Asia petrochemical outlook
H1 2019

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Asian PX braces for Chinese supply glut, amid limited PTA demand growth

- Delay in PX startups to provide short-term respite
- Asian PTA capacity remains almost flat in H1

Asian paraxylene fundamentals for 2019 will likely hinge on new production capacity coming on stream as planned. The market will see some tightness in the first half of next year coinciding with the traditional Asian turnaround season, while new paraxylene capacities in China projected to start up in H2, could see supply lengthening, due to limited demand growth from downstream purified terephthalic acid. Nevertheless, market participants were mostly of the opinion that these projects could face potential delays.

10.65 million mt/year of new PX capacity could potentially start up over 2019 in Asia — the bulk of that (9.15 million/year) in China, which has led to fears about the impact of these new production capacities on China’s PX imports next year.

A gradual lengthening of the market has already begun, evidenced by the decline in the CFR Taiwan/China PX-CFR Japan naphtha spread, which slid to $491.08/mt on December 3, the first time it has fallen under the $500/mt mark since August 14, S&P Global Platts data showed.

For long-term contracts, early indications from PX buyers to stick to 2018’s discount of $3/mt to the average of the monthly Asian Contract Price and the monthly average of the daily spot assessments, also points to expectation of lengthening supply.

China’s total PX demand increased by around 4.4 million mt to 27.4 million mt in 2018, according to industry estimates, after startups of two of three 1.5 million mt/year PTA lines at Fujian Fuhua, 1.4 million mt/year PTA line at Zhejiang Huabin, and Jiaxing Petrochemical’s new 2.2 million mt/year PTA line.

With a domestic PX capacity of around 12 million mt, the 15 million mt per year supply gap in China has to be filled by imports, mainly from Northeast Asia, India and the Middle East.

“Assuming Fuhaichuang, Zhejiang PC, Hengli, Sinopec Hainan - they all start up as previously announced, China’s imports will be reduced to 13 million mt next year,” a trader said, adding that “if they fail to start up, China may need 17 million mt of imports (in 2019).”

Many participants remain doubtful whether so much capacity can be brought on stream within the announced timelines as there can always be delays.
with new plants, evident in the supply disruptions which plagued startups at Saudi Arabia's Petro Rabigh Phase II's 1.25 million mt/year and Vietnam's Nghi Son Refinery and Petrochemicals' 680,000 mt/year PX units this year.

“The key question is not so much if these planned PX capacities can start up, but whether they can achieve a stable level of production in the second half of the year. We have seen multiple supply disruptions to Petro Rabigh this year, which runs on the same Axens technology for its crude-to-paraxylene production as that of Hengli Petrochemical," a producer said.

Most aromatics plant turnarounds follow a biennial cycle and as many PX producers scheduled their turnarounds last in 2017, 2019 could see an increase in production loss from turnarounds. The bulk of these are scheduled in Q2, traditionally the turnaround season, with close to half a million mt of PX production lost over the first half of the year alone.

Notable among these shutdowns are in Korea, including S-Oil's 755,000 mt/year No. 1 aromatics unit for 35 days, Hyundai Cosmo's 800,000 mt/year aromatics unit for 20-30 days, and SK Daesan's 800,000 mt/year PX unit for 30 days, all in Q2.

In addition, India's Reliance’s larger 2.2 million mt/year PX plant in Jamnagar is expected to be shut for a 20-day turnaround in H1, after original turnarounds plans were delayed. In Thailand, PTT Global Chemical's 540,000 mt/year aromatics plant will go on a planned turnaround next May for 45-55 days.

On the other hand, PTA plants are more flexible with shutdowns and startups, and major PTA producers may adjust operations to respond quickly to market situations.

Demand from new downstream PTA plants next year will unlikely absorb the looming upstream supply glut.

Total active PTA capacity in Asia will hit 64.5 million mt/year by end-2018, excluding 10.3 million mt/year idled units.

Hengli Petrochemical's 2.5 million mt/year No. 4 plant at Dalian and Xinfeiming Group's 2.2 million mt/year plant, are both expected to start towards end-2019, and therefore, unlikely to have much impact on the market next year. Zhejiang Yisheng's 3.3 million mt/year No. 5 line at Ningbo may start in Q3, if market situation favors PTA producers, a company source said.

China's Sichuan Chengda Chemical and New Materials plans to start its 1 million mt/year PTA line in Q1, which will trigger the shutdown of Chongqing Pengwei Petroleum & Chemical's 900,000 mt/year PTA unit, because both plants share the same PX supply from PetroChina Sichuan Petrochemical, sources said.

Meanwhile, China's Jialong Petrochemical Fiber will convert its 600,000 mt/year PTA line to 300,000 mt/year isophthalic acid (IPA) unit in Q1 2019, a company source said, adding the conversion is due to profit consideration given China currently relies heavily on imported IPA.

### 2019 PX/PTA TURNDOWN/STARTUP LIST

<table>
<thead>
<tr>
<th>Plant</th>
<th>Product</th>
<th>Country</th>
<th>Capacity (1'000 mt/year)</th>
<th>Start-up/shutdown (2019 unless otherwise stated)</th>
<th>Duration</th>
<th>Affected 2019 PX volume (1'000 mt)</th>
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<tbody>
<tr>
<td>Fuwaichuang No. 1</td>
<td>PX</td>
<td>China</td>
<td>800</td>
<td>25-30 Dec (startup)</td>
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<td>NA</td>
<td>200.0 +</td>
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<tr>
<td>Sinopex Hainan No. 2</td>
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<td>June</td>
<td>NA</td>
<td>500.0 +</td>
</tr>
<tr>
<td>Zhejiang PC</td>
<td>PX</td>
<td>China</td>
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<td>Q4</td>
<td>NA</td>
<td>1,130.0 +</td>
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<tr>
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<td>Brunei</td>
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<td>Q4</td>
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<td>May-Jun (45 days)</td>
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<tr>
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<td>May-Jun (45-55 days)</td>
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<td>SKGC Daesan</td>
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<td>NA</td>
<td>Q4 (30 days)</td>
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<td>China</td>
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<td>Sichuan Chengda</td>
<td>PTA</td>
<td>China</td>
<td>1,000</td>
<td>Post Q1 (startup)</td>
<td>NA</td>
<td>499.0 -</td>
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<td>Chongqing Pengwei</td>
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<td>China</td>
<td>900</td>
<td>Post Q1 (shutdown)</td>
<td>NA</td>
<td>449.0 +</td>
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<tr>
<td>Jialong Petrochemical</td>
<td>PTA</td>
<td>China</td>
<td>600</td>
<td>Post Q1 (permanent conversion to IPA)</td>
<td>NA</td>
<td>300.0 +</td>
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<tr>
<td>Asian Pacific Fibres</td>
<td>PTA</td>
<td>Indonesia</td>
<td>340</td>
<td>Post Q1 (startup)</td>
<td>NA</td>
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<td>Yisheng Ningbo No. 5</td>
<td>PTA</td>
<td>China</td>
<td>3,300</td>
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</tr>
<tr>
<td>Hengyi Petrochemical</td>
<td>PTA</td>
<td>China</td>
<td>2,500</td>
<td>Q4</td>
<td>NA</td>
<td>416.0 -</td>
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<tr>
<td>Xinfeiming Group</td>
<td>PTA</td>
<td>China</td>
<td>2,200</td>
<td>Q4</td>
<td>NA</td>
<td>366.0 -</td>
</tr>
</tbody>
</table>

Source: Market sources, S&P Global Platts
Elsewhere, the market is eagerly following the news of JBF Industries’ 1.25 million mt/year PTA plant in Mangalore, which was bought by private equity firm KKR and Co. in Q3, 2018. As addressed by the company in an official letter to the Bombay Stock Exchange Limited on August 27, it plans to operate at “full capacity over the next two quarters”, meaning by Q1. However, neighboring ONGC Mangalore Petrochemicals Limited or OMPL’s decision to export a total of 370,000 mt of paraxylene for loading over April 1-December 31, 2019, would seem to suggest that the startup in H1 is unlikely, as the volume was originally expected to be diverted to the PTA plant, which OMPL is contracted to sell PX to.

