

## Strategic issues and their implications

### Aromatics & fibers



#### China VI gasoline standard is introduced

In 2019, China will roll out its China VI gasoline specification nationwide, which calls for reduced benzene, olefins and aromatics content. Less FCC gasoline will be used for gasoline blending due to the lower olefins standard and an increased reformat percentage is expected.

**Implications:** Less reformat will be available for aromatics production and China may need to import more toluene and mixed xylenes from the international markets.

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#### IMO implementation in 2020 will lift octane values for aromatics

Octane forms the cost floor for aromatics products and is prone to spiking during periods of strong gasoline demand. Due to the implementation of the International Maritime Organization specification change of High Sulfur Fuel Oil to Low Sulfur Fuel Oil, and new more stringent gasoline specifications in China and India, modest octane pressure will be experienced during the 2020-2022 timeframe.

**Implications:** The large price differential between HSFO and LSFO will incentivize Chinese teapot refineries to import more HSFO, increasing the operating rate of these refineries from 2018 levels.

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#### The switch from recycled to virgin polyester fiber is over

Along with the growth in virgin polyester and textiles, China also saw fast growth in the processing of bottle grade PET waste primarily into staple fiber. China banned imports of plastic waste and the supply of recycled fibers has therefore declined sharply. Consumers had to switch to virgin fibers and as a result demand growth for virgin polyester and raw materials like PTA, MEG and PX has been extremely strong.

**Implications:** Demand growth for virgin polyester and raw materials and overall growth rates will be sharply lower in 2019. Absolute demand still continues to grow at a healthy rate!

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#### Paraxylene moves from stability to length

The paraxylene market will experience a severe decline in average operating rates over the next two years as Chinese PTA and polyester companies back integrate into large scale paraxylene capacities integrated with their own refineries.

**Implications:** The merchant market for paraxylene will likely decline and spare capacity will increase by 70%. Exporters of paraxylene to China will face stiff competition and rationalization of some high cost producers is likely to occur.

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#### PTA markets have dramatically changed from being oversupplied to tight

Polyester production continues to grow in 2019 across the globe, leading to increased demand for PTA. Limited capacity addition is expected in 2019 with virtually no new plants expected to start up outside of China.

**Implications:** PTA supply will remain tight and margins could improve sharply especially during the high season.



### New US MEG supply impacted by Chinese tariffs

Four new MEG plants are under construction in the United States and are expected to start-up within the next 12 to 18 months. The US plants have to contend with additional Chinese import tariffs of 25%, bringing the total level to 30.5% which will prevent future trade flows of MEG directly from the United States to China, cutting off the new US plants from the most important MEG market.

**Implications:** Potential workarounds for US producers Lotte and FPC include loading their sister plants in Asia to supply the Chinese market, using product from the United States to cover alternative regions. MEGlobal could also utilize its assets in Canada to export to China instead and Europe will be a key market for US MEG. The trade dispute could also weaken China's economic growth and polyester production will be impacted, accentuating the oversupply of MEG.



### Environmental pressure on single use plastics such as PS and EPS

Single use plastic bans are being discussed by governments in various countries but consumers are also driving change by refusing to use throwaway plastics such as straws, plastic cutlery, polystyrene cups and foam styrene packaging.

**Implications:** The styrene sector is particularly exposed to environmental legislative and consumer pressure as styrene derivatives are deemed less recyclable than competing alternatives such as polyolefins and PET resin.



### Effect on trade following new China ADD on phenol

China's anti-dumping investigation on phenol imports is expected to be finalized and if anti-dumping duties (ADD) are high, the move will have a major impact on global trade flows of phenol.

**Implications:** On paper the US may have the most to lose from any duty change, but rationalization has occurred in the US, thereby reducing exports and this trend should continue. Recent capacity expansions have doubled China's phenol capacity and IHS Markit expects import needs into China to drop, although phenol derivative demand growth is also strongest in China.



### Regional raw material imbalances remain in the nylon 6,6 market

The nylon 6,6 industry has been plagued by shortfalls in hexamethylenediamine (HMDA) supply and crippling force majeure events in its key upstream ingredient, adiponitrile (ADN). Demand for HMDA has grown mostly in Northeast Asia at almost triple the rate of the other regions at 11% per year versus the global average annual rate of 3%.

**Implications:** The nylon 6,6 market will continue to depend on sufficient inventories, global logistics and ease of trade between regions to satisfy the growing market.



### Globally, there will be a TDI supply glut for the coming years

A world-scale facility is to be commissioned in China in 2019. With global capacity exceeding demand, the industry operating rate is projected to decline in 2019. Excess capacity will reach its highest level for many years in 2019.

**Implications:** Global TDI prices are forecast to decline further in 2019 and a low-price environment is anticipated to persist beyond 2019.