Research

Slipping through the cracker margins

Ethylene oversupply and plunging prices amid demand slowdown to hurt petrochemicals players; specialty chemicals makers to gain

November 2019

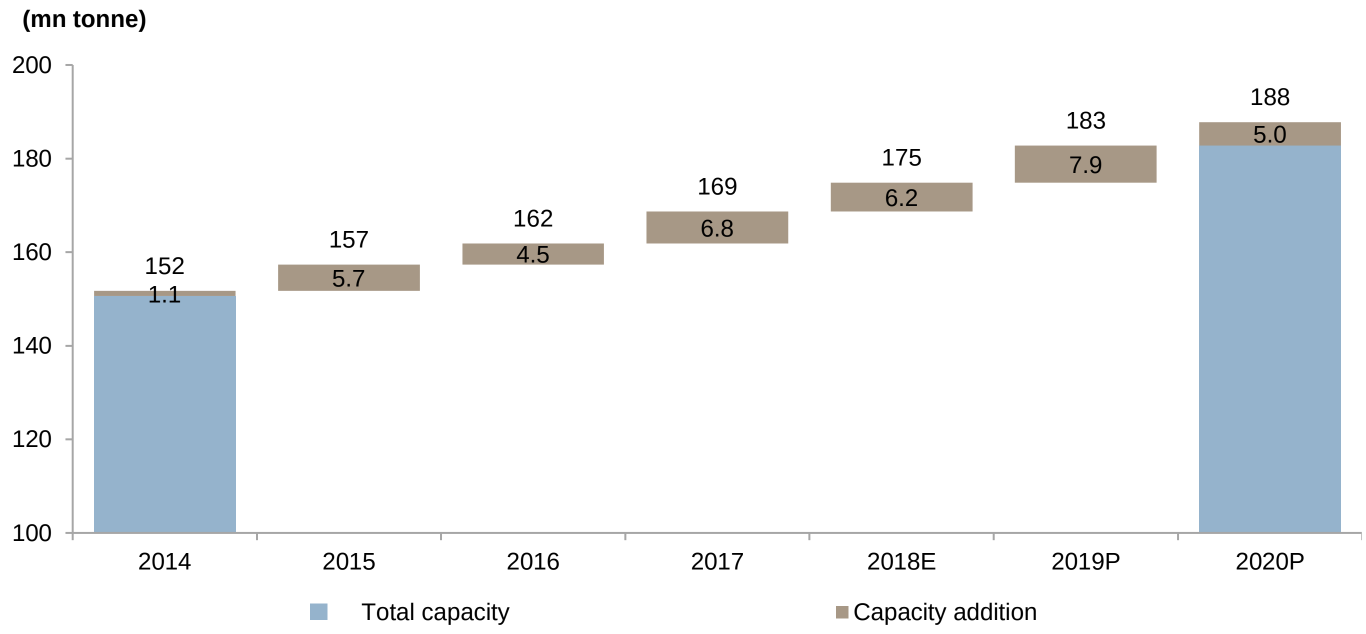
Ethylene prices head towards a decadal low amid global oversupply

Between 2018 and 2020, nearly 19 million tonne of capacity addition in ethylene is expected, compared with demand growth of 15-16 million tonne. This should lead to a net surplus of 3-4 million tonne over the next two years. Of this, nearly 8 million tonne of the capacity addition is expected in 2019 itself, and demand growth of ~5 million tonne. About 4 million tonne of the incremental capacity is planned in China, as part of its attempt to reduce import dependency.

The massive oversupply would lead to a sharp drop in ethylene prices in 2019.

In the first half of 2019, ethylene prices dropped 28% on oversupply concerns. In the second half, increasing ethane capacity in the United States would add to the downward pressure on ethylene prices, with demand momentum not apace. Subsequently, in 2019, while crude oil prices are expected to fall ~10% on-year to $63-68 per barrel, the decline in ethylene prices would steeper at more than 30%.

Global ethylene capacity trend



E: Estimated, P: Projected
Source: CRISIL Research

With incremental capacity set to lap demand growth, we expect ethylene prices to nosedive to $820-870 per tonne in 2019 – levels last seen in 2009. There was a gradual correction in ethylene prices since June 2009 after the Global Financial Crisis abated.

