ICIS gives its outlook ahead of the 15th World Aromatics & Derivatives Conference in Vienna, Austria, which will examine key trends in this essential value chain.

The global markets for aromatics have seen mixed fortunes during 2016, with some markets faring better than others. Many markets continue to contend with oversupply, with others managing to see improved margins this year.

**BENZENE**

During 2016, benzene has seen length in the US and lack of liquidity in Europe, on top of soft demand in Asia. The lack of liquidity in Europe has been partly behind some of the spikes seen in prices this year, as market players had to cover short positions quickly when little material was available. Thankfully, such occasions seem to have been rare, but have occurred just before contract settlements in Europe.

The increase in global benzene supply anticipated for 2017 is not expected to really help this liquidity, even if the volumes of benzene coming into Europe increase.

Most material from any new source is expected to be moved on a contractual basis. Although this could theoretically free up some capacity in Europe, this may not actually be the case.

New benzene supply is expected from Reliance and OPaL in India and Hyundai in South Korea from Q4 2016. The Reliance capacity is as a by-product from its new 2.25m tonne/year paraxylene unit, whereas OPaL’s capacity is linked to its new cracker. Hyundai Chemicals’ new benzene capacity is part of its integrated condensate splitter to mixed xylenes production.

**BENZENE DERIVATIVES**

Demand for benzene is dependent on the fortunes of four main derivatives – styrene, cumene, cyclohexane and nitrobenzene – which account for around 93% of global benzene consumption. Styrene production alone accounts for around 50% of global benzene demand.

During 2016, styrene production levels have been strong in Europe and the US, on the back of some demand recovery in these regions and stronger demand in Asia. Additional Asian demand has come from prolonged outages in the region. Price levels have also supported production levels. In Europe, prices spiked in the spring, caused by tightness in the global markets earlier in the year. These pressures have now given way to increasing length in the global market.

A large portion of the speeches at the ICIS 15th World Aromatics & Derivatives conference focus on the styrenics chain. After years of low growth and oversupply, things seem to be looking up for the chain. Aggressive consolidation and falling raw material costs have helped to boost profitability.
But how long will this last? At the conference, Tim Stedman from Trinseo will ask if the tipping point has now been reached. Certainly for styrene the return of ElIba’s Moerdijk unit in 2016 has improved European supply.

As the Singapore unit also ramps up and a number of new styrene monomer plants come on stream in China, we forecast considerable length for 2017. Inevitably this will have some impact on pricing, and spreads over benzene.

Oil, naphtha and benzene pricing is forecast to be fairly constant over the next 12 months, and this could provide an opportunity for styrenics consumers to pressurise pricing.

In the next few years, ICIS expects capacity in Asia to continue to increase, with a forecast increase of over 2.5m tonnes/year by the end of 2020. Again, the majority of this is expected in China, but new world-scale plants are also expected in South Korea and Southeast Asia.

This new capacity will be partly offset by the expected closure of over 700,000 tonnes/year in Japan during 2016-2018.

Demand is also looking a little shaky. Apparent polystyrene (PS) demand in China is down sharply, with some evidence of both domestic production and imports declining. Given the size of China, and the significance of PS for the global styrene chain, this could further lengthen the market.

Over the next few years, we will also see an increase in capacity through the styrene chain in the Middle East and Egypt. In Egypt the reopening of E-styrenics could be helped by the planned construction of a styrene unit by Carbon Holdings, due to be completed in 2020.

In Iran the focus is on expandable polystyrene (EPS), with a number of new units coming on over the next few years. In Saudi, a new acrylonitrile butadiene styrene (ABS) unit should start up at any time. These expansions could in turn put further pressure on European and Asian supply.

Demand for cumene is essentially dependent on the production of phenol and acetone. The global phenol market has been struggling with overcapacity for some years now, as new capacities have come on stream and downstream markets, such as bisphenol A, have slowed down. Although there has been some rationalisation, with new capacities on stream in Asia this year and more to come in 2017 this situation is expected to continue for the next couple of years.

