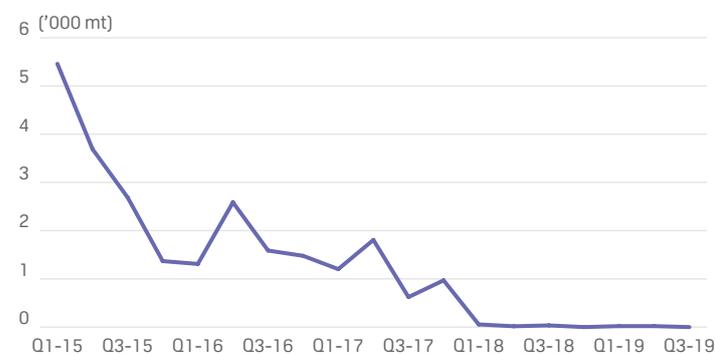
Elsewhere in Asia, recycled plastics markets largely focus on lower grade waste, namely recycled polyester staple fiber (PSF).

China is Asia’s largest recycled-PSF maker, with annual production of roughly 4.5 million mt/year, while India, the second-largest, converts around 550,000-650,000 mt/year, according to market sources. Almost all of this production is consumed domestically in the textiles industries.

The impetus for recycled-PSF comes down to economics. Most recycled-PET bottles are turned into recycled-PSF because it is normally cheaper than virgin PSF.

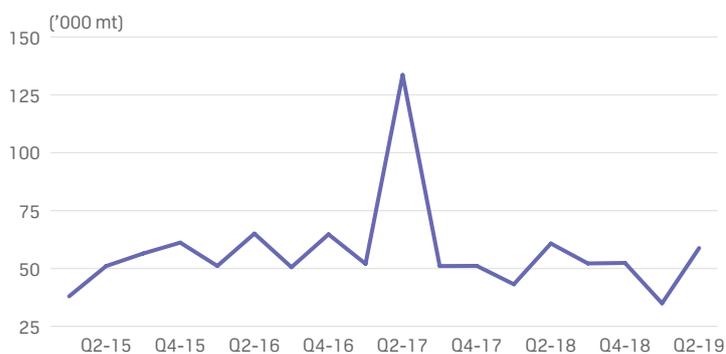
Some Asian companies, including a number in Taiwan, are trying to go further by converting R-PET into polyester filament yarns, which has a higher product value than staple fiber.

US PLASTIC WASTE EXPORTS TO CHINA SLOW



Source: Panjiva

MEXICO REMAINS READY RECIPIENT OF US PLASTIC WASTE



Source: Panjiva

It is because of these economics that only a small portion of R-PET is converted into R-PET pellets to produce bottles again. It is largely uneconomic because of competitive virgin PET prices. Some of these markets also lack regulations on food approvals for recycled plastics.

There are steps being taken to change this, and 2020 looks set to be a promising year. In Thailand, Royal Interpack Group and Indorama Ventures are leading the market but others are also entering the R-PET space. PTT Global Chemical will partner with Alpla Packaging to build a 35,000 mt/year R-PET and 15,000 mt/year recycled-HDPE plant in Rayong by the end of 2020.

Danone unveiled a 100% recycled AQUA water bottle in Indonesia in early 2019. In addition, Veolia Services Indonesia is building a 25,000 mt/year R-PET plant at Pasuruan district, East Java, targeting an early-2020 startup.

— [Luke Milner](#), [Benjamin Brooks](#), [Miranda Zhang](#), [Kristen Hays](#)

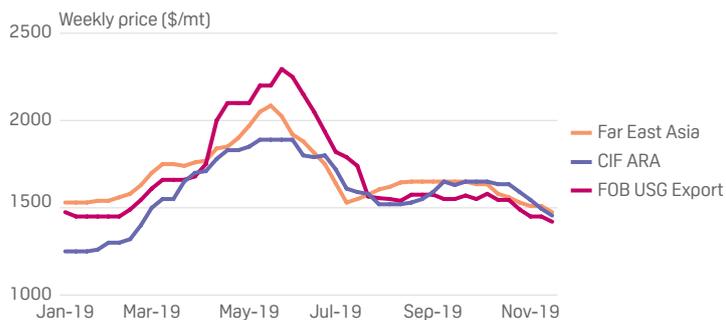
SOLVENTS AND INTERMEDIATES

Europe to turn net ACN importer in 2020; Asia, US brace for supply glut

- Europe likely to pull in volumes from US or spot market
- Asian market to stay subdued in H1 2020 amid supply glut
- US market capped by weak downstream

Europe is expected to become a net importer of acrylonitrile (ACN) in 2020, after Ineos Nitriles closes its Seal Sands plant. At the same time, however, Asian and US markets could face downward pressure in the first half of next year, amid growing capacities in China and lackluster demand for derivative products.

