CHEMSYSTEMS
PPE PROGRAM

Report Abstract

Quarterly Business Analysis
Quarter 1, 2012

Petrochemical Cost Price and Margin for Olefins, Polyolefins, Vinyls, Aromatics, Styrenics, Polyester Intermediates and Propylene Derivatives. Analysis for the United States, Western Europe, Middle East and Asia

March 2012

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www.chemsystems.com

Griffin House, 1st Floor South, 161 Hammersmith Road, London W6 8BS, UK
Tel: +44 20 7950 1600 Fax: +44 20 7950 1550

Nexant, Inc. (www.nexant.com) is a leading management consultancy to the global energy, chemical, and related industries. For over 38 years, ChemSystems has helped clients increase business value through assistance in all aspects of business strategy, including business intelligence, project feasibility and implementation, operational improvement, portfolio planning, and growth through M&A activities. Nexant has its main offices in San Francisco (California), White Plains (New York), and London (UK), and satellite offices worldwide.

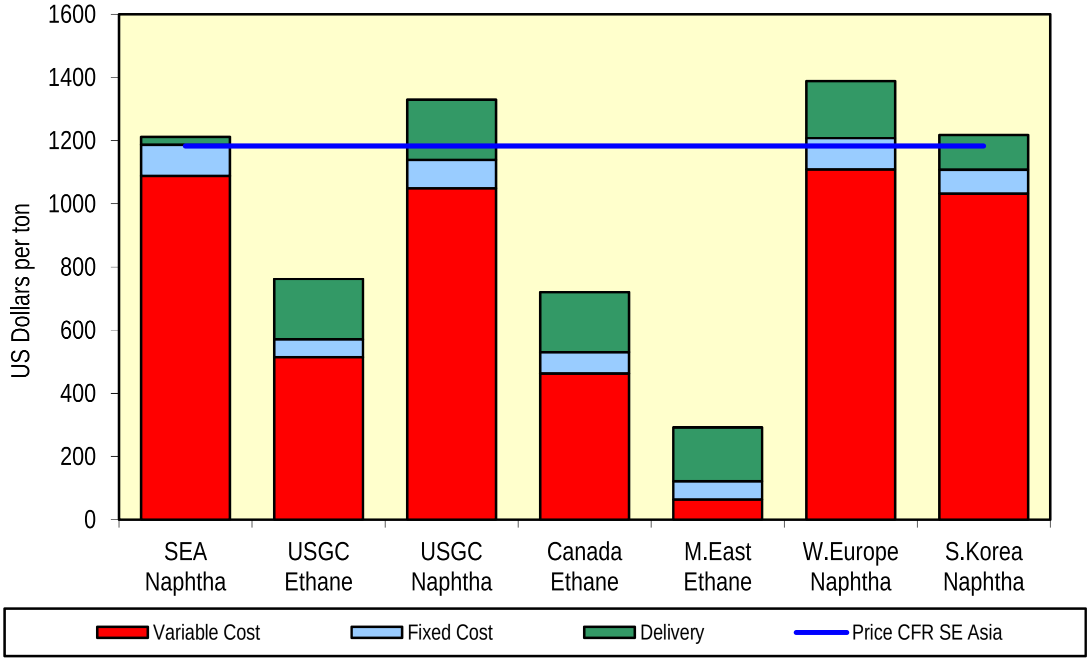
Nexant's Quarterly Business Analysis reports assess the current production economics for commodity petrochemicals, putting them into context with developments in the underlying market dynamics. A review of production economics in the Middle East has recently been added to the long running analysis of economics in Western Europe, United States and Asia. The reports are published as part of ChemSystems / Petroleum and Petrochemical Economics Programme (PPE). Subscriptions to the programme are available from www.chemsystems.com. For further details or to request a sample copy, please email chemsystems@nexant.com.