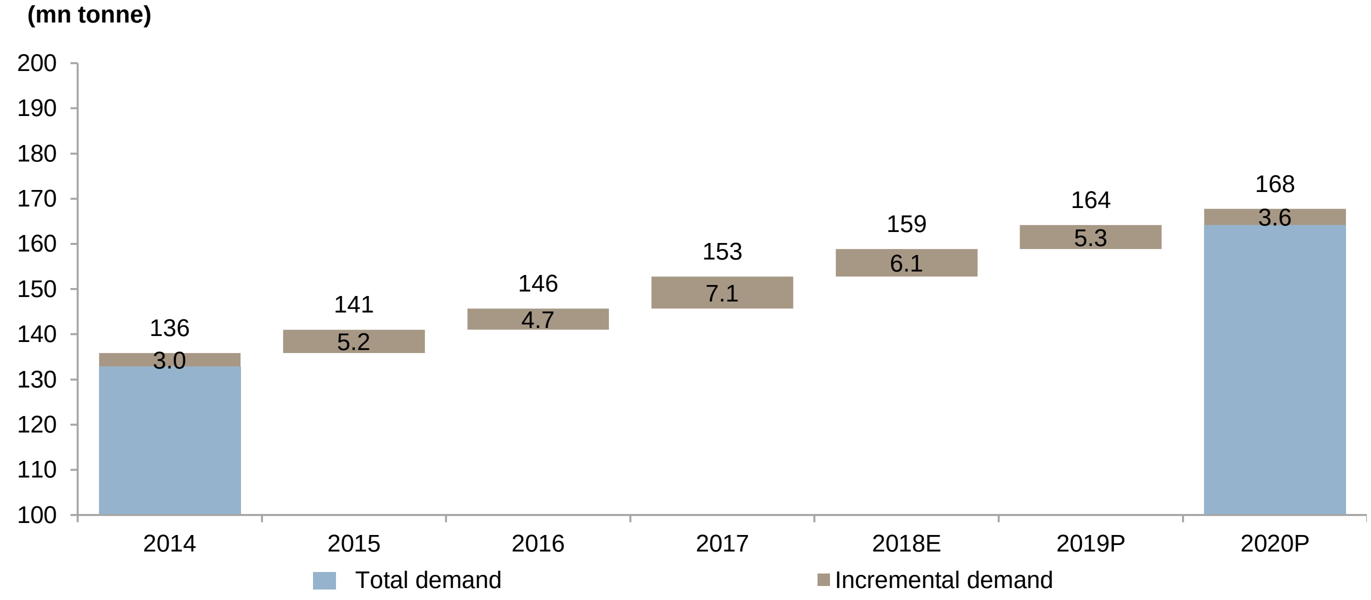
A recovery in prices seems unlikely over the next 6-9 months in the absence of a significant uptick in demand, even as global capacity additions would increase the ethylene surplus. As a result, we expect ethylene prices to slide even in 2020 to $800-820 per tonne.

Petrochemicals industry buffeted by economic slowdown, China crackdown, trade war

Apart from the capacity overhang, another factor impacting the petrochemicals industry, and particularly ethylene, is the global economic slowdown. With the International Monetary Fund cutting its forecast of global GDP growth for 2019 to 3% (versus 3.6% in 2018), demand for petrochemicals should be impacted.

Moreover, demand from China, the biggest market, hangs in balance. Increasing environmental concerns have led to closure of several petrochemical plants and downstream chemical parks, which has reduced demand for base chemicals. China is also a manufacturing hub for key end-user segments such as electricals and electronics. The ongoing US-China trade war is weighing on demand from these segments. Consequently, production has taken a hit, impacting demand for polymers. Add to that lower automobile sales – leading to a slowdown in tyre demand and, subsequently, elastomer demand, i.e., for synthetic rubber – and the road ahead looks rough.