GLOBAL ACN PRICE SAW VOLATILITY IN 2019 AMID MAJOR PLANT SHUTDOWN



Source: S&P Global Platts

Ineos said in October that it plans to close the Seal Sands plant in Teesside, in northeast England, because of high safety and environmental costs, in a move that market participants have suggested will result in a loss of just over 30% of Europe's ACN production.

Demand in the region is currently at more than 1 million mt/year, according to market sources, against output capacity of around 1.14 million mt/year. As a result, removing Seal Sands' 280,000 mt/year production would mean the region becoming dependent on imports.

However, despite a building supply glut in the Asia ACN market, longer shipping times from Asia to Europe — compared with intra-Europe and US-to-Europe deliveries — make Asia-Europe transactions more exposed to price volatility, according to some sources.

Replacement volumes for the lost Seal Sands production will likely come from Ineos' Green Lake plant in the US, according to market sources.

"[It will come from] a combination of Cologne, Green Lake and some spot. We can cope," an Ineos source said in November. "We need to reshape, and it is not all easy. Volumes and tanking and shipping and duties all need to be considered. We optimize our global system with all the assets and the sales we have."

"I think that [Ineos] will do it themselves. I don't see anyone else squeezing into that gap," one trader said. "I think that they will supply out of US. If anything it will make them more reliable as they will have the product on the water. If anything it will be better for the system."

Ineos already stopped production at Seal Sands earlier in the year to conduct repair works, with a company source saying in November that it was still awaiting "consultation between management and the employees," with a decision on the potential closure likely "before the end of the year."

The supply disruption in the UK helped firm Northwest European spot prices, despite weakening derivatives demand, raising questions over production economics for ACN's downstream products.

European ACN spot prices jumped 51% to a 2019 high of \$1,890/mt CIF ARA in May-June, up from \$1,250/mt earlier in the year. By the end of November, the price had fallen back to around \$1,455/mt CIF ARA, according to S&P Global Platts data.

Asia supply glut

The potential closure of capacity in the UK will have little bearing on the Asian market, which is experiencing a supply glut amid plant startups in the region, sources said.

China's Jiangsu Sailboat Petrochemical's second ACN plant at Lianyungang, in Jiangsu, started up in September and was operating near full capacity in November, according to market sources.

Supply is expected to further increase after Zhejiang Petrochemical's 260,000 mt/year ACN plant comes on board in the first half of next year, sources said.

"There will be less deep-sea cargoes from the US, as more supply will be diverted to Europe, though new start-ups in China can easily fill up the supply vacuum," said one producer in Asia.

The increased supply in the region pushed down Asian ACN spot prices by \$575/mt, or 28% against its 2019 high of \$2,085/mt on May 21, to \$1,510/mt CFR Far East Asia as of November 6. Prices are expected to remain at such low levels throughout H1 2020.

"China's economy is slowing down considerably and this hit demand for consumer goods such as toys, household appliances and automotive, there is little support for ACN in H1 2020," another source said.

US market capped by weak downstream

The pattern in the US is likely to remain one of stability, with weak downstream demand set to shape the market through the end of 2019 and into H1 2020.

US market participants expect continued lackluster demand for acrylic fiber to hinder ACN price hikes through the first half and, with the US-China trade dispute negatively impacting ABS demand and the automotive industry, demand in ACN's major downstream sectors will continue to wane.

As a result, the US market has now turned to being well supplied, from balanced or even slightly undersupplied previously.

