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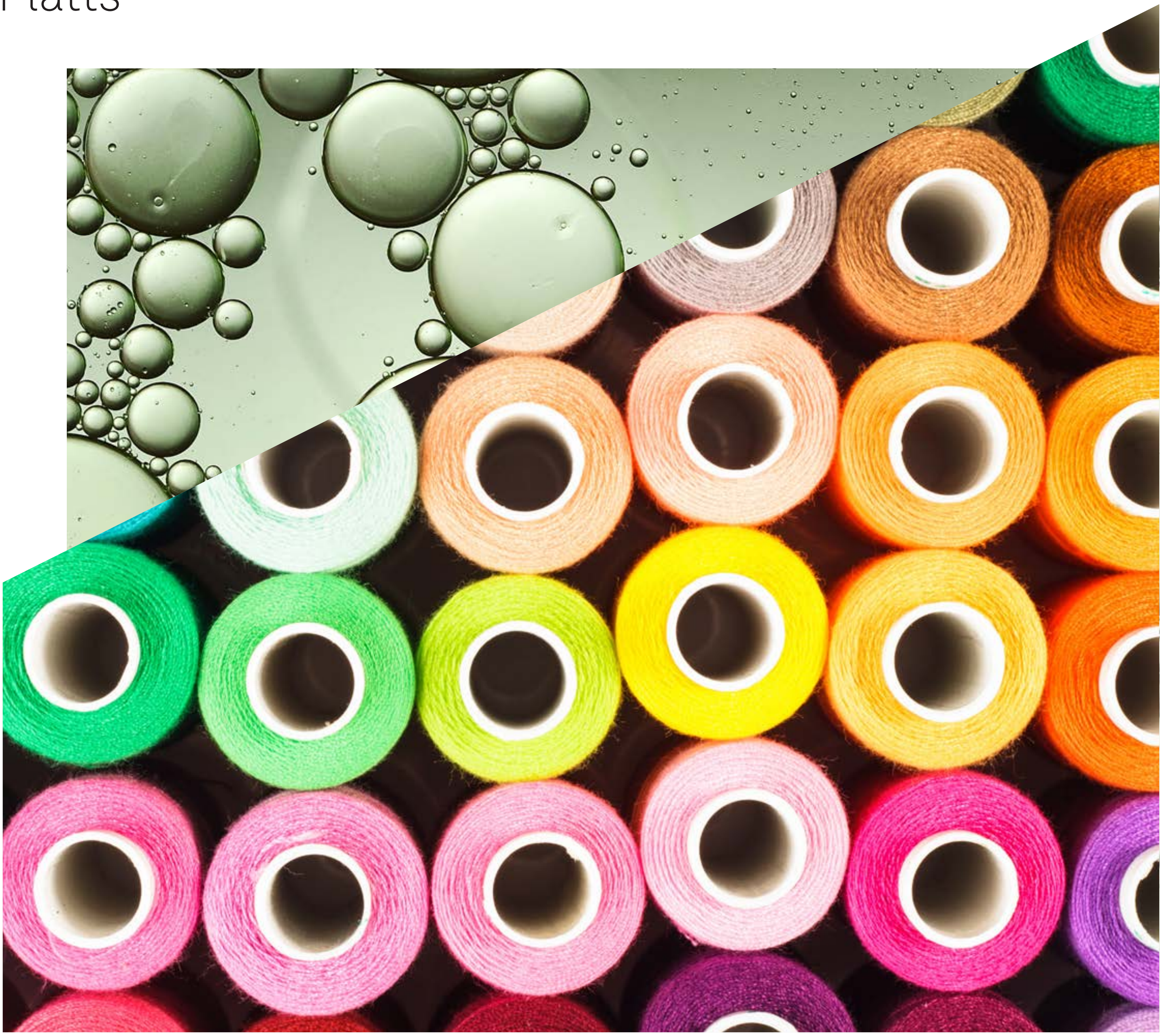

ASIA PETROCHEMICAL OUTLOOK H2 2016
AROMATICS & BLENDSTOCKS

PETROCHEMICALS SPECIAL REPORT

JULY 2016

AROMATICS

BLENDSTOCKS

The Asian aromatics market is entering a general period of oversupply in the second half this year as new plant come on stream. As such, certain aromatics such as paraxylene and benzene will face surpluses, thus squeezing production margins. The new plants are expected to change typical market fundamentals too. Reliance Industries intends to start production at its new 2.2 million mt/year PX plant at Jamnagar around September-October, which is expected to turn the PX importer into an exporter of about 1 million mt/year of PX. Benzene also faces challenges from about 1.37 million mt/year of new capacity, compounded by concerns of thin demand from China as the country's manufacturing sector slows. China's own aromatics sector is expected to face disruptions ahead of a G20 conference in Hangzhou, Zhejiang province, during September 4-5. Plants surrounding Hangzhou are likely to cut production to ensure good air quality during the summit. The anticipated cuts coming from the G20 summit will coincide with a turnaround season for the styrene monomer market, which is expected to reduce SM production by 285,200 mt during July to November. Amid the lower availability, a flow of US-origin SM cargoes to Asia could offset some tightness in SM prices in H2. Market participants are also worried about the health of the Chinese economy as it slows despite stimulus measures. In its 2015 annual report released on June 21, the People's Bank of China said, "China's economy will face great downward pressures, including pressures on asset quality, as the country enters into a critical period of shifting growth speed, adjusting economic structure and switching growth impetus." Towards the end of H1 2016, crude futures drove market sentiment, especially as ICE Brent contracts exceeded $50/barrel late-May for the first time since November 2015. As the market struggles to find equilibrium, there is some optimism in certain sectors such as PX, where the new supply could support buyers in 2017. Please read on to find out what's up or down in H2 2016.

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AROMATICS

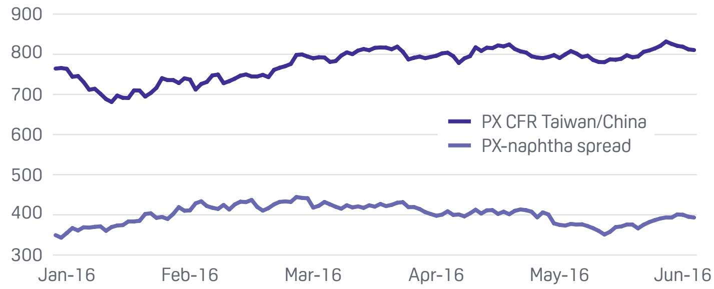
CHINA G20 SUMMIT IN SEP THROWS PX, PTA MARKETS OFF BALANCE

The Asian fiber-chain from paraxylene via purified terephthalic acid down to polyester could be facing a turbulent period ahead as a G20 summit in China leads to extensive plant shutdowns, market sources said.