In Southeast Asia, talks of a new PX capacity in Asia and incremental demand in the region has triggered Indonesia’s Asian Pacific Fibres to consider restarting its 340,000 mt/year PTA line, which has laid dormant since late 2015, to service its downstream polyester fiber production. There-startup is currently scheduled in Q1, pending final approval, a company source said.

— Frank Zeng and Miranda Zhang

**Isomer-MX market to be impacted by startup of China PX plants**

- China’s new PX plants may need additional MX
- Firm PX keeps OX supply tight, supports MX

The new paraxylene production capacity expected to startup in China over 2019-2020 is expected to be the key factor impacting the Asian isomer-grade mixed xylene market in the first half of next year, market participants said.

A total of more than 9 million mt/year of new PX production capacity could come online next year and MX market participants said that the new units would need to buy potentially large amounts of MX in the start-up phase, or even produce PX at high rates.

“At the time of startup, the new mega expansion of PX in China may need MX or naphtha for full operation or stable operation,” a South Korean PX producer said.

Downstream product PX was one of the strongest performers in Asia at the end of 2018, with a wide spread to naphtha and also feedstock isomer-MX. Several market participants said that they expected PX market fundamentals to remain strong at least until the middle of 2019, thereby supporting demand for MX for much of next year.

The PX-naphtha spread widened 22.6% year on year over January-November 2018 to an average of $444/mt, S&P Global Platts data showed. The PX-MX spread increased 35.2% to an average of $246.90/mt over the same period.

Meanwhile, long-term sell tenders for isomer-MX for 2019 have settled at higher prices than in 2018. Taiwan’s CPC awarded more than 120,000 mt for 2019 at a discount of $5-$6/mt to FOB Korea prices, compared with a discount of $11-$13/mt in 2018. Long-term contracts on FOB Korea and CFR Taiwan basis were also expected to see firmer prices by around $2-3/mt, sources said.

Adding to the bullish sentiment is the upcoming closure of one of the MX plants owned by Japan’s JXTG Nippon Oil & Energy. The company will suspend production of petrochemicals, including about 360,000 mt/year of isomer-MX and oil products at the Muroran plant in Hokkaido on March 31, 2019, S&P Global Platts reported earlier.

Demand is also set to increase, mainly in China, where PX plants that belonged to Dragon Aromatics earlier are set to restart under a new company, Fujian Fuhaichuang Petroleum and Petrochemical, at the end of 2018 or early 2019. The company imported around 300,000 mt/year of isomer-MX, but it remains unclear if the plants will need to import more and how much.

Mid-2019, Sinopec is set to startup its new 1 million mt/year PX plant at Hainan. It also plans to increase the capacity of its existing 600,000 mt/year PX plant at Hainan to 1 million mt/year. After they start up, the plants are expected to source MX externally, though exact volumes are not known.
Along with unusually healthy PX margins in late 2018, which may continue well into 2019, MX demand from PX producers may stay strong as they run their plants at high rates. Countries such as India, Malaysia and Thailand were expected to import isomer-MX from Northeast Asia to boost production. India at times imported cargoes from Europe in 2018. That is a trend that may continue, and support MX demand going forward, sources said.

**Solvent-MX bearish, OX to remain tight**

The outlook for solvent-MX, which is used for solvents production and gasoline blending, was not as strong as isomer-MX. Solvent-MX producers faced lower demand for their term contract cargoes, sources said.

The volatile crude oil prices and unpredictable market conditions caused by the trade war between the US and China made participants hesitant to commit to term contracts for solvent-MX, a South Korean producer said, adding that he expected premiums for term cargoes to drop from double digits in 2018 to single digits in 2019.

Supply of orthoxylene, downstream from isomer-MX, is expected to remain tight due to the unusually strong margins for PX production, which means producers will prioritize PX production over OX for the time being, market sources said. Supply may increase in China with the startup of Fuhaichuang, which has a nameplate capacity of around 200,000 mt/year of OX.

**Toluene demand seen rising in China, E10 mandate to impact blending**

- New TDI plants in China to increase toluene demand
- Term contract discussion levels lower for blendstocks

The new plants are expected to increase demand for TDI-grade toluene — with a purity level of at least 99.5% — by 250,000–400,000 mt/year in 2019 if run at full capacity, market sources said.

Demand for TDI-grade toluene in China had already begun firming ahead of the startups. However, traders in China may start looking to commence toluene exports in 2019 as the country’s domestic toluene production is seen increasing steadily towards self-sufficiency, some market sources said.

Among the plants slated to start up is Wanhua Chemical Group’s new 150,000 mt/year TDI plant at Yantai in eastern Shandong province that underwent trial runs in October and is expected to be operational in Q1 2019, sources said. The plant will require 100,000-120,000 mt/year of toluene as feedstock to run at full capacity, a source close to the company said.

In India, demand for industry-use products like paint, ink, pharmaceuticals and solvents is forecast to grow another 4-5% in Q1 2019, Indian market participants said, keeping pace with the projected economic growth in the country.

Some sources familiar with the Indian market are predicting even higher growth across the petrochemicals sector in Q1 2019. “We think the entire petrochemicals industry in India will grow quite rapidly in 2019, at 5-6% in Q1,” an Indian trader said.

India typically imports around 25,000-30,000 mt/month of toluene to meet demand, sources said. All eyes will be on US sanctions on Iran, with India having been granted a waiver for petroleum products until March 2019 at time of writing.

Should that waiver be revoked, Indian buyers would need to look elsewhere for toluene in 2019, but market sources in the country were confident that imports of Iranian toluene would continue into Q1.

“Iranian toluene is still being imported into India today and I think it will remain so in 2019,” a producer source in India said.
In other parts of Asia, term contract discussion levels for 2019 were heard to be lower than for 2018, which participants attributed to the uncertain global macroeconomic outlook.

More toluene spot deals are also expected in Southeast Asia in 2019 as the uncertainty deters some participants from fixing longer term commitments, a Southeast Asian producer source said.

Little change in trade flows for toluene in Southeast Asia would be expected in 2019 as countries like Vietnam and Indonesia are likely to remain net short of supply, with the shortfall estimated at 84,000 mt for Vietnam and 132,000 mt for Indonesia in 2019, she said.

Changing blending dynamics
In China, taxation changes in May aimed at reducing consumption tax avoidance by smaller privately owned refineries were seen likely to continue impacting their refining margins in 2019.

This will likely increase the number of smaller refineries closing down, shifting the refining and blending market towards larger state-owned refineries. As a result, demand for gasoline blending components like toluene and MTBE in China will be increasingly dictated by the operating decisions made by state-owned refineries.

In the medium to longer term, China’s looming ethanol blending mandate could also lower demand for toluene and other petrochemical gasoline blendstocks, market sources said, as blenders are bound by the minimum 10% ethanol content in their gasoline pool.

China targets to blend 10% ethanol into gasoline supply nationwide by 2020 and is currently enacting the E10 mandate in phases, on a province-by-province basis.

Despite this, MTBE production will most likely ramp up in Asia in 2019 with several plants already starting up and slated to produce at full capacity by Q1, sources said.

Among these are South Korean S-Oil’s 350,000 mt/year MTBE plant in Onsan that started up in June and is slated to produce on-spec MTBE by 2019, a source close to the company said.

In India, Reliance started up a new 200,000 mt/year MTBE plant at Jamnagar in western Gujarat state in October that will reduce the country’s need for MTBE imports, market sources said.

In other parts of Asia, MTBE supply is set to remain long into 2019 with new capacity slated to start up in China, Taiwan and Malaysia in the year.

—Zachary Teo

Growing supply may cripple Asian benzene prices

- China remains the key demand outlet of Asian benzene
- Narrow naphtha-benzene production margins to persist

Length in the Asian benzene market will continue to grow in 2019, amid the start up of new units in Southeast Asia, including Petronas’ RAPID project, Brunei’s Hengyi Refinery, and various projects in China. An estimated 3.4 million mt of supply will be expected to come online in 2019, based on Platts calculations.

