

Feedstocks for Profit

Changing gasoline and feedstock markets
Surviving their impact on olefins and aromatics



EXECUTIVE SUMMARY

This Study presents a completely fresh and integrated view of the outlook for the 'building block' petrochemicals and their main derivatives, in the light of changing gasoline and feedstock markets. It therefore analyses not only likely demand, but also the potential feedstock availability to supply this demand.

It is, of course, especially difficult to forecast demand at the moment, with the longer-term impact of the credit crunch still unknown. In order to overcome this problem, the Study therefore presents its analysis in the light of 3 main economic Scenarios. The aim of these is to help clients understand the key sensitivities, and so enable them develop robust plans for an uncertain future.

The Study concludes that a number of different challenges will confront producers over the next decade. There will also be opportunities, for those with the flexibility to exploit them.

The first major Conclusion is that we do not expect recent shortages of naphtha feedstock to continue. The two main reasons for this are ethane usage in the Middle East will substitute much current naphtha demand elsewhere, whilst naphtha supply itself is set to increase significantly:

- The arrival of new ethane-based cracker supply from the Middle East between 2008 – 2013 will reduce demand for olefins from naphtha and LPG-based crackers. The level of capacity expansion now underway means that it cannot all be absorbed even under a Global Boom scenario. And as its advantaged cost position means it will always be competitive, it is unlikely that ethane-based producers will cut back production. The burden of adjustment will therefore fall on more expensive naphtha and LPG-based crackers, reducing their demand for feedstock.
- A major expansion is underway in refining capacity, in all Regions of the world. Our forecast only assumes that half of the proposed new capacity is actually built, 12mbd out of 25mbd announced projects. Even this level, however, means that gasoline is likely to be balanced to surplus. Therefore global availability of naphtha and LPG should be reasonable, although different Regions will have their own Supply/Demand balances, as we discuss below.

The second major Conclusion is that the next few years will see a reversal of the globalisation trend of the past 20 years. The rationale for this view is:

- We are forecasting major over-capacity in all four major 'building blocks' (ethylene, propylene, benzene and paraxylene). This over-capacity will persist till 2013/15 even if recent Global Boom conditions continue. If Global Downturn occurs, then new capacity will not be needed until the 2015-20 timescale. In these circumstances, margins will be under pressure as producers move from Standalone to Roll-through economics. Freight and logistic costs will therefore figure more strongly as a deterrent to inter-Regional movements.
- The advantage will therefore lie with those Regions which are either best balanced between Supply and Derivative consumption (NAFTA, Europe, China), or have advantaged feedstock (Middle East). Other Regions will find it difficult to compete in export markets, as they will be up against local suppliers who are likely to fight hard to maintain their market positions.

A third Conclusion is that petchem markets are going to become more complex:

- We are forecasting major changes in the structure of gasoline markets, as a result of the new capacity being installed in the USA (refinery expansions and increased ethanol usage), which will have potentially major repercussions on current trade flows. We expect gasoline in the Atlantic Basin to move to a more balanced position, and also forecast a more balanced position will emerge in the Middle East/Asia Region. European exports to the USA will therefore be reduced, and may have to be redirected to Asia, at a time when that Region is becoming more self-sufficient.
- It is likely, however, that these changes will happen in a fragmented manner, with some long-standing suppliers continuing to move product to traditional markets in the USA, at the same time as other refiners start to move product to Asia. Oil prices are also likely to remain volatile. It is almost inevitable that there will be periods when they fall back substantially from recent levels of \$140/bbl, and there may well be other periods when they increase significantly. As a result, government policies on gasoline subsidies and taxes may well change at short notice, in line with changing circumstances, and this will make it very difficult for refiners to plan ahead with confidence.

Our final Conclusion is that integration will be THE key critical success factor for producers and consumers as they seek to navigate these increasing difficult markets:

- This can be achieved either physically, or virtually. Winning companies will derive major benefits from the flexibility that integration will provide. Not only will it help to optimise production down the chain, and highlight options for ‘make-buy’ decisions at times of market stress. But it will also help companies to take a longer-term view in response to short-term difficulties. It is likely, for the reasons discussed above, that markets will throw up a mix of opportunities and challenges over the next few years. Those companies who have developed maximum flexibility will therefore be best placed to optimise their operations on the day.
- High oil prices will also require refiners and petchem companies to seek upstream integration, particularly if we are moving into a Global Downturn scenario. Those companies who are not clearly focused on being ‘low cost’ will find their margins are increasingly squeezed, to the point where their survival may be at risk over the medium to longer-term. Producers have seen a consistent decline in ‘real’ margins for the main ‘building blocks over the past 20 years, and it is clear that it already very difficult to pass through high oil and feedstock prices. Those companies operating in a ‘solution provider’ mode will equally need to be aware of these risks, as their market position could easily suffer if a key supplier went out of business.

These changes will have a major impact on companies over the coming decade. It will not only be important that they structure themselves for maximum flexibility, but also that they develop mechanisms for working outside current silos, in order to better assess changes that might be around the corner. The ability to encourage external challenges to conventional wisdom is likely to become critically important, as a mechanism for anticipating changes in the external landscape.

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**FEEDSTOCKS FOR PROFIT
MAJOR CHANGES ARE UNDERWAY -
SURVIVING THEIR IMPACT ON OLEFINS & AROMATICS**

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