The summit will be held in Hangzhou in eastern China's Zhejiang province from September 4-5. Petrochemical plants in the surrounding cities have been asked to reduce production to ensure good air quality during the summit.

"All polyester [plants] in the Hangzhou region will probably be shut, so the supply-demand balance from now till then will be completely distorted," a source from a Chinese PTA producer said.

PARAXYLENE CFR TAIWAN/CHINA PRICES AVERAGE $380/mt PREMIUM TO NAPHTHA FEEDSTOCK COSTS ($/mt)



Source: Platts

In Ningbo, a major PTA production hub, companies had to respond by May 26. Though no details were available at the time, sources said that several PTA plants were likely to be shut because of the summit.

Based on preliminary proposals, Zhejiang Yisheng Petrochemical has been asked to stop all production of PTA. Its PTA production capacity is 5.5 million mt/year.

Formosa Chemicals & Fibre Corporation and Ningbo Mitsubishi Chemical Co. Ltd., with a capacity of 1.2 million mt/year and 600,000 mt/year, respectively, are also expected to stop PTA production.

In addition, Hangzhou region has around 20 million mt/year of polyester manufacturing capacity, which may also have to shut, which in turn will affect PTA run rates.

As a result of the curtailment in PTA and polyester production, PX imports are expected to fall as well.

"Generally speaking, in the third quarter, supply will get long, so probably the spread between PX and naphtha will be squeezed from the current level to maybe around $350/mt," a Northeast Asian trader said.

The PX-naphtha spread rebounded to above $390/mt early H1 June, well within profitable margins for integrated producers, with breakeven possible with a spread as low as $200/mt for some producers.

"Due to the G20, until the first half of August, PTA and polyester operating rates may be high in order to build up some stocks before the shutdowns," a Northeast Asian producer said.

India, a key market

A crucial market when it comes to PX and PTA, India saw massive expansion in PTA capacity 2015 and more new PX and PTA plants are scheduled to start up in the second half of 2016.

Reliance Industries Ltd. plans to start production at its new 2.2 million mt/year PX plant at Jamnagar around September-October. RIL has been buying PX for its new PTA plants at Dahej, which have a combined capacity of 2.5 million mt/year, but with the new PX plant starting up, the company is likely to turn into an exporter, and expected to ship out up to 1 million mt/year.

About the same time, JBF Industries will start production at its new 1.25 million mt/year PTA plant in the Mangalore Special Economic Zone. The company will source feedstock from ONGC Mangalore Petrochemicals Ltd.'s 920,000 mt/year PX plant.

Meanwhile, Singapore's Jurong Aromatics could restart its fire-hit complex soon if it gets approval from the local authorities. The plant, which can produce 800,000 mt/year of PX and 400,000 mt/year of benzene, has been shut since December 2014. A fire broke out at an oil tank in the complex on April 20, 2016.

2017 likely to be a buyer's market

Looking further ahead, market sources see PX supply longer in 2017, offering more advantage to buyers.

Saudi Arabia's Rabigh Refining and Petrochemical Company, or Petro Rabigh, plans to start up its new plant that can produce 1.34 million mt/year of PX and 424,000 mt/year of benzene in H1 2017. Saudi Aramco and Sumitomo Chemical each own 37.5% of the company, while the remainder is traded on the Tadawul exchange.

Towards the middle of 2017, Vietnam's Nghi Son Refinery and Petrochemical is set to start up its 700,000 mt/year PX plant at Nghi Son. The company is a joint venture by PetroVietnam (25.1%), Kuwait Petroleum International and Japan's Idemitsu Kosan (35.1%) as well as Mitsui Chemicals (4.7%).

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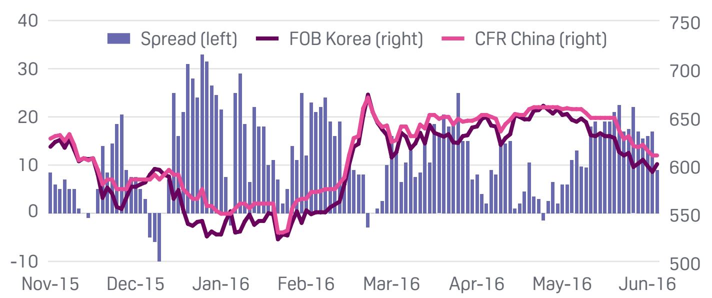
OVERSUPPLY EXPECTED TO MAINTAIN PRESSURE ON ASIAN BENZENE

In the second half of 2016, Asian benzene is expected to remain under pressure as falling downstream consumption and new capacity is scheduled to come online.

FOB Korea spot prices will still largely track crude oil, but any hike would be unsustainable in absence of firm physical demand, sources said.

The FOB Korea marker was assessed at $602/mt on June 17, up 1.18% from January 4. Over the same period, the CFR China marker rose 5.3% to be assessed at $616/mt.

WEAKER CHINESE DEMAND SUPPRESSES MARKET PRICES ($/mt)



Source: Platts

Asia is expected to see at least 1.37 million mt/year of new benzene production coming on stream within the next six months. In the third quarter, India's ONGC Petro-Additions Limited will start its 150,000 mt/year benzene plant at Dahej. Japan's Showa Shell will also start its 70,000 mt/year benzene plant at Yokkaichi in Q3.

South Korea's Hyundai Chemical, a joint venture between Hyundai Oilbank and Lotte Chemical, plans to startup its 500,000 mt/year benzene plant at Seosan in October. India's Reliance Industries Ltd. is also likely to startup its 500,000 mt/year Jamnagar benzene plant at the end of Q4, market sources said. It was initially expected to startup in Q1 this year.

Reformer units across Asia have been mostly running at full capacity this year, maximizing benzene and mixed xylenes production, amid bullish margins, which is likely to lead to oversupply in H2.

According to S&P Global Platts data, the benzene-naphtha spread averaged $226.18/mt in H1, between January 4 and June 17, and still remains above the breakeven level of $120-$150/mt. Over the same period, the PX-naphtha spread was $379.63/mt, far above the breakeven level of $280-$300/mt, the data showed.

Plant maintenance might help contain the oversupply, especially in Q3 and Q4. South Korea's SKGC plans to shut its 600,000 mt/year benzene plant at Incheon from mid-September to end-October for 40 days of maintenance.

Ulsan Aromatics, a joint venture between SKGC and JX Nippon, will also shut its 540,000 mt/year plant for scheduled maintenance in Q4.