Asian benzene prices were notably lower in the fourth quarter in 2018, as a steep downward price trend was seen since October 2018. Market sources attributed the price fall to growing supply from Southeast Asia, while Asian demand remained stable.

FOB Korea benzene prices touched two-year lows on several occasions in November and December. The latest was on December 10 when the FOB Korea benzene was assessed at $616/mt, based on S&P Global Platts data.

While the price weakness was evident across all downstream products, including styrene monomer, phenol and caprolactam, the falls in benzene prices were more pronounced, resulting in healthy production margins of downstream products.

Supply growth unhindered by narrow production margins

In the second half of 2018, the average price spread between naphtha and benzene stood at $168.27/mt. This is significantly lower than the H1 2018 average spread of $255.29/mt.

With breakeven at approximately $150/mt, margins were negative for almost half of H2 2018.

Despite narrowing margins, benzene production persisted as producers cited positive earnings from paraxylene and aromatics as a whole.

This will be expected to continue in 2019 — production of benzene will likely continue on as planned long as the operations of aromatics units remain profitable.

BENZENE AND DOWNSTREAM PRODUCTS

<table>
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<td>1500</td>
<td>2000</td>
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</tr>
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</table>

Source: S&P Global Platts
The bulk of the new benzene supply in Asia next year will be from China, with the start up of independent mega refineries of notable impact. Independent refineries slated for commissioning in 2019 include Zhejiang Refinery and Hengli Group. Combined, the two refineries will contribute an estimate 1.4–1.8 million mt/year of benzene.

On the other hand, supply may be capped as market participants said that teapot refineries in North China will likely be affected by limitations in infrastructure, and checks by local government bodies.

Changes in trade flows of benzene
In 2018, China was the key importer of Asian benzene and in H1 2019, this is expected to remain the case as sellers will still seek first outlet in China but the conventional trade flows will change.

Chinese imports have diversified in origin in 2018, and this trend will likely persist in 2019. Based on data published by the China Customs Statistics Information Center, China's benzene imports in the year ended October, of Japanese and Korean origin, accounted for just 59.3% of total imports, down from 74.1% in 2017. South Korea is the traditional key exporter of benzene to China. In 2017, Korean exports represented 57.2% of imports into China, but in the year ended October, exports to China have fallen to 45.4%.

At the same time, imports of Southeast Asian origin benzene between January and October stood at 29%, up from 18.7% in 2017. Looking ahead to 2019, market sources agreed that Southeast Asian material will be expected to take up a larger share of Chinese imports due to more production from the region.

Furthermore, most Southeast Asian cargoes carry a Form E advantage, which allows products of ASEAN origin to enjoy preferential tariff treatment.

Imports of Indian and Middle Eastern origin cargoes in the year ended October, stood at 10.9%, up from 3.3% in 2017. Supply from these two regions will continue to contribute to length in Asia in 2019. End-user willingness to receive material from those countries has improved this year.

Previously, end-users reported a non-preference for cargoes from India and the Middle East, due to concerns about shipment delays and specification inconsistencies, which resulted in price discounts for its products.

However in 2018, Chinese end-users became increasingly receptive towards West Asian cargoes as prices of material from the region became competitive.

Imports of benzene from India and Middle East heading into China will be expected to stay steady or increase.

Meanwhile Korean benzene exports to the US in the new year is uncertain. The volume of exports from Korea to the US in 2018 was higher compared to the previous year, but the strength of 2019 demand from the US is unclear.

This is owing to the fact that the spot arbitrage between FOB Korea and DDP USG prices was unstable in 2018. At the end of 2018, DDP USG prices had fallen to a level lower than that of FOB Korea.

The arbitrage was closed on paper in Q1 and Q4, but open in Q2 and Q3. Market sources said that this seasonal trend is expected to persist in 2019, but demand for Asian benzene will largely depend on the US supply and demand balance over the summer season.

Profit on phenol makes up for losses on acetone
Phenol is a downstream product of benzene which has enjoyed strong profit margins and volatile pricing in 2018. The year-to-date 2018 average price premium of CFR China phenol relative to FOB Korea benzene was calculated to be $464.62/mt, based on Platts data.

Meanwhile the price of acetone in 2018 has hovered below breakeven for most of H2, and was made better only by the strong profit margins on phenol. Since phenol and acetone are produced simultaneously via the cumene process, which uses feedstock benzene and propylene, major producers were heard unaffected by negative acetone margins.

However, there remains a possibility that unintegrated units will opt to cut run rates in 2019, as growing inventories of acetone, with no demand outlet, will remain a concern for producers in the region.

—Tess Tseng

Tight SM supply expected amid slew of turnarounds

- Market awaits clarity on US-China trade relations
- More spot demand expected in Asia

The Asian styrene monomer market is likely to face tight supply in the first half of 2019 amid major turnarounds in Asia. While demand is expected to be firmer before the Lunar New Year holidays in February, overall demand remains uncertain until there is more clarity on the trade talks between the US and China.
“There are too many uncertain factors in the SM market that makes it tough to determine Chinese demand in 2019. If the trade war extends into the next year, the market would be in a worse shape than 2019,” said a market source.

However, SM plant turnarounds in Asia — particularly in South Korea and Taiwan which have been scheduled between March and May — could support prices. According to S&P Global Platts estimates, the turnarounds in South Korea and Taiwan would reduce supply by approximately 250,000 mt and 110,000 mt, respectively, across the first and second quarters.

While the supply tightness in Asia during the turnaround period would support prices, demand from China, the biggest SM buyer, remains unclear due to uncertainties surrounding the trade talks between the two biggest global economies. Chinese demand growth is expected, albeit at a weaker rate than earlier, owing to the slowdown in economic growth in China. An additional 1.4 million mt/year plant capacity is expected in China towards the end of 2019, which could lead to a reduction in imports.

A steady stream of deepsea cargoes between November and December this year resulted in a continuous buildup of stocks in East China. On the upside, improved SM buying interest from the Chinese prior to the Lunar New Year, on restocking needs, could lift the market and draw down inventory. Deepsea cargoes might be sought after if there is strong demand from the Chinese, considering the oversupply of US Gulf Coast cargoes in Europe.

Sentiment may stay weak until volatility subsides
Bearish sentiment, price correction, lackluster buying activity in downstream markets and global politics have been key factors behind the fall in prices in the fourth quarter, as SM hit a 2 1/2-year low of $983.5/mt CFR China, assessed November 30. These factors are expected to continue to impact the market going forward.

Market sentiment will continue to influence the Asian SM market in the beginning of 2019, and will help extend the downturn seen in late 2018, though the fall in prices will be less drastic than earlier, market sources said.

Despite the low prices, demand from the downstream market has been weak, as end-users refrain from stocking up due to price volatility. This reluctance is likely to persist into 2019.

Downstream acrylonitrile-butadiene-styrene plants’ operating rates may reduce if the volatility in feedstock SM prices continue to rattle the market. In Q3 2018, some plants had reduced operating rates amid weak ABS prices, low confidence levels among market participants and soft demand, tracking the weak sentiment in the SM market.

Similarly, downstream producers have avoided keeping SM stocks amid the price volatility. Polystyrene producers, however, have noted that it would be a good opportunity to replenish feedstocks if prices softened to around $900/mt — a level where styrene margins will still be healthy at the current feedstock prices.

Although PS margins remain in positive territory, market sources noted that the demand and sales forecast for 2019 has been lowered. According to S&P Global Platts data, on November 28, general purpose polystyrene hit an 18-month low of $1,230/mt CFR China, while high-impact polystyrene fell to a 25-month low of $1,260/mt CFR China.

Global SM trade flows have evolved after China implemented the anti-dumping duties on imports from South Korea, Taiwan and the US.

As a result, countries affected by the ADDs have been shipping more cargoes to other regions such as Europe, India and Southeast Asia.

Asian producers affected by China’s ADDs had to incentivize term negotiations for 2019, said market sources. Considering China will still be dependent on SM imports to meet its demand, producers not affected by the ADD expect higher premiums for term contracts.

Reaching a fair agreement for 2019 term contracts will be more challenging amid the heightened risk for both buyers and sellers in the volatile market, delaying the conclusion of most term contacts. Unless there is more clarity on the additional tariffs and/or stability in SM prices, there is a likelihood of stronger demand in the spot market next year.