The acetone market is a little different. Although dependent on some of the same end-use markets as phenol, its other uses in solvents and acrylates mean that some markets have been a little tight during the last 12 months. For acetone (and phenol to some extent), much depends on when the Petro Rabigh plant comes onstream – and to which regions the product will head.

In addition, on the demand side, Sabic and Mitsubishi Rayon are building a new methyl methacrylate (MMA) plant in Saudi Arabia, which will use ethylene feedstock rather than acetone. This is due in mid-2017.

This could well reduce acetone demand in Europe, but may just displace imports into Europe from other regions. Either way, if acetone demand decreases, this could help balance phenol.

The other two main derivatives – cyclohexane and nitrobenzene – are dependent on the fortunes of the nylon and polyurethane markets. Over the past few years, polyurethane markets have fared better than the nylon chain in terms of growth and profitability.

Cyclohexane and its derivatives caprolactam and adipic acid have been affected by global overcapacity in recent years, which has led to a bout of recent rationalisations in Europe, the US and Japan. Global growth in cyclohexane demand is forecast in the low single-digit range for the next five years and it is likely to be some years before global average operating rates recover to sustainable levels.

Nitrobenzene is mainly used as the feedstock for methylene diphenyl diisocyanate (MDI), a product that has seen relatively high growth globally compared to other aromatics derivatives, at least in percentage terms. This has led to a raft of new investments that have either come onstream in recent years or are expected soon.

Although growth in demand is expected to absorb this new capacity in the next few years, average global operating rates have already taken a hit.

This has seen some mooted projects either delayed or cancelled in what is a tighter controlled market than the nylon chain.

The other main aromatic isocyanate is toluene diisocyanate (TDI). This market is the largest merchant consumer of toluene and has also seen a recent glut of new capacity. This has also coincided with a number of older units closing down around the world, but lower theoretical operating rates were still expected to have a downwards effect on pricing in 2016.

However, delays in new start-ups and restricted supply from existing plants – along with plant closures – has meant the TDI market has been very tight during the second half of 2016, and prices have skyrocketed. This situation is expected to abate during 2017, as the Sadara and BASF units run up to speed.

PARAXYLENE

The other major market for aromatics is the polyester business – which starts with paraxylene (PX). This is yet another market that has seen large amounts of recent new capacity built to meet previous strong growth projections and good returns.
The global paraxylene market remained structurally long in 2016, but strong demand in Q2 saw prices pick up, and producers regained some margin.

Looking at 2017, we expect that markets will remain oversupplied even with relatively healthy downstream demand. One thing that is not expected to change in 2017 or soon after is the level of imports needed to supply the PTA market in China.

In 2015, imports of paraxylene into China were estimated at well over 11m tonnes, or over 50% of Chinese demand.

The doubling of imports since 2010 has mirrored the doubling of demand for PX in China over the same period, as terephthalic acid (PTA) production has grown to meet demand. Over the same period, paraxylene capacity has almost doubled as well, with over 4.5m tonnes of new capacity.

However, in contrast to PTA, investments in PX production in the past few years have not been sufficient to reduce the reliance on imports.

In 2015, PTA production reached a level such that China is no longer a net importer of PTA. Going back to PX, there are a few issues with new capacity in China, but also with new PX capacity elsewhere in the world, such that we do not expect China to become self-sufficient in PX anytime soon.

What does this mean for the global PX market? Well, it will take some time for all the additional capacity built in the past few years, as well as that expected to start soon, to be absorbed. Europe and the US should be stable on local PET demand, but there may well be further rationalisation of older, smaller units. It is more likely that there will need to be reorganisation in the global PTA markets.

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Find out more about the ICIS polystyrene price forecast report and download a sample here.

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Find out more and download a free sample report here.