Japan's Idemitsu Kosan has a month-long maintenance planned for its Tokuyama 274,000 mt/year benzene plant around September-October.

In Southeast Asia, Singapore's Jurong Aromatics Corporation is expected to restart production at its 420,000 mt/year benzene plant by the end of July. Market participants said that the additional supply will likely be sold in Singapore, Malaysia and Indonesia, and any excess shipped to Taiwan or China.

This means less demand for Thai and Indian cargoes, pushing these volumes to the Taiwan and China markets as well.

In addition, the scheduled restart of Shell Chemical's 960,000 mt/year naphtha-fed steam cracker at Pulau Bukom, Singapore, in early July means the restart of its 230,000 mt/year benzene plant, reducing its need for imports.

But the restart of Shell Chemical's cracker will provide sufficient supply of feedstock propylene to Singapore's Changchun Dairen, allowing the company to operate its 540,000 mt/year cumene plant at Seraya, Jurong. The resulting demand for benzene in H2 will likely make up for the fall in Shell Chemical's requirements, sources said.

Who can soak up surplus Asian benzene?

In the first five months of 2016, South Korea shipped out 403,693 mt to the US Gulf, up 20.43% year on year. China imported 277,050 mt of South Korean benzene over the same period, down 39.68% year on year.

While maintenance at several plants from March to June cut South Korea's exports, demand from China was also less compared with the previous year. Planned maintenance at several plants in the US and Europe cut spot demand in the US Gulf Coast leading to a supply overhang as Asian volumes continued to flow to the West. As volumes from Asia dwindled in Q2, market sources expected demand from USG buyers to rebound in Q3, but this depends on USGC prices.

June US benzene contracts settled at $2/gal ($598/mt), 5.66% lower from a January contract price of $2.12/gal.

In China, demand in H2 is expected to be sluggish compared with H1 as downstream operations are expected to fall in tandem with the slowdown in the manufacturing sector. From January to April, China's benzene imports fell 31.42% year on year to 420,953 mt.

Market participants expressed concerns about the supply-demand balance in Q3 in view of the G20 summit in September, ahead of which extensive plant shutdowns are expected. The summit will be held in Hangzhou in eastern China's Zhejiang province from September 4-5. Several downstream plants will be affected, but weaker demand might restore market balance, a source said.

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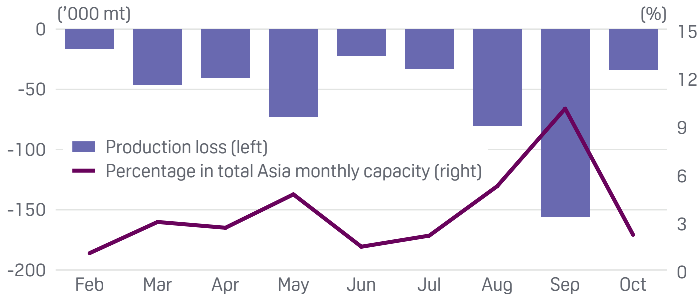
ASIAN SM SUPPLY TO TIGHTEN H2 2016, BUT US CARGOES, CHINA DEMAND MAY IMPACT

The Asian styrene monomer market is expected to gradually tighten over the second half of 2016, supported by massive turnarounds. But US arbitrage cargoes and Chinese demand are factors that could influence the supply/demand balance.

The market is set to lose around 285,200 mt of SM production over July-November due to massive turnarounds in Asia, higher than the production loss of 224,430 mt in H1 2016, according to S&P Global Platts analysis.

ASIAN SM PRODUCTION LOSS DUE TO TURNAROUNDS IN 2016



Source: Platts

SM TURNAROUND PLAN FOR H2 2016 ('000 mt/year)

Company	Location	Capacity	Timing	Estimated Loss(kt)
SKGC	Ulsan, Korea	405	Oct, 30 days	33.9
Hanwha Total	Daesan, Korea	650	Sep, 20 days	36.2
Idemitsu	Tokuyama, Japan	120	Sep, 30 days	10.2
	Tokuyama, Japan	220	Sep, 30 days	18.6
Taiyo	Ube, Japan	370	Sep, 30 days	30.9
Secco	CaoJing, China	670	Aug, 30 days	56.1
FCFC	Mailiao, Taiwan	600	Sep, 30 days	50.1
Shell	Seraya, Singapore	360	Jul-Aug, 30 days	30
IRPC	Rayong, Thailand	230	Aug-Sep, 30 days	19.2
Total	**Capacity Affected**	**3625**	**Estimated Loss H2**	**285.2**

Source: S&P Global Platts

September production may hit a low

SM production in September will likely be the lowest for the year, with an estimated loss of 155,520 mt from turnarounds in the region, accounting for about 10.05% of Asia's monthly SM production of around 1.5 million mt, according to S&P Global Platts analysis.

It also coincides with the closure of petrochemical plants in east China, ahead of the G20 summit that will be held in Hangzhou from September 4-5.

Petrochemical plants in the surrounding cities, such as in Zhejiang province, have been asked to cut production to ensure good air quality during the summit.

A South Korea-based trader said: "In July-August, when the September cargoes are discussed, a small uptick in SM prices will happen, but the price may not exceed the all-year high in March."

New SM plants in China may, however, compensate for the production loss.

Xinri Chemical's 300,000 mt/year plant in Changzhou, Jiangsu province, started up in early June and CNOOC's 300,000 mt/year plant in Ningbo, Zhejiang province, is likely starting commercial operations in late June-July, according to market sources.

There were, however, mixed opinions on the market impact from the new SM plants.

Despite new SM plants coming on stream in China, the run rates at these plants will likely be low, one market source said. But, another source based in China said: "The new SM plants may keep high operation rates, on lower ethylene [prices] and steadily good production margins."

US imports, China economy, oil matter

Meanwhile, US arbitrage barrels to Asia could be a factor that offsets the expected tightness in H2 2016. This stems from US SM producers currently taking advantage of plentiful and inexpensive ethylene feedstock.

Asia was the second-largest export destination for US SM producers last year. They sent 43.6% [904,842 mt] of their exports to South America, 30.5% [632,462 mt] to Asia and 25.6% [531,342 mt] to Europe.

"Some people think Asia will be stronger than Europe [in H2]. In that scenario, more US material will move to Asia, [which will] bring the [Asia] price down," a US-based trader said.

In reality, despite May's production dropping to the lowest in H1 2016, Asian SM prices fell by 7% from April and 26% year on year in May, mainly due to a heavier flow of US SM into Asia.

US SM exports to South Korea in March -- which arrived in May – jumped more than six-fold year on year to 63,209 mt, and to China the exports were up more than four-fold to 42,852 mt, according to data from the US Department of Commerce's International Trade Commission.