—Regina Sher
OLEFINs

Asian ethylene supplies to increase in H1 2019

- 2019 term contracts seen done at lower levels than 2018
- Lower margins may prompt cracker run cuts

Asian ethylene supplies are expected to increase in the first half of 2019 compared with a year earlier due to fewer steam crackers undergoing maintenance — particularly in Japan — as well as planned startups of new steam crackers and plant debottlenecking.

Of the total 12 steam crackers in Japan, four steam crackers are due to be shut in 2019 for annual maintenance, fewer than the seven steam crackers which were shut a year ago.

In South Korea, several steam cracker operators — such as Hanwha Total and LG Chem — have plans for debottlenecking of their plants next year. These companies plan to install new LPG cracking furnace, which would increase ethylene production capacity in the country by 8.7% from 2018 to 9.74 million mt/year in 2019.

Market sources also said that South Korea’s S-Oil would be contributing more ethylene to the market in 2019 following the start up of its new high-severity residue fluid catalytic cracker, or HS-RFCC, in Onsan in the middle of 2018. S-Oil’s ethylene supplies were unstable in 2018 due to some hiccups at the plant. The HS-RFCC is able to produce 1.2 million mt/year of ethylene.

Market sources said ethylene supplies may become heavier due for start-up.

In Southeast Asia, Refinery and Petrochemical Integrated Development (RAPID) project is due to start a mega steam crackers will be contributing more ethylene to the market in 2019 towards the end of 2019 as mega steam crackers will be producing 1.2 million mt/year of ethylene. The impact from the project will likely be small in the first-half of next year as the plant start up is expected after the middle of the year, according to market sources.

“This is a very challenging project. The companies are building the refinery to downstream plants as well as utilities from scratch,” an industry source, who visited the construction site this year, said.

S&P Global Analytics said Asia’s ethylene supplies are seen to be increasing 3.5% in 2019, from 2018.

Due to heavy supplies, term contract negotiations for Asian ethylene for 2019 are seen to be weaker compared with 2018. Premiums were heard to have been discussed in the $30-$60/mt range compared with the $70-$80/mt premium at which term contracts were settled at in 2018, market sources said. Term contractual agreements are based on a CFR Northeast Asia-linked formula.

“Asian ethylene supplies are seen to be heavy in 2019, compared with 2018. The premium of term contracts would likely settle lower,” an industry source said.

Steam cracker run cut remains to be ‘hot topic’

Additional ethylene supplies will likely pressure spot ethylene prices lower next year, market sources said, adding that the possibility of steam crackers in the region cutting runs will be the “hot topic” for 2019.

STEAM CRACKER TURNAROUNDS FOR 2019

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Capacity ('000 mt/yr)</th>
<th>TA period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ethylene</td>
<td>Propylene</td>
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<tr>
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<td>South Korea</td>
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<td>Lotte</td>
<td>Daesan</td>
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<td>LG Chem</td>
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<td>Daesan</td>
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<td>Anyer</td>
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</table>

Source: Market sources, S&P Global Platts
The Asian ethylene-naphtha price spread started shrinking in Q4 due to the steep fall in ethylene prices, S&P Global Platts data showed. The price spread between ethylene and naphtha has, at times, been hovering below the $300/mt mark in Q4 — lower than a typical break-even spread of $300-$350/mt, according to Platts data.

The price spread between ethylene and naphtha averaged $650.90/mt in 2018 compared with $696.11/mt in 2017, Platts data showed.

“Naphtha is relatively low in 2018 so steam crackers managed to keep their margins positive. But the margins would likely narrow in 2019, dragged down by bearish ethylene,” a market source said.

Market sources also said naphtha would likely be their first choice of feedstock for steam cracking amid narrowing ethylene margins. Cracking LPG increases the ethylene production yield, and LPG was a popular feedstock for steam cracker operators earlier in 2018 amid fat ethylene margins. Ethylene production yield from LPG cracking is 0.4 compared with 0.23 from naphtha cracking, industry sources said.

**US ethylene exports to continue in 2019**

US-origin ethylene would continue to be shipped to Asia following steam cracker expansions there, which include Shintech’s 500,000 mt/year steam cracker in Louisiana and Sasol’s 1.55 million mt/year unit in Lake Charles.

However, US’ ethylene export capacity is limited currently, and a new terminal is due to be operational only later in 2019. As a result, market sources said US’ ethylene exports in 2019 would likely be at similar volumes compared with 2018.

“The US ethylene market would become super heavy again in 2019 due to the planned steam cracker start-ups, which would pressure Asian ethylene market sentiment, despite export quantity is the same,” a market source said.

The FD USG ethylene fell to a record low of $264/mt in May, with the Asia-US spread widening by more than $1,100/mt, S&P Global Platts data showed.

Market sources said that the US-China trade war had very little impact on ethylene due to limited US exports to China.

In 2017, China’s ethylene imports from the US accounted for only 3% of China’s total ethylene imports. US-origin ethylene flows mainly to Taiwan, market sources said.

—Fumiko Dobashi

### Asia propylene likely balanced; outcome of US-China trade war a priority

- **Balanced amid tight supplies, uncertain downstream**

Supply of propylene in Asia is expected to be sufficient to meet demand in the first half of 2019 as supply shortages arising from seasonal cracker turnarounds in the northeast Asia region will be mitigated by a series of new plant startups.

These include China’s Zhejiang Satellite Petrochemical Co. Ltd’s new 450,000 mt/year propane dehydrogenation, or PDH, plant and Fujian Meide Petrochemical Co. Ltd’s 660,000 mt/year PDH plant. Both have planned start-up dates in 2019.

In Southeast Asia, Malaysia’s Petronas-Aramco RAPID project is due to start its new refinery-petrochemical plant in 2019. Their RFCC is expected to produce 600,000 mt/year of propylene by the first quarter of 2019, while its cracker, due to start up later the same year, will be able to produce another 600,000 mt/year of propylene.

However, concerns regarding the outcome of the US-China trade war are likely to be a key focus in Q1. In November, both governments announced a 90-day truce where no additional tariffs would be implemented until March 1.

A major PDH producer in China said that sentiment in the downstream polypropylene markets, the major driver for propylene demand, was still bearish.

“We do not really know whether both sides will increase tariff on polypropylene exports after the truce ends on March 1,” the PDH producer said.

### US-China trade war to pressure downstream markets

If tariffs on PP were to be implemented in March, this could dampen demand for PP and in turn affect buying interest for propylene. However, if tariffs are not implemented in March, the reverse could happen, market sources said.

As for the upstream propane market, the impact of the US-China trade war is minimal.

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**ASIAN NEW STEAM CRACKER UPDATE**

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Capacity ('000 mt/yr)</th>
<th>TA period</th>
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<td>Gulei</td>
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<td>2020</td>
</tr>
<tr>
<td>Hengli</td>
<td>Dalian</td>
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<td>H2-19</td>
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<tr>
<td>Zhejiang Petrochemical</td>
<td>Zhoushan</td>
<td>1,400</td>
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</tr>
<tr>
<td>Sinopec Zhanjiang</td>
<td>Zhanjiang</td>
<td>900</td>
<td>2020</td>
</tr>
<tr>
<td>SP Chemical</td>
<td>Taixing, Jiansu</td>
<td>650</td>
<td>2020</td>
</tr>
</tbody>
</table>

Source: Market sources, S&P Global Platts
“We have adjust our trade flow in H2 last year. We sent our US-origin propane to trading houses in Japan and other parts of Asia, and purchased more feedstock from the Middle East to avoid the tariff,” the PDH producer said.

“We will continue to do so in 2019 to avoid any additional tariff,” an east China PDH producer said.

In the downstream ACN markets, uncertainty over the health of the Chinese economy in 2019 will remain a top concern for market players.

“The Chinese economy is slowing down, I am not optimistic on ABS demand in H1,” an ABS producer, who is still in the red, said

ABS margins, with a projected operating cost of $280/mt, had slipped into negative territory in August. The margin fell to a monthly average of minus $110/mt in September, according to S&P Global Platts data.