Global ethylene demand trend



E: Estimated, P: Projected
Source: CRISIL Research

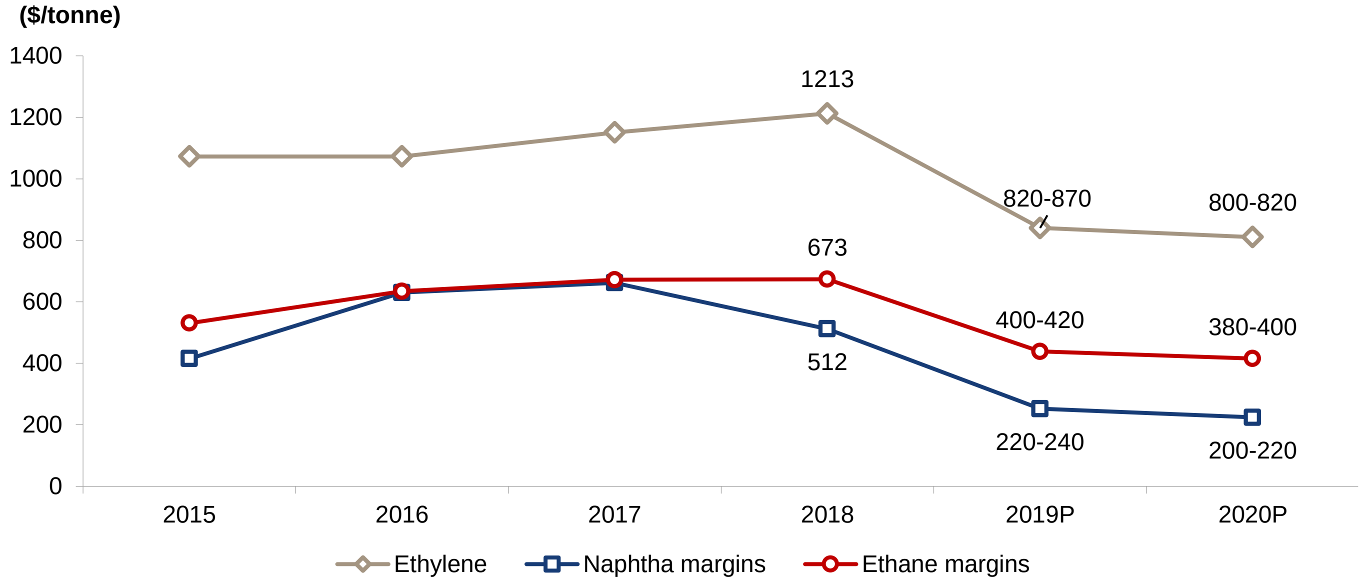
Cracker margins head for a halving

Cracker margins have headed south after peaking in 2016 and 2017. This year, a sharper fall in ethylene prices compared with ethylene cash-cost is expected to contract cracker margins to $220-240 per tonne. In the past five years, margins averaged $490 per tonne.

And ethane cracker margins are seen sliding to $420-450 per tonne versus an average of $590 per tonne in the past five years. However, the differential between naphtha and ethane cracker margins is likely to widen this year, which would reduce the impact of falling naphtha margins on petrochemicals producers with dual-feed/gas-based capacities. In 2020, cracker margins would continue to be under pressure amid lower ethylene prices.

(Note: Ethylene cash cost is calculated as naphtha cost minus by-product credit plus $100 per tonne conversion cost. By-product credit includes proportionate realisation for propylene, butadiene, benzene, toluene, mixed xylenes and fuel oil)

Shrinking cracker margins



P: Projected
Source: CRISIL Research

Profitability of petrochemicals producers to crimp

Sales volume of petrochemicals in India is likely to log a compound annual growth rate of 6-7%, 400-500 basis points slower than the 11% seen between fiscals 2017 and 2019 owing to moderation in demand from key end-use industries such as automobiles, consumer durables and packaging. Furthermore, capacity additions, competition from imports, and lower crude oil prices will curb the pricing power of domestic producers.

Profitability is a factor of cracker margins, feedstock flexibility and level of integration. Players with a rich and diversified value chain would be in a better position to manage product-level spreads. Also, dual-feed crackers would be less susceptible to volatility in raw material prices.

With cracker margins falling, profitability would also be culled, compared with the strong growth seen in the past two years. The impact would be greater for those with naphtha cracker, such as Indian Oil Corporation Ltd, than Reliance Industries and ONGC Petro Additions Ltd, which not only have dual-feed cracker-based capacities, but also enjoy benefits of integration and feedstock flexibility.

As for specialty chemicals makers, primarily in the dyes and pigments segment, a drop in the prices of petrochemicals, their primary input, would increase margins. Moreover, healthy sales growth would also curb any decline in realisation.

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