The rise in US supply depressed SM prices in Asia, with the Platts CFR China SM marker on an overall downtrend since March 7, when it had peaked to an all-year high of $1,153/mt, data showed.

Meanwhile, market participants have been cautious after seeing recent weakness in China's macroeconomic data, which could lead to weaker downstream markets and lower demand from the manufacturing sector using EPS, GPPS, HIPS and ABS.

China's PMI has been below the 50-mark since February last year – when it recorded a level of 50.7 -- which indicates a sluggish manufacturing sector. May PMI was recorded at 49.2 -- the lowest level in three months.

"Demand of ABS and PS reached a peak in March due mainly to concern over [the SM] price hike. From April till now, the SM market has been on a [downtrend]. We do not expect any reason for a boost in demand from downstream [in H2]," a Taiwan-based market source said.

There was, however, hope among some that there could be SM demand from some sectors.

The construction sector is weak, but the "packaging sector is booming on bullish online shopping, which requires EPS, and the ABS and HIPS peak season is in Q3," a Singapore-based market source said.

Fluctuating upstream crude oil futures and a weakening Chinese yuan against the US dollar are also adding to uncertainties in the Asian commodities markets.

"SM prices may not rebound sharply [in H2], unless crude oil prices reach the $70s/b," a Taiwan-based trader said.

Due to the weakening yuan, it is difficult for deep-sea cargoes to come to China, a Singapore-based source noted.

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NEW PLANT STARTUPS OFFER GLIMMER OF HOPE IN TIGHT ISOMER-MX MARKET

Demand in the isomer-grade mixed xylenes market is slated to remain high in the second half of 2016 in spite of new capacity coming online.

The market remains tight amid demand from the downstream paraxylene sector as well as seasonal gasoline blending demand during the summer driving season in the US and northeast Asia.

The situation is expected to ease by the fourth quarter, however, with the startup of a new plant by Hyundai Chemical, the 1 million mt/year joint venture project between Lotte Chemical and Hyundai Oilbank, in early October.

A trader in South Korea said that the increased liquidity in the market would lead to more spot trading in 2017. Several traders had reduced their exposure to the isomer-MX market in 2016, amid thin liquidity, he added.

The Hyundai plant dwarfs two new Japanese projects that came online in June, with a combined nameplate production capacity of 430,000 mt/year.

Japanese refiner Tonen General's 230,000 mt/year plant at Chiba began exporting isomer-MX on June 6, while Showa Shell Sekiyu K.K. is slated to start its 200,000 mt/year toluene disproportionation unit at its Yokkaichi refinery late June.

A South Korean trader said that the market would remain tight until Q4, with the startup of new Japanese plants coinciding with the maintenance season for MX plants in Japan.

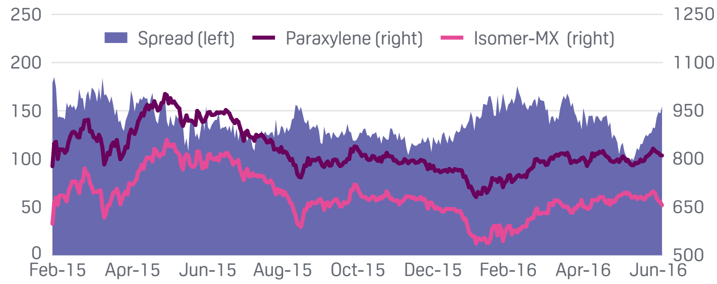
Three MX producers are scheduled to carry out standard maintenance in the second half of the year. Taiyo Oil will shut its transalkylation unit at Kikuma on July 3 for 35 days of maintenance.

Showa Shell Sekiyu K.K. group's Seibu Oil in Yamaguchi and Cosmo Oil's Yokkaichi MX plant are also due to shut for 30 days of maintenance towards the end of August and September respectively.

PX-MX spread expected to widen by Q4

The price spread between CFR Taiwan/China PX and FOB Korea isomer-MX was steady over the first four months of 2016, at an average of $150.22/mt.

SPREAD BETWEEN PX CFR TAIWAN/CHINA, ISOMER-MX FOB KOREA MARKERS AVERAGE BELOW BREAKEVEN ($/mt)



Source: Platts

Unintegrated producers require a spread of at least $160/mt for breakeven.

In May, the spread narrowed to an average of $115.59/mt, hitting $96.67/mt on May 23, the narrowest in 7 1/2 years, although it widened to $148.67/mt on June 14.

The spread narrowed because PX prices plunged, while isomer-MX remained relatively firm, supported by strong demand and low supply in the wake of Taiwan's CPC having to alternate between its No. 3 and No. 6 Linyuan aromatics units since September 2015 while carrying out repairs on its damaged pipelines.

According to a major producer in northeast Asia, once Hyundai Chemical starts up its new plant in October, isomer-MX prices could fall, probably even leading to arbitrage cargoes flowing from South Korea to China.

Domestic isomer-MX prices in China have stayed fairly constant around Yuan 5,000/mt since April, equivalent to an import parity price of about $630/mt.

"Given how these prices have not changed amid the relative stability of the Chinese market, if these prices last until the end of the year, then by October, with more product on offer in the market, we should see the opening of an arbitrage from South Korea to China," a source said.

And unintegrated PX producers in China and South Korea would be able to ramp up operating rates if the spread widens to $160-$170/mt. Most of them were running their plants at around 70-80% of capacity in June.

The startup of Hyundai Chemical's isomer-MX plant will be around the time that a number of new PX plants begin production as well. Reliance Industries Ltd. is planning to start up its 2.2 million mt/year PX plant at Jamnagar, India, around September-October.

New startups in the Middle East and Southeast Asia will bring the total new PX capacity, including RIL's plant, to 5.04 million mt/year in 2017. In fact, traders see 2017 as a buyer's market for PX as a result of all the new supply expected to hit the region.

Weak China demand plagues solvent-MX

The situation in the solvent-MX market did not look too bright for the rest of 2016, especially in China, according to a Chinese trader.

"The potential downturn of the Chinese economy always weighs on traders' minds, but added to that is the weakness in the domestic market after Ningbo Daxie Petrochemical started up in early June," he said.

CNOOC subsidiary Ningbo Daxie Petrochemical started up its new 460,000 mt/year isomer-MX plant in the first week of June.

With domestic isomer-MX steady at Yuan 5,000/mt, equivalent to $600-$605/mt on an import parity basis, even when crude oil prices climbed above $50/b, demand for imported cargoes remained lackluster as end-users opted for cheaper domestic cargoes.