The tepid demand in the ABS market could dampen buying interest for ACN.

Market sources were also waiting for the outcome of the US-China trade dispute as ACN is one of the products affected by the 25% trade tariff that China had imposed on US imports.

According to Chinese customs data, China stopped importing US-origin ACN since September, while increasing imports from South Korea or Taiwan.

A delay in the start-up of a new plant in China could add to supply woes in the Asian ACN market. China's Jiangsu Sailboat Petrochemical, also known as Jiangsu Shenghong, planned to postpone the start-up of its new 260,000 mt/year acrylonitrile plant at Lianyungang to May-June 2019, from Q1 previously.

The Oxo-alcohol market is also likely to remain balanced in 2019 with pockets of tight supply amid a shutdown at South Korean Hanwha Chemical's 120,000 mt/year 2-EH unit at Yeosu from March for 30-50 days.

LG VINA Chemical, a joint venture between Southern Fertilizer Company and Vietnam Petroleum Corporation, will start a new plasticizer plant in Ho Chi Minh City, Vietnam, earliest by Q2 2019. The new plant can produce both Dioctyl Phthalate, or DOP, as well as Diisononyl phthalate, and it has a combined output capacity of 80,000 mt/year. DOP is produced from 2-EH and phthalic anhydride.

Demand, on the other hand, would be mostly stable in the first half of 2019 as buying interest in downstream paints, coatings and plasticizer markets remain steady. Demand may increase in Q2 amid a pickup in the construction industry during the summer months.

Supply of NBA could remain ample if tariffs on Chinese NBA exports to the US market are implemented post-March 2019.

—Melvin Yeo

**Asia Butadiene, SBR mixed amid maintenance season, trade-war uncertainty**

- Tighter butadiene supply to buoy prices in H1
- May be disrupted by further tariffs

The Asian butadiene market is likely to be stable to firm in the first half of 2019 as tight supplies from heavy plant maintenance may be offset by additional capacity expansions as well as bearish downstream markets, sources said.

Butadiene supply is expected to be balanced to slightly tight in H1 due to planned turnarounds in Asia as well as Europe. In South Korea, LG Chem, Kumho Petrochemicals, Hanwha Total and YNCC are due to shut their butadiene plants, while JSR will shut its Chiba butadiene unit.

As for China, the rest of Southeast Asia and South Asia, there will be few turnarounds, ensuring a relatively stable supply of butadiene from non-South Korean sources.

In addition, butadiene plant turnarounds in Europe would likely limit deepsea supplies. Among others, major producers like Shell is expected to take its Moerdijk cracker for maintenance over April-June, Ineos’ Dormagen’s butadiene extraction unit will undergo turnaround over March-May, BASF’s Antwerp cracker and extraction unit is planned for maintenance from May to June, while Dow’s Boehlen cracker will undergo maintenance over May-June. This is expected to be Europe’s first heavy turnaround year in many years.
Major downstream buyers such as France's Butachimie and Michelin's Bassens downstream plants are also scheduled for maintenance sometime in first-half 2019.

However, these tighter supply fundamentals may be disrupted by major new capacities coming online, with Malaysia's Petronas-Aramco RAPID set to add an extra 185,000 mt a year of butadiene production capacity to the market by the first half of the year. However, some market sources said the startup may be delayed until late 2019.

As for major additional capacity in China in the form of Zhejiang Rongsheng's 200,000 mt/year butadiene capacity, there is some uncertainty as to whether this will launch in Q2 2019 as earlier proposed by the company.

Should both these capacities come fully online, it is expected to weaken butadiene prices as supply tightness eases. Also, additional capacity within the Chinese market may mean that China's butadiene import requirement may fall in 2019.

One vital trend in the latter half of 2018 was the return of Chinese buyers to the import market. In H2 2018, particularly from September onwards, domestic spot cargoes were priced lower than import cargoes on an import parity basis, opening an attractive import-domestic arbitrage window for Chinese buyers to procure imports. This window remained relatively wide, with the import-domestic spread at above $100/mt from September to mid-November, 2018, imports being the cheaper of the two.

With much tighter supply fundamentals expected in H1 2019, and no major scheduled turnarounds in China during this period, import prices may exceed that of Chinese domestic prices, rendering the window for Chinese buyers to procure imported butadiene at cheaper prices closed. This expectation is further confirmed by stable to weak indications given by Chinese market players on the domestic Chinese market, indicating that the possibility of procuring ample, cheaper cargoes within China could be strong.

**Buyers seek less term volume**

Despite tight butadiene supplies and uncertainty in downstream markets due to the US-China trade war, market sources said end-users have requested for reduced term volumes for 2019, by as much as 10%-20% lower from volumes procured for 2018.

“This year, I have customers asking for around 50% of their required butadiene volumes to be on term. Last year, they mostly contracted 60% of their feedstock,” he said, adding that customers were allocating a greater percentage of their requirement to spot purchase in anticipation of cheaper prices.

Another producer, currently in the middle of term contract discussions, agreed. He said the uncertainty surrounding the US-China trade war and the expectation of poor performance in the downstream synthetic rubber and acrylonitrile butadiene styrene markets, had driven buyers to request for lesser volumes in their new term contracts.

This was confirmed by several ABS and synthetic rubber makers. “We need to leave ample room for uncertain market conditions,” one buyer said. At the time of publishing, other major Asian producers had yet to complete their term negotiations.

**Downstream uncertainty**

The ongoing US-China trade war had impacted butadiene downstream markets, mainly ABS and SBR in 2018.

Initially, the US was set to raise tariff rates to 25% in January. However in November, the US and Chinese governments announced a 90-day truce until March, in which no additional tariffs will be implemented.

Initial reactions from downstream markets were positive for the short term, but producers said that this was a shallow victory.

“Manufacturers are still worried over the pending decision [on tariffs]. It leaves them more uncertain,” one producer said, adding that this is pushing buyers to look for more spot volumes rather than contract cargoes. This is particularly difficult for SBR makers, especially during the end-of-year contract negotiation period.

In 2018, the CFR China ABS price slumped to $1,410/mt in November, the lowest since October 2016, while the CFR Northeast Asia SBR price fell to $1,345/mt in December, the lowest level since June 2017, S&P Global Platts data showed.

—Elizabeth Low
POLYMERS & INTERMEDIATES

Asia PE demand to pick up in March

- Trade volume may decrease on higher interest rates
- US-China trade tension may lead to cautious buying

The Asian polyethylene market is seen at a net deficit of 10 mil mt/year in 2019, but for the first two months of the year, PE is likely to be balanced as both supply and demand will be low due to the Lunar New Year holidays in the region.

Demand is expected to peak in March in the key China market, but March marks the end of the Indian financial year and brings with it a slowdown in requirement.

However, as this projection is based on steady oil prices, traders warned that oil price trends would overshadow PE fundamentals.

These net deficit estimates are also based on the assumption of lower plant runs amid high ethylene cost, market sources said. The estimate also includes the impact of new PE plant start ups, totaling 1-1.2 million mt/year in Asia, in the coming months, according to S&P Global Analytics. The new plants are unlikely to operate at full capacity in the first few months of starting up.

Most market participants are looking at feedstock correlation as predictors of next year’s pricing, primarily at Asian naphtha, and also due to the fact it had the highest production cost. This was despite the fact that the percentage of PE made from other feedstocks will also rise, for example ethane-based PE will increase to comprise around 37% of global feedstock composition due to the new shale gas-based units in the US, while coal-based production will rise to around 2%, due to the start up of around 1 million mt/year of China’s coal-based production by the end of 2019, according to S&P Global Analytics.

China’s demand to absorb global LLDPE

While the broader PE landscape is anticipated to be short, linear low density PE is expected to be long in 2019 due to the start up of more LLDPE plants in the US and Asia.

Asia, along with South America, are target markets for around 2 million mt/year of new US shale gas-based PE in 2019, comprising mainly LLDPE.

However, the surplus will likely be absorbed by China’s demand amid an expected increase in LLDPE imports in the wake of the country’s ban on import of scrap plastics.