— [Miguel Cambeiro, MK Bower, Melvin Yeo](#)

Oxo-alcohol demand concerns to continue into 2020

- **Oversupply in butanols to keep market sentiment bearish**
- **Plasticizer products in Asia to lend support for PA, 2-EH**

Increasing signs of decelerated industrial activity and weaker demand from the automotive sector have hit the oxo-alcohol markets hard in 2019, especially in Asia and Europe. Concerns about slower global economic growth will continue to dominate in 2020, giving market participants reason to eye 2020 with caution.

However, some believe the market has now hit rock-bottom in Asia.

"The oxo-alcohol market for H2 2019 is already bad enough, I do not think H1 2020 will be as bad," a producer in Taiwan said. "In fact, I am expecting some slight rebound during Lunar New year in the first quarter."

A Korean producer said phthalic anhydride (PA) and dioctyl phthalate (DOP) are hugely influenced by construction and economic growth, and if trade tensions between the US and China ease, "there's plenty of chance that prices go up."

In Asia, the downstream DOP CFR SEA market hit its highest level for 2019 on May 2 at \$1,310/mt, before plunging 13% to \$1,140/mt on November 7. Lackluster demand for DOP in 2019 also dragged down spot prices for 2-ethyl hexanol (2-EH) and PA. The PA CFR SEA market reached the ceiling at \$1,070/mt, before diving 21% to hit \$850/mt on November 7. The 2-EH SEA market hit \$1,100/mt CFR SEA in February, before falling 19% to \$850/mt.

However, a more positive outlook for plasticizers in Asia in 2020 is likely to lend support for PA and 2-EH, sources said.

LG VINA Chemical, a joint venture between Southern Fertilizer Company and Vietnam Petroleum Corporation, will start its new plasticizers plant in Ho Chi Minh City, Vietnam, in January, later than Q2 2019 as originally planned. The new plant can produce both DOP and diisononyl phthalate (DINP), with total capacity of 80,000 mt/year and 40,000 mt/year, respectively.

Meanwhile, market sentiment will remain bearish for n-butanol in the first half of 2020 amid a supply glut and weak demand. Lackluster demand from the automobile and construction industries in China dragged down demand for NBA, which is commonly used as an additive for paint.

Similarly weak fundamentals were seen in Europe this year, with FD NWE spot prices declining gradually since the beginning of the year, hitting two-year lows in August.

Pressure on spot prices is expected to continue during the first half of 2020 as European oxo-alcohol producers fear starting the year with high stocks, which they were unable to empty due to a lack of demand, dragging the already oversupplied market down further.

As a result, the market focus in Europe has shifted to 2020 contracts, as producers hope to source propylene at more competitive prices next year in order to improve margins. Reducing contractual commitments, while adding more flexibility with spot volumes, as well as negotiating lower prices on term contracts, were heard to have been discussed.

According to S&P Global Platts data, the price spread between the European industry-settled propylene contract price and spot oxo-alcohol prices progressively

narrowed and for n-butanol moved into negative territory in 2019. In January n-butanol was priced at a Eur115/mt premium over propylene, before to a discount in April. In November, spot n-butanol FD NWE prices have been trading flat against the European propylene contract price, the data showed. The 2-EH price differential to propylene was calculated at just Eur90/mt in November, down from Eur225/mt in January.

The US oxo-alcohols markets have yet to show the same weakness as Asia and Europe.

Domestic prices for n-butanol, 2-EH and plasticizers - DOTP and DINP - have shown little movement, but export US NBA and 2-EH prices have declined throughout 2019, even with high employment.

Since September 2018, US export NBA prices have declined more than 41%, while 2-EH prices have retreated more than

46% since August 2018. Both were among \$16 billion in US products to face retaliatory tariffs from China in August 2018, and sources said prices have suffered amid robust US supply that encourages exports and a need to find destinations for product outside of China.

“It’s pretty hard to find optimism,” a market source said. “Obviously, we’re treading water on a recession. The question now is how deep it’s going to go and how long it’s going to last.”

The source said oxo-alcohols customers say they have not seen indications of a long or deep recession, with manufacturing ongoing, goods being produced and high employment. “But the demand seems to be off, and customers are laying it pretty squarely on the trade wars,” the source said.

— [Ora Lazic, Melvin Yeo, Kristen Hays, Lara Berton](#)

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