However, with new isomer-MX supply expected in an already weak market, end-users and traders might consider buying it as a substitute for solvent-MX, if the price spread was favorable, the trader said, adding that this might not, however, be good news for solvent-MX importers.

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CAPROLACTAM DEMAND REMAINS WEAK AMID SUPPLY GLUT

Asian caprolactam prices are expected to remain weak in the second half of 2016, and little changed from the first half, amid continuing bearishness in the downstream nylon market and a growing caprolactam supply glut in China.However, a peak demand season for nylon in the fourth quarter is expected to boost demand for caprolactam to some degree and could lend some support to prices at year end.

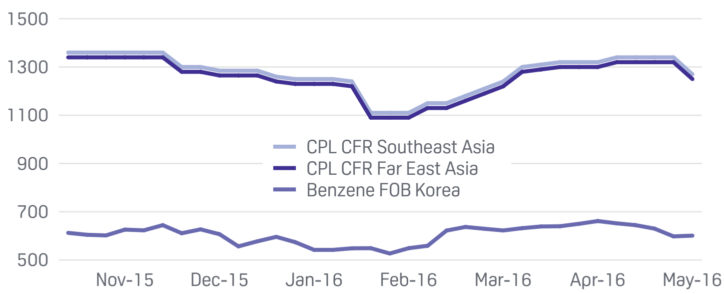
While supply will remain tighter than usual in H2 in Japan and Taiwan, where producers are running at around 70-80% of capacity, demand is weak and any shortfall in supply will be met by new capacities coming on stream in China and exports from South Korea, a buyer in Northeast Asia said.

"Korean supply has also started to come into the market, with small volumes seen in Southeast Asia recently, and I believe Korean supply will gradually increase towards the end of the year (2016)," a trader in Northeast Asia said. "The domestic Korean market remains weak and sellers have no choice but to export cargoes," the trader added.

Asian caprolactam was weak in H1 on the back of a bearish nylon market and a supply glut in China. Spot prices had been falling steadily since the fourth quarter of last year and remained lower throughout H1. Prices averaged $1,176/mt CFR Far East Asia in Q1, down from $1,305/mt CFR Far East Asia in Q4 2015, and $1,196/mt CFR Southeast Asia, down from $1,325/mt CFR South East Asia over the same period.

Spot activity remained subdued throughout H1, resulting in monthly contract negotiations continuing to play a major role

CAPROLACTAM PRICES REMAIN WEAK FROM OCT 2015 ($/mt)



Source: Platts

in setting price trends in the spot market. Spot trading will also likely remain subdued in H2.

"Buyers are increasingly reducing their spot requirements and are satisfied with just their term allocations and this trend will likely continue towards the end of the year (2016)," a Northeast Asian seller said.

Japan's Ube Industries and Sumitomo Chemical settled May contract prices with their customers at $1,300-$1,305/mt CFR Far East Asia, down $75-$80/mt from April and down a sharp $575-$580/mt from a year earlier.

China market, the key indicator

The Chinese market was the key indicator of the direction of the Asian caprolactam market in H1 and will continue to be so in H2 with many buyers -- including non-Chinese buyers -- taking direction from domestic China price movements when formulating their buying ideas for monthly benchmark negotiations, a buyer in Northeast Asia said.

China is gradually shifting from being a net importer of caprolactam to domestic self-sufficiency. The country produced 1,846,800 mt of caprolactam in 2015, up from 1,537,000 mt in 2014, data from a Northeast Asia seller showed. It also imported 22,561 mt of caprolactam in 2015, up 291 mt from 2014, according to Chinese customs data.

The modest uptick in imports is being eclipsed by the surge in domestic production, which totaled 97,000 mt over January-April, up from just 93,239 mt in the same period a year earlier, and swamping any increase in demand.

New capacities are adding 800,000 mt/year to China's domestic caprolactam capacity in 2016.

Domestic China producers Risun, Lubao, Sanding, Luxi Petrochemicals, Shenma and Zhonghua have all started up 100,000 mt/year of capacity in 2016, and Henjia Hexian 200,000 mt/year, adding to a growing supply glut that will continue to weigh on demand and curb any opportunity for price increases, a Chinese buyer said.

Caprolactam producer margins remained below the $1,000/mt caprolactam/benzene price spread that producers need to break even in H1, and are likely to remain squeezed in H2, despite the traditional peak demand season in Q4, as oversupply will curb any price gains.

The caprolactam/benzene spread averaged $596/mt in Q1, down from $696/mt in Q4 2015. It was last calculated at the breakeven level on June 11, 2014, when the caprolactam CFR Far East Asia marker stood at $1,800/mt and the benzene FOB Korea marker at $829/mt.

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GAINS IN PHENOL PRICES IN H2 LIKELY TO BE CAPPED BY BEARISH FUNDAMENTALS

Any significant gains in phenol prices in Asia during the second half of 2016 will likely be capped by ample supplies due to new plant startups as well as increased operating rates at some plants in Asia as benzene/phenol spreads remain attractive.

The CFR China phenol marker was assessed at $820/mt June 7, up 8.6% from January 12, while the CFR Southeast Asia marker rose 10.1% during the same period to $870/mt.

S&P Global Platts assesses CFR China/SEA phenol prices on a weekly basis.

Ample supply

In Q2 2016, Thailand's PTT Global Chemical started offering and selling phenol from its new solvents plant at Map Ta Phut, Thailand, industry sources said. The company sold 5,000 mt of phenol to the Indian market by early May. The cargo was offered at $1,015/mt CFR India while the deal was concluded at $980-$990/mt CFR India, sources added.

PTTGC's new plant is part of the Phenol II project and adds 250,000 mt/year of phenol and 155,000 mt/year of acetone to PTTGC's existing capacity of 200,000 mt/year of phenol and 124,000 mt/year of acetone at Map Ta Phut. Although the company was heard to have shut down its new solvents plant unexpectedly on May 29 for a three-week period, sources noted that the shutdown was unlikely to put an upward pressure on prices as oversupply surpassed the impact of the outage.

Plants in China were heard to have increased their operating rates from 60%-65% on average in March to as high as 70%-80% in May.

"The phenol-benzene spread is good. So there is no room to reduce run rates," a major Asian producer said. The CFR China benzene marker was assessed at $621/mt on June 7 compared with $570/mt on January 12, Platts data showed.

In Southeast Asia, Mitsui Phenols Singapore raised the operating rate at its solvents plant in the island state to 80% of capacity starting May. The plant was operating at 60% of capacity since its restart in March. The plant, which can produce 310,000 mt/year of phenol and 180,000 mt/year of acetone, was shut down on February 22 for scheduled maintenance.