The ban since January 2018 had led to an increase of around 1.4 million mt/year in virgin PE demand, up 60% year on year, according to recent customs data up to October 2018. The increased emphasis on curbing pollution continues to prompt initiatives in the recycled polymer segment.

However, the price of recycled material may be higher than that of prime material, which discourages recycling, producers said. In addition, the performance of the recycled material is still not up to expectation.

With less polluting alternatives to PE being costly, not immediately available and requiring a large capital outlay, virgin polymer is likely to remain the preferred option in 2019, market sources said.

Trade volumes may reduce on higher interest rates

The US Federal Reserve’s intention to increase interest rates, China reducing leverage and debt might tighten cash flow and hence, imports, traders said.

Imports will continue to remain rather lackluster in economies where the local currency has weakened against the US dollar, such as Indonesia.

The average PE demand growth is expected to rise in line with GDP growth forecast across most of Asia in 2019, and it will be slightly higher in China and India, market sources said. Consumer convenience and portion control will support the boom in packaging and hence higher PE demand.

US-China tension may lead to cautious buying

Progress in US-China trade talks has provided short-term relief for PE, but longer-term uncertainty remains, market sources said. Sellers to China have said their downstream customers are already requesting 10%-20% lower contractual volumes for 2019 amid the uncertainty.

China’s demand for downstream finished plastic goods has been hugely impacted, with tariffs hitting 70%-80% of the trade, market sources said.
PE resin will remain indirectly affected by the US-China trade tension as location swaps continue to replace US cargoes with material from the Middle East, India and Southeast Asia, traders said.

In Southeast Asia, key importer Vietnam will remain relatively resilient however, unaffected by bullish or bearish news, regional sources said.

Although there are many US offers to Vietnam, particularly of LL, LD and also HD blow molding and injection, many customers will continue to be hesitant to buy due to the long lead time, market sources said.

The region is also not expecting to see a pick-up in end-user demand despite China not selling finished goods to the US amid trade tensions, Vietnamese sources said.

—Heng Hui

**Asian PVC supply to tighten amid stricter safety checks in China**

- Caustic soda likely to rebound early next year
- US-China trade war impacts EDC supply

Supply in the Asian PVC market is expected to tighten in the first-half of 2019, amid stricter safety regulations for producers in China and rising demand in India.

China has increased safety regulations for vinyls production across the country following a fatal blast on November 28, 2018.

An explosion at chlor-alkali producer Hebei Shenghua Chemical in Zhangjiakou city killed at least 22 people and injured 22 others last month. The explosion was likely triggered by a chemical reaction between carbide and water, market sources said.

There will be strict oversight on carbide feedstock deliveries from henceforth, sources said. Carbide is a key feedstock for PVC production.

**RECENT VINYLS PRICE TRENDS**

![Graph showing recent vinyls price trends](source: S&P Global Platts)

“It is very dangerous to deliver carbide on trucks, which is a major means of transport in China,” a market source said.

“If China tightens its safety regulations on carbide deliveries, then carbide-based PVC makers would likely suffer carbide shortage, which would consequently tighten PVC supply,” the source noted.

Meanwhile, demand for PVC has been rising in Asia and is expected to surpass supply next year.

Asia’s PVC demand in 2019 is estimated to reach 28.13 million mt, up 5% from 2018, according to Japan’s Ministry of Economy, Trade and Industry.

“PVC demand in Asia would continue to surpass supplies,” another market source said.

The rise in demand has been supported by growing requirements from India, with the CFR India PVC price averaging at around $970/mt in 2018, up 1% from 2017, S&P Global Platts data showed.

Amid a firmer outlook for the Asian PVC market, the price spread between PVC and feedstock vinyl chloride monomer is expected to remain above the typical breakeven spread of plus $150/mt in 2019. For 2018, the PVC/VCM price spread in Asia averaged at around $195/mt, unchanged from a year earlier and higher than the typical breakeven spread.

Market participants did not expect any major impact from the ongoing US-China trade war as PVC has been excluded from an additional duty list. China’s PVC imports from the US stood at 267,019 mt over January-October 2018, up 9.8% from a year earlier, customs data showed.

**US-China trade war impacts EDC**

The trade war, however, is expected to impact ethylene dichloride supply from the US. China relies heavily on US-origin EDC — which accounts for 70% of its total EDC imports, customs data showed.

China’s EDC imports for the January-October period stood at 267,019 mt, up 14% from a year earlier, the data showed. There were no EDC cargoes imported from the US in October.

China may start importing from the Middle East to cover its supply shortage, sources said. The CFR Far East Asia EDC price has been rising in the fourth quarter, hovering at a four-year high, Platts data showed.

**Caustic soda likely to rebound in Q1**

The Asian caustic soda market is expected to rebound in first-quarter 2019 as Japan’s exports to
India normalizes following a slump over January-October 2018.

Prices were under pressure in the fourth-quarter amid ample supply from Japan as India increased quality checks, requesting for additional information from key exporting countries.

Japan's caustic soda exports to India stood at 307,420 mt over January-October, down 24% year on year, Japan customs data showed. Since September, there has been no exports to India, the data showed.

To make up for the loss of the India export market, Japan increased supply to Southeast Asian countries, which has dampened prices in Northeast and Southeast Asia.

The FOB Northeast Asia caustic soda price fell to $300/mt on December 4 — the lowest level since July 2016, Platts data showed.

Indian and Japanese industry leaders are currently in talks and a solution is expected in January or February, sources added.

“As long as Japanese exporters have proper documentation, it is no problem to export to India,” a market source said.

“The two parties are now in talks to sort out the situation. It is not very good for India either as India needs to import caustic soda for its alumina industry. I think Japan's exports would normalize in January or February,” the source added. —Fumiko Dobashi

### MEG supply adequate to meet Asian demand increment

- More US-origin MEG seen heading to Asia
- Asian supply expected balanced-to-long

After Asia's monoethylene glycol slumped to an 18-month low on a CFR China basis in Q4, market participants expected MEG to bottom out and be on a stronger trajectory in H1 2019, most likely post-Lunar New Year festivities in February.

According to market sources, most 2019 term contracts in China were settled at a discount of around $3-$6/mt, similar to levels inked for 2018 term cargoes, if not at slightly steeper discounts. Nevertheless, market sentiment is not too optimistic about how bullish Asian MEG prices could be due to adequate supply and potentially weaker demand from downstream markets amid uncertainties surrounding the US-China trade war and the slowing Chinese economy.

#### MEG TURNAROUNDS FOR 2019

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Capacity ('000 mt/yr)</th>
<th>TA duration</th>
<th>Estimated loss ('000 mt)</th>
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<tr>
<td>Maruzen</td>
<td>Ichihara, Japan</td>
<td>115</td>
<td>20 - 4 weeks</td>
<td>9</td>
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<td>Maruzen</td>
<td>Yokkaichi, Japan</td>
<td>120</td>
<td>19 - 4 weeks</td>
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<td>Mitsubishi</td>
<td>Kashima, Japan</td>
<td>300</td>
<td>Jun - 3 weeks</td>
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<td>Hanwha-Total PC</td>
<td>Daesan, South Korea</td>
<td>125</td>
<td>Mar - 2-3 weeks</td>
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<td>LG Chemical</td>
<td>Daesan, South Korea</td>
<td>180</td>
<td>05-Mar to 10-Apr</td>
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<td>Lotte Chemical</td>
<td>Daesan, South Korea</td>
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<td>Mid-Oct to early Nov</td>
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<td>Daesan, South Korea</td>
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<td>Mid-Oct to early Nov</td>
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<tr>
<td>Lotte Chemical</td>
<td>Yeosu, South Korea</td>
<td>120</td>
<td>Mar - 19 days</td>
<td>6</td>
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<td>ONGC Shell PC</td>
<td>Huizhou, China</td>
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<td>Nov - 20 days</td>
<td>22</td>
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<tr>
<td>SINOPEC Shanghai PC</td>
<td>Shanghai, China</td>
<td>225</td>
<td>Mid-Aug to Mid-Sep - 32 days</td>
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<td>China Man-Made Fiber</td>
<td>Kaohsiung, Taiwan</td>
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<td>Mar/Apr - 4 weeks</td>
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<td>Nan Ya Plastics</td>
<td>Mailiao, Taiwan</td>
<td>360</td>
<td>Aug - 4 weeks</td>
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<tr>
<td>Nan Ya Plastics</td>
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<td>May - 4 weeks</td>
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<td>Polychem (GT Petrochemical)</td>
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<td>Oct/Nov - 33 weeks</td>
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<td>TCI Glycol (PTT)</td>
<td>Map Ta Phut, Thailand</td>
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<td>Feb - 35 days</td>
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<td>Equate</td>
<td>Shuaina, Kuwait</td>
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<td>Jan - 2-3 weeks</td>
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<td><strong>Total</strong></td>
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Source: Market sources, S&P Global Platts

#### Tariff forces US-origin MEG away from China

Asian market participants are eyeing the start-up of new MEG plants in the US, which were initially built to target the growing Asian market, especially China.

Both Lotte’s 700,000 mt/year MEG unit at Calcasieu Parish and Sasol's 220,000 mt/year MEG line at Lake Charles are likely to start in Q1 2019, followed by MEGlobal's 750,000 mt/year at Freeport Texas and Nan Ya Plastics' 828,000 mt/year at Point Comfort, which are expected to be commissioned in Q4 2019 and Q1 2020, respectively.

As China has implemented a 25% tariff on US MEG, Lotte’s US-origin MEG which was slated to be exported to China will be diverted to South Korea, while the company’s South Korean MEG will be used to supply the Chinese market, sources said. In addition, Lotte was heard to have almost evenly distributed its US-origin MEG to major global markets, with one-third for the Chinese market, sources said. In addition, Lotte was heard to have almost evenly distributed its US-origin MEG to major global markets, with one-third for America, one-third exported to Asia and the last third to Europe.

#### Limited new capacity in H1 2019, yet adequate supply

There is one more plant drawing market attention in Asia — Malaysia's Petronas Chemicals Group's 740,000 mt/year MEG plant at Pengerang, which is expected to start in either Q2 or Q3 of 2019. However, S&P Global Platts has yet to receive confirmation of this from the company.

There is most likely no new MEG capacity in China in H1 2019, considering the potential delays of new coal-based projects given the time needed to attain on-specification products and reliable operation.

Nevertheless, Chinese domestic supply in 2019 will be supported by the new capacity built in 2018, which is almost 23% higher from a year ago, with three-quarters...
of the new capacity contributed by coal-based MEG lines. Asia’s MEG capacity reaches 29.4 million mt/year by end of 2018, including 10.5 million mt/year of capacity within China.

In H2 2019, there are likely to be 1.65 million mt/year of new naphtha-based capacity and 2 million mt/year of new coal-based capacity in China, if there are no delays to these projects.

With the new capacity from the US and within Asia, most market participants believe regional as well as global MEG supply and demand dynamics will be relatively balanced, to slightly long in 2019, as the annual growth rate of downstream demand is expected to remain the same or dip slightly due to the uncertainties surrounding the US-China trade war and the potential slowdown in the Chinese economy.

**The launch of DCE likely to bring a more stable spot market**

China’s Dalian Commodity Exchange launched an MEG futures contract on December 10, a much awaited launch which had kept trade participants wanting for years.

This contract provides more options for market participants along the polyester chain to manage trading risks.

In the first week of trading, there were over 10 million mt of MEG traded for June to November contracts, worth around Yuan 57.8 billion or $8.4 billion. Considering the large, and potentially even larger trading volume at the DCE, market participants expect a more stable futures market to help stabilize spot prices as well.

Market participants, who used to focus on term contracts, are likely to pay more attention to the MEG spot market in 2019, following the launch of the MEG futures contract on the DCE, and also because of the ample supply of MEG next year, a China-based polyester producer said.

— Miranda Zhang

**PET margins likely stable in 2019, yet uncertainties remain for polyester**

The Asian polyethylene terephthalate market is likely to stabilize in the first half of 2019 after the volatility in 2018, when the market was extremely bullish in the second quarter and bearish in the fourth, market participants said.

The profit margin of bottle grade PET is expected to remain positive in Asia, as market participants are able to better manage feedstock cost risks following the launch of MEG futures contracts on the Dalian Commodity Exchange on December 10 as well as the start of PTA futures listed on the Zhengzhou Commodity Exchange to overseas investors on November 30.

Chinese PET margins averaged at around $19/mt in 2017, after deducting the cost of production and assuming that 0.86 mt of PTA and 0.34 mt of MEG is needed to make 1 mt of PET, plus other operating cost amounting to $120/mt, S&P Global Platts data shown. In 2018, based on the same assumptions, Asian PET margins have been hovering at an average of around $80/mt, Platts data showed.

Meanwhile, the PET bottle chips market will likely strengthen during the traditional peak season — around March to May — in preparation for a spike in demand for bottled drinks during the hot summer months. Based on Platts data, the average margin of PET bottle chips during peak season is almost three times more than during the off-peak months.

Market sources said capacity expansion will unlikely pressure Asian PET margins as such additional production will be absorbed by demand increments.

In China, total PET capacity will reach 10.12 million mt/year by the end of 2018. The typical annual growth
rate for PET bottle grade is around 5%-6%, and it is likely to remain the same for 2019, both producers and users said.

China's Yisheng Petrochemical plans to start its 600,000 mt/year PET line at Dalian in H1 2019, while the company's new 500,000 mt/year PET project at Hainan, initially scheduled to start in Q3 2019, has been postponed without a clear timeline yet, a company source said.

Many market participants expect the actual impact from new PET capacity to be minimal in 2019 due to potential project delays.

“The new capacity is likely to target 2020 demand, not 2019, unless new plants are able to achieve on-specification material and stable operation in the first few months of the year to capture the peak season demand in 2019,” a major Asian PET producer said.

Uncertainties in US-China trade war, slowing economy

On the other hand, trade participants have taken a relatively dim view for polyester fiber and yarn grades, worrying over potentially weaker demand resulting from the US-China trade war and slowing Chinese economy. There are doubts whether average operating rates for polyester can remain above 90% next year.

According to the World Bank, China's economy is forecast to grow 6.3% in 2019, similar to the 6.5% forecast for 2018, which indicates that demand growth along the polyester chain may continue to rise by close to 10% next year. Polyester consumption is closely linked to the country's economic growth.

However, the economic growth forecast may not have taken into consideration long-term uncertainties from the US-China trade war, despite the fact that the US and China have agreed to a 90-day truce from December 2018. In addition, certain industries have a more significant impact on polyester demand, which could not be reflected in the overall economic data.

“The real estate industry is closely related to the polyester sector, as housing interior designs like curtains and carpets, contribute to a large portion of the (polyester) demand. Yet there is lack of confidence in real estate development in 2018 and 2019 in China,” an industry source said.

“We are not optimistic about the demand from downstream textile industry in the first-half of 2019. The typical market cycle for polyester sector in China is three to five years and it is likely in the down cycle now,” a Chinese polyester producer said.

—Miranda Zhang

Asia PP demand set to rise above supply

• Shortage to hit South Asia hardest
• Arbitrage may open for Chinese homopolymer PP

Asian polypropylene was entering the first-half of the new year with strength from a tight market and healthy demand from various sectors including automobile, packaging and non-woven clothing, and this bullishness is expected to drive demand above supply.

S&P Global Platts Analytics estimates that the region will be net short of 2 million mt/year of PP in 2019, and this is expected despite a boost in production capacity, as demand was set to improve significantly.

Supply, particularly of copolymer grades, will remain tight despite the coming on stream of a total of 3 million mt/year of PP capacity next year, mainly in China, Platts Analytics said. This boost in capacity is expected to open arbitrage opportunities to export Chinese homopolymer PP to other countries in Southeast Asia and Latin America, industry sources said.

Block copolymer demand leads the way

Of all the PP grades, block copolymer was expected to see the sharpest increase in demand in China, according to sources. The growth in China's demand for homopolymers, such as PP raffia and injection grades, was, however, slowing down, they added.