South Korea's Kumho P&B Chemicals started commercial production at its new No 4 solvents plant at Yeosu on June 4, a source close to the company said.

The plant, which has a production capacity of 300,000 mt/year of phenol and 180,000 mt/year of acetone, was running at 70%-80% capacity, the source said. In April, the company also started production at its new 900,000 mt/year cumene plant at Yeosu.

Rabigh Refining and Petrochemical Co., or Petro Rabigh, a joint venture between Japan's Sumitomo Chemicals and state-owned Saudi Aramco, will likely start up its new phenol-acetone plant before year-end as part of the second phase of expansion, industry sources said. The new plant will be able to produce 275,000 mt/year of phenol and 160,000 mt/year of acetone.

Bearish demand fundamentals

Asian demand will likely be steady to weak as robust demand in India is offset by tepid demand in other parts of Asia, sources said.

China's phenol imports plummeted 49.7% year on year to 37,893 mt in the first four months of 2016, customs data showed.

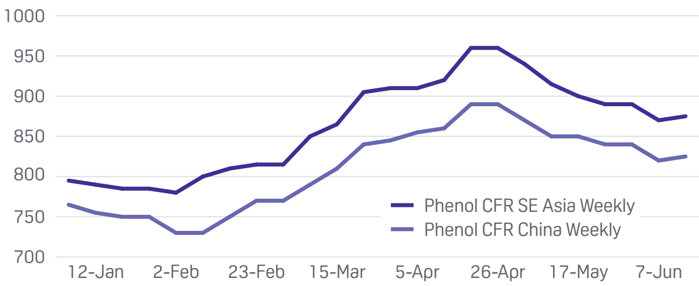
Chinese imports in the second half of 2016 are likely to remain weak amid rising self-sufficiency as new plants start up. In 2015, Shanghai Sinopec Mitsui Chemicals, CEPSA Quimica and Formosa Chemicals & Fibre Corp. brought new plants online. The three plants, which have a combined phenol production capacity of 800,000 mt/year, have raised the country's total production capacity to around 2.5 million mt/year.

"Domestic prices in China have already started softening due to weak demand," a major importer in China said, adding that prices in East China, which touched a year-to-date high of Yuan 7,450 ($1,131)/mt in April, had retreated and were hovering around Yuan 6,750/mt in the first week of June.

Signals of continued weakness in the Chinese economy will also likely affect consumption, sources said. China's official May manufacturing purchasing managers' index released on June 1 stood at 50.1, while the privately conducted Caixin survey saw its PMI reading drop for the fourth consecutive month to 49.2 in May.

Downstream bisphenol A, or BPA, expansion in China also seems to be limited, with the only significant expansion in the remaining part of 2016 being Covestro's Shanghai BPA plant. The plant currently has a nameplate capacity of 200,000 mt/year of BPA and another 100,000 mt/year will be added by July, industry sources said.

INDIAN MARKET SUPPORTS CFR CHINA/SEA PRICES ($/mt)



Source: Platts

India is likely the only Asian country which is expected to see a major rise in demand this year due to downstream expansions. The country's phenol imports in 2016 are likely to rise by 8%-10% year on year, an industry source said. But the rise in India's demand will not be enough to soak up the excess supply that will hit the Asian market once the new plants are up and running at full rates, according to market sources.

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SINGAPORE PLANT RESTART TO ADD PRESSURE TO WEAK OX MARKET IN H2

The outlook for the Asian orthoxylene market in the second half of 2016 is bearish as supply from Singapore is set to increase, demand from the downstream phthalic anhydride and dioctyl phthalate sectors to weaken and production margins to be squeezed.

Supply in the already weakening OX market is set to increase further as Jurong Aromatics Corporation's condensate-based aromatics plant on Singapore's Jurong Island is set to restart between end June and July after being offline since December 2014, according to a source close to the matter and other market participants.

The company is targeting its first shipment from the large 200,000 mt/year OX unit at the complex in July, or latest August, the sources said.

The OX feedstock isomer-grade mixed xylenes market could also be under pressure in H2 as a flood of new supply enters the market, including 430,000 mt/year in June alone as two new plants started up in Japan in the month.

In addition, a 1 million mt/year Hyundai Chemical MX plant in South Korea, a joint venture between Lotte Chemical and Hyundai Oilbank, is slated to start up in September or October, a source in South Korea said.

Lotte, which will consume the MX produced, is expected to produce about 15% OX as a byproduct of its paraxylene production, the source said.

"Either Korean OX imports diminish or Lotte's exports increase," he said.

However, the impact of post sanction OX cargoes coming from Iran looks limited. Iranian OX volumes have started to enter China in recent months for the first time since 2014, but the consistency of arrivals is uncertain as participants remain reluctant to take these cargoes due to quality concerns and a lack of credit facilities.

Historical volumes were also small and intermittent, with only 4,972 mt of OX arriving in China from Iran in 2012, none in 2013, 2,040 mt in 2014 and none in 2015.

The OX-MX spread in June is already well below the margin OX producers seek and seen set to be squeezed further in H2. The spread was assessed June 17 at $54/mt, when isomer-MX was assessed at $662/mt FOB Korea and OX at $716/mt FOB Korea.

This is at almost half the $100/mt margin OX producers typically seek, and it has yet to reach that level to date in 2016. The last time it was in the vicinity was almost a year ago, on May 22 last year, at $126.80/mt.

A market participant in South Korea expected the margin to be rangebound at $50-$80/mt in the third quarter and $70-$100/mt in Q4.

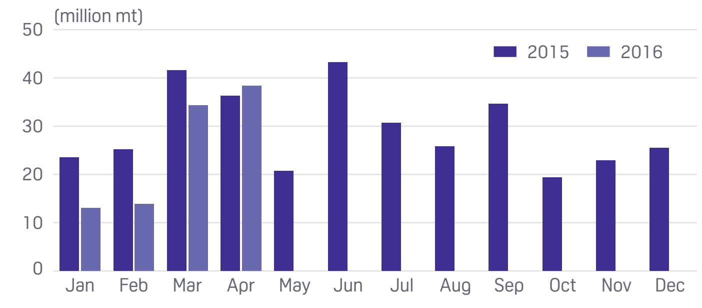
For integrated plants, the spread between the Mean of Platts Japan naphtha and FOB Korea OX markers stood at $286.37/mt June 20. This is well below the $300-$350/mt typically sought by OX producers, according to a source in South Korea.

China's OX imports fall

Demand for OX has been falling steadily in 2016 to date, most notably from China. Over January-April, China's OX imports were down 21% year on year, customs data showed. This comes after China's OX imports in 2015 were down almost 50% from 2012, and this downtrend was expected to continue, industry sources said.