Block copolymer imports were attracting more interest versus raffia grade because of heat resistant packaging demand, sources said, estimating that the import requirement for block copolymers would grow at a rate of 7%-8% a year in Asia in 2019.

Although there has been no change in end-uses such as molded plastics — which uses homopolymer injection grade PP — and PP yarn woven bags production, there has been a slight increase in production of stretched, multi-layer film plastics, which uses isotactic and biaxially-oriented PP, sources said.
Despite some converters thinking of substituting PP with cheaper PE resin grades, participants said the switch, if any, was a long drawn process and the demand impact won’t be immediate.

**Asian cargoes to stay in region on duty advantage**

Intra-ASEAN and ASEAN-China free trade agreements will keep member countries’ supply within the region, sources said. On the back of the FTA, more Asian producers will be focusing their energy on regional cargoes, given that both buyers and sellers, producers and end-users generally enjoy and share the duty advantage benefit among themselves. This also makes regional cargoes more attractively priced compared to those from other origins such as the Middle East and Asia, as tax is taken out of the total cost.

Many producers also plan to sell more material to South Asia in the coming months, particularly Bangladesh, Pakistan and India, where import demand is estimated at a collective 1.4 million mt/year for 2019, up around 10% year on year, according to seller estimates.

Asia’s demand will continue to lead global pricing, as the region accounts for 60% of global demand, sources said. Average demand growth for PP is anticipated to rise in line with GDP growth forecasts across most of Asia in 2019, and be slightly higher in China and India, due to the rise of ecommerce, sources said.

Some end-users, however, don’t see things in the same light for demand, because home appliances and fast-moving goods businesses are facing a slowdown in their businesses, while government bodies in Asia have launched anti-plastic movements, they said.

**Healthy integrated margins to stay in 2019**

In Asia, PP prices follow propane closely, which overall would relate closely to crude oil. Naphtha-based PP plants and PP produced through propane dehydrogenation units are likely to keep run rates above 80% of capacity as both margins are comparatively wider versus unintegrated plants that use feedstocks such as methanol, sellers said. With a wide average margin of more than $150/mt using naphtha as feedstock and $300/mt for PDH-based PP, integrated margins are unlikely to turn negative in the first half of 2019, sellers said.

On the contrary, unintegrated methanol-to-PP plants are envisaged to continue running at low rates due to weak profits, sources said. It had been uneconomical to run methanol-based PP for most parts of 2018, with negative margins amid high methanol prices, producers said.

**Futures to remain predictor of market sentiment versus hedging**

Futures trading volumes are expected to still be impacted in 2019 by China’s measures to curb speculation. The closer regulation of trading activity, including disciplinary measures, has already resulted in a fall in traded volumes of PP raffia on the Dalian Commodity Exchange so far in 2018, sources said.

Traders pointed out that those futures contracts will remain as an indicator of PP market sentiment for forward months, rather than hedging for physical price risk for delivery in the month ahead, due to the lack of a liquid and well-defined forward curve.

—Heng Hui

**Methanol surplus tipped for China, India, but SE Asia seen tight**

- **Methanol surplus tipped for China and India**
- **Southeast Asia’s biodiesel mandate makes region tight**

China and India, and to a lesser extent South Korea and Taiwan, will head into 2019 with a methanol supply overhang that will likely weigh on Asian prices, while rising biodiesel consumption in Indonesia and Malaysia is expected to tighten methanol supply in Southeast Asia, market sources said this week.

China’s imports from Iran, which accounted for 30.89% of its total imports in 2017, are poised to increase market share in 2019 amid the startup of major methanol projects in Iran. At the same time, China’s domestic production looks healthy and is slated to increase. However, if Jiutai Energy’s 600,000 mt/year olefins plant and Jilin Connell’s 300,000 mt/year MTO plant do not start up as planned in 2019, the Chinese methanol market could turn bearish and Chinese end-users may import even less methanol than in previous years, industry sources said.

China’s methanol imports have been shrinking steadily over the past three years, and January-September 2018 imports were down 12.37% year on year, latest China Customs data showed.

“Methanol supply will be higher than demand [in 2019],” a trader said.

Iran’s Marjan Petrochemical started up its new 1.65 million mt/year methanol plant in September, which is currently operating at 70% of capacity and producing around 90,000 mt/month of methanol, and already its exports to China and India are weighing on prices, trade sources said.

Two other plants in Iran, Bushehr Petrochemical Plant and Kaveh Methanol Complex, are in final phase of construction and are expected to start production in 2019, however current low CFR China methanol prices and ample supply make for poor economics and could put the start-ups on hold, market sources said. But should the start-ups go ahead, it will add around 4.15 million mt/year of capacity, according to market sources.
The re-imposition of US sanctions on Iran November 4 make China and India key outlets for Iranian product as Southeast Asian buyers, South Korea and Taiwan have stronger geopolitical ties with the US. But while more product from Iran is expected to arrive in China and India in coming months, more US cargoes are expected in Japan and South Korea as Chinese tariffs on US goods prompt the US to deepen ties with other trade partners.

Methanol demand in Japan is stable at about 1.7 million mt/year, but Japanese trade sources see an additional 40,000-50,000 mt of North and South American methanol heading to Chiba and Hirohata in 2019 as Japan cuts back on 100,000 mt of Iranian-origin imports. South Korea’s demand, estimated at 1.8 million mt in 2018, is forecast to increase next year on the back of healthy MTBE production, Korean sources said.

Around 40% of South Korea’s methanol imports are from the US and this is expected to increase to 60-70% next year, partly as a consequence of the US-China trade war. Domestic market sources said South Korea will also buy more methanol from Trinidad & Tobago and Venezuela next year and less from the Middle East.

South Korean buyers prefer cargoes from the US as shipping is cheaper and more direct than from the Middle East, from where methanol cargoes typically move via Southeast Asia or China to South Korea.

“Middle East producers charge Korean buyers $15-$20/mt in deviation costs from China to South Korea, when it should be $5-$10/mt,” a South Korean trader said.

In China, industry sources anticipate ample methanol supply will erase the usual tightness that emerges during January and February in China, when natural gas is typically redirected instead to heating during severe winter weather.

Biodiesel mandate support prices in Southeast Asia

In a bid to curb its current account deficit, Indonesia on September 1 expanded its mandate of blending 20% of biodiesel with gasoil to include non-subsidized sectors of its transport industry, and its mining industry.

The country’s biodiesel consumption is forecast to rise to 6 million–6.2 million kiloliters in 2019 from an estimated 4 million kl this year. Methanol accounts for 10-13% of biodiesel’s feedstock costs.

An additional 2 million kl demand in biodiesel consumption will generate an incremental requirement of 200,000-260,000 kl/year of methanol to produce biodiesel, on top of the Indonesia’s existing methanol demand for its downstream acetic acid industry. Methanol is also a feedstock for acetic acid.

Indonesia’s current account deficit is estimated to widen to $25 billion in 2018 from around $17 billion last year amid an expected increase in imports. Indonesia has in the past increased biodiesel blending as a means of reducing the country’s current account deficit, but in doing so, it has inadvertently augmented demand for methanol.

Malaysia in November announced it will start to phase in a B10 biodiesel mandate from December 2018, with the new rule coming into full force from February 2019, up from the current B7 mandate under which gasoil is blended with 7% palm biodiesel.

Assuming current prices of crude palm oil and gasoil, Malaysia could produce up to 1.2 million mt of biodiesel in 2019, up from the estimated 900,000 mt of biodiesel this year.

The additional 30,000-39,000 mt/year methanol requirement is small compared with Indonesia’s appetite, but when viewed together, Malaysia and Indonesia’s biodiesel mandates, as well as their downstream acetic acid demand, lend a bullish tone to the region going forward.

A scheduled turnaround at Brunei Methanol Company sometime next year and Malaysia’s Petronas diverting around 200,000-250,000 mt/year of its methanol to MTBE production should see methanol supply in the region relatively tight and prices supported, trade sources said.

Given the supply-demand factors, the methanol outlook for H1 2019 will likely be bearish due to an influx of Iranian cargoes to China and India, while in Southeast Asia, tight supply will likely support prices.

—Esther Ng