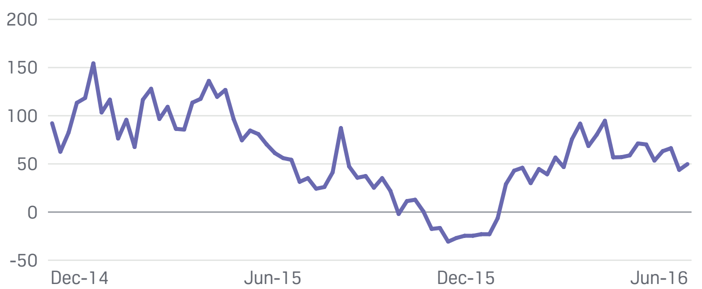
A key factor in the decline is the increasing price competitiveness of naphthalene, a byproduct of the steel industry produced from coal that can be used as an

JAN-APR 2016 OX IMPORTS TO CHINA SEEN AT 21% LOWER YOY



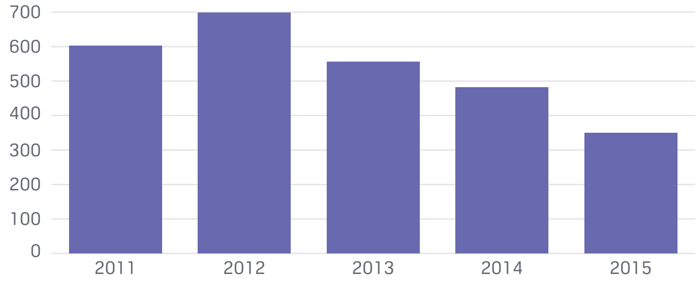
Source: Platts

OX-MX FOB KOREA SPREAD RANGEBOUND BELOW $100/mt BREAKEVEN ($/mt)



Source: Platts

CHINA OX IMPORTS DOWN IN 2013-2015 ('000 mt)



Source: Platts

alternative to OX in the production of PA. This type of PA can also be used in the production of DOP, which is used to make plasticizers.

Naphthalene prices were around Yuan 3,600/mt, below OX prices at Yuan 5,800/mt, and OX market sources said napthalene-based PA was currently at least Yuan 500-600/mt cheaper than OX-based PA.

China's OX production capacity currently stands at 1.1 million mt/year, and its PA capacity at 2.3 million mt. However market sources estimate the operating rate of the PA plants at 50%, with around 30% of that made using naphthalene as feedstock.

Demand for DOP was also expected to continue to weaken in H2 amid a slow Chinese economy and the increasing availability of more environment-friendly alternative plasticisers such as dioctyl terephthalate and diisononyl phthalate.

DOTP and DINP are expected to take an increasingly significant market share in the long run.

"There is no meaningful market any more... actually, there is no doubt that the DOP industry is dying," a Northeast Asia market source said.

In the nearer term, demand for DOP is typically weak in summer, and seasonally at its lowest in July.

In the longer term, OX will remain under pressure as DOP use diminishes, additional supply from Singapore stabilizes and cheaper naphthalene continues to extend its market share.

For H2, developments at two plants that will have a key impact on the supply-demand balance in the Asian OX market in H2 have also yet to emerge.

The timing of the restart of Dragon Aromatics' 240,000 mt/year OX plant in Fujian, China, and how fast output from the JAC complex in Singapore can be stabilized after its restart will determine just how heavily supplied the OX market will be in H2.

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BLENDSTOCKS

ASIAN MTBE FACES CHALLENGES AS CHINA GLUT, VOLATILE CRUDE IMPINGE ON RECOVERY

The outlook for Asian MTBE in the second half of 2016 remains bearish amid regional oversupply and weak demand, according to industry sources.

"For most of the first half of the year, Asian MTBE prices have been well supported by bullish crude, and gasoline prices from January through to early June. Spot prices did fall from over $610/mt FOB Singapore in January, to hit $400s/mt FOB Singapore in February, but had recovered, bolstered by bullish crude, which climbed from $30/b to briefly over $50/b in early June," said a major MTBE producer.

"It is usual to see MTBE prices well supported through most of the second-quarter as the Asian gasoline market gathers momentum during the summer driving season and reduced gasoline supply from refinery maintenance shutdowns boost gasoline prices and in turn lift prices of fuel additives such as MTBE. Also, the traditionally high demand period of Ramadan normally sees a buildup of gasoline in Indonesia and the Middle East in May, hence providing further ballast to gasoline and MTBE prices," said a gasoline blender.

The benchmark FOB Singapore 92 RON gasoline crack against front-month ICE Brent crude futures rose to a two-month high of $12.22/b on March 30, after starting its bumpy ride upwards on February 19, when it had reached the lowest in more than a year at $5.97/b, S&P Global Platts data showed.

"The second half of the year, however, is more challenging, as gasoline demand will likely wane, both in Northeast Asia and Southeast Asia, and crude oil volatility will influence price recovery of both gasoline and MTBE," the gasoline blender added.

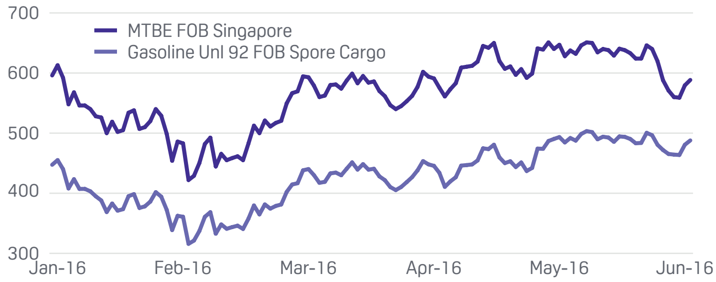
"China imported around 250,000 mt of MTBE in 2015. For 2016, Chinese MTBE imports up to May were around 150,000 mt. We forecast 2016 imports into China to be around 200,000 mt to 250,000 mt, as increased domestic production of MTBE will offset import volumes for 2016," said the MTBE producer.

"Furthermore, Chinese producers may send more cargoes out of the country in the coming months as domestic demand has not been growing as rapidly as production," the producer added.

In July 2015, Yantai Wanhua started trial runs at its 820,000 mt/year MTBE plant in Shandong. The company plans to export approximately 100,000-200,000 mt/year of MTBE, and the balance for domestic consumption.

Another 800,000 mt/year of MTBE capacity is expected to come online in Nanjing by end 2016 or early 2017 at a joint-venture plant between Sinopec Jinling and US-based Huntsman Corporation.

MTBE TRACKS GASOLINE VOLATILITY DURING H2 2016 ($/mt)



Source: Platts

With an additional 1.47 million mt/year of capacity added over 2015-16, China's total MTBE capacity will expand to more than 6 million mt/year by end of 2016.

Weak demand, crude volatility

Gasoline demand in Southeast Asia is likely to fall from the seasonal peaks seen over May-June, or at most stay flat during most of H2. Demand for gasoline additive, MTBE, will also likely fall, said a gasoline blender.

"Demand from Northeast Asia, including China, will likely stay muted in the second half," added the gasoline blender.

Adding to the oversupply is the threat of excess Chinese MTBE cargoes heading to the other Northeast Asian countries such as Taiwan and South Korea, as well as Southeast Asia. In fact, traders have already started offering Chinese origin MTBE spot cargoes into Southeast Asia, Taiwan and South Korea.

There is hope, however, that gasoline demand from fast growing economies such as India and Africa may offset the decline in demand from Northeast and Southeast Asia.

"Indian GDP growth had accelerated in the first quarter this year to 7.9%, exceeding the 7.5% annual growth projected by the IMF [International Monetary Fund] for 2016," added the MTBE producer.

"In terms of MTBE demand, Indian consumption was around 50,000 mt to 60,000 mt for 2015, with some 15,000-20,000 mt of this comprising imports. For 2016, we anticipate a similar import volume of around 20,000 mt, based on the domestic consumption of around 60,000 mt," he added.

"There is also the factor of crude volatility, which will be a major influence on gasoline prices, and consequently MTBE," said an industry source.

Besides gasoline blending, MTBE is also used as a feedstock for chemical production, such as methyl methacrylate and rubber.

"Chemicals, however, constitute less than 10% of the entire demand for MTBE, and is insignificant in providing critical pricing support to an Asian MTBE price recovery," added the industry source.

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SUPPLY GLUT, WEAK DEMAND PROLONG TOLUENE'S WEAKNESS INTO H2 2016

A regional supply glut and poor demand from the gasoline-blending sector are set to put a lid on Asian toluene prices in the second half of 2016.

The Chinese market was also expected to provide very little support during the period in soaking up the excess regional barrels, as domestic production was set to rise over the next few months, partly due to new plant start-ups and resumption of plant operations after completing maintenance.

CNOOC Ningbo Daxie Petrochemical brought on stream a new 280,000 mt/year toluene plant in early June, and together with its older plant at the same site, its total toluene production capacity has been raised to 420,000 mt/year.

Dalian Xitai Petrochemical restarted its 400,000 mt/year toluene plant in May, after it was shut in April for a month of maintenance.

Smaller units, such as Yanshan Petrochemical's 96,000 mt/year plant, restarted on June 20 after completing one month of maintenance.

China's estimated toluene production capacity stands at 11.3 million mt/year, although the production volume in 2015 was approximately 8.5 million mt/year, a buyer said.

Domestic price versus import price

"Domestic [yuan] prices will set the direction for CFR China prices in the second half of the year, as more buyers are unwilling to pay higher premiums for imported cargoes when domestic supply is ample," a Chinese trader said. "The Chinese market will gradually reduce its reliance on imported cargoes as China moves to become more self-reliant in the future," the trader added.

In Q1, strong toluene-naphtha margins boosted production of toluene. The increase in supply and lower toluene prices compared to the previous quarter encouraged buyers, particularly in China, to stock up on cargoes. This resulted in excess buying and building up of inventories in the domestic market, but that did not last for long.

"Buying activity has slowed down since the beginning of Q2 and will remain tepid in the coming few months, as buyers take time to consume all those cargoes that have been previously bought," a trader added.

The CFR China marker averaged at $604/mt in Q1, down 8% from an average of $655/mt in Q4 2015, S&P Global Platts data showed.

Asian suppliers to seek new outlets

As a result of the anticipated shift in Chinese buying patterns in the next few months, South Korean, Taiwanese and Southeast Asian suppliers will need to find new sales outlets for their cargoes, noted a buyer.

An increased flow of South Korean spot cargoes to the Southeast Asian market is also expected to increase competition among Southeast Asian sellers.

"In June, 10,000 mt of South Korean cargoes were sold to a Singapore-based buyer. Every month since April, there has been interest to sell at least three or four cargoes of South Korean toluene to Vietnam, Singapore, Malaysia and Indonesia. I expect the trend to continue," a Singapore trader said.

"Korean cargoes are competitively priced over Southeast Asian cargoes despite adding freight costs, and it is definitely workable to bring cargoes from South Korea to Indonesia or Vietnam as FOB Korea prices have remained weak," the Singapore trader said.

The Q1 FOB Korea marker averaged at $575/mt, down 7.4% from $621/mt in Q4 2015, according to Platts data.

Weak gasoline blending demand

Meanwhile, toluene demand from the gasoline-blending sector remains weak ahead of the US peak summer driving season over July-September.

"Last year (2015), buying interest from gasoline blenders was strong during this time and the Asia-US arbitrage was open, however this year (2016), apart from the term cargoes going to the US market, there is hardly any interest from the US market to buy Asian [spot] cargoes," a seller said.

"I don't expect any pick-up in toluene demand in the coming months from the US or Northeast Asia for gasoline blending, as US domestic prices remain more competitive than Asian prices and Asian supply remains ample," the seller added.

Moreover, a reversed arbitrage was seen in April 2016 with some traders attempting to bring in US toluene cargoes to the Chinese and Indian markets when US prices were much lower than Asia prices, several traders said.

Demand for toluene for use in the gasoline blending pool in China has also tapered down since the beginning of Q2, as competitively priced C9 mixed aromatics cargoes from Europe, the Persian Gulf and Southeast Asia were making their way to the Chinese market.

"Total C9 mixed aromatics inventory in China stands at approximately 4-5 million mt in June with most of the tanks full, yet international sellers continue to be keen to offer cargoes into China as elsewhere the demand for mixed aromatics is worse than that of China," a Chinese trader pointed out.

Shipping inquiries were also heard for chartering vessels to ship a total 55,000-60,000 mt of mixed aromatics to China in July from Thailand and the Persian Gulf, a trader said.

South Korean supply is expected to remain stable in the second half of 2016, as producers who had shut for maintenance in the first half of the year have restarted their plants. The estimated production loss in South Korea during the first six months of 2016 was 110,000 mt, comprising unplanned and scheduled maintenance shutdowns, by GS Caltex, Hanwha Total, YNCC, SKGC and Lotte Chemical, the trader added.

"I don't see any more shutdowns [in South Korea] so supply is expected to remain long for the next few months," the trader highlighted.

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