QUARTER 1 2012 - LOW COST GAS BUILDS ADVANTAGE OF U.S. PETROCHEMICALS AS HIGH COSTS BLIGHT OTHER REGIONS

The start of 2012 has delivered a strong competitive advantage to petrochemical producers in the United States, as natural gas prices collapsed to their lowest for a decade. The average cost of ethane tumbled almost a third from the closing quarter of 2011, supporting a strong increase in margins for producers processing the most common feedstock. Petrochemical profitability in Europe and Asia, where naphtha feedstocks are prevalent, was heavily depressed, as feedstock costs tracked firming crude oil prices to their highest for a year, climbing above $125/bbl in March. Weak economic activity and a lack of confidence in the outlook lead to frail demand, restricting the opportunity to raise prices and confining margins towards historic lows.

Feedstock costs heavily shaped regional cost competitiveness of the petrochemical industry at the start of 2012, as crude oil prices resumed their upwards trajectory. Positive economic news from the United States and agreement amongst Eurozone members of a bailout package for the debt ridden Greek economy supported crude oil prices in the first quarter. Meanwhile, fears of supply disruption added pressure to oil prices as Iran threatened to restrict exports from the Arabian Gulf. Brent FOB crude oil prices averaged $115 per barrel through January and February, a rise of six dollars over the quarter four average. Global naphtha prices rose ahead of firming crude oil prices; climbing above $1 000 per ton for the first time since April 2011.

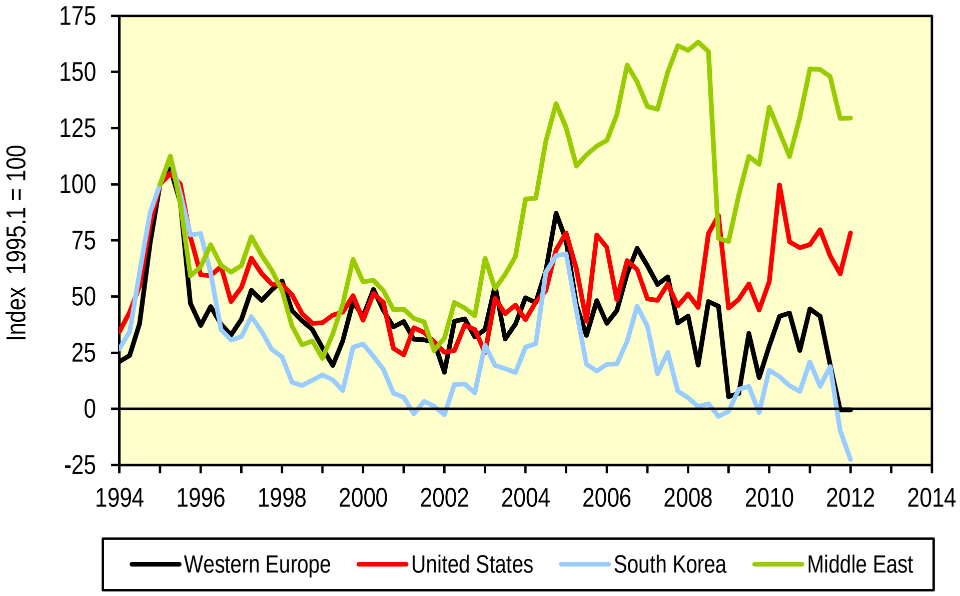
Regional Ethylene Production Costs
(Delivered SE Asia)



While high oil and naphtha prices blighted margins in Asia and Western Europe, much of the industry in the United States saw feedstock costs fall sharply at the start of 2012. More than 80 percent of ethylene produced in the United States is sourced from ethane and propane. The cost of these natural gas liquids is driven by the cost of the natural gas from which they are extracted. Natural gas prices in the United States have been relatively stable over the last three years, with rapid development of shale gas plays maintaining length in the market and detaching prices from the three fold increase in crude oil prices. Natural gas prices slumped to a ten year low at the start of 2012, dropping below 2.5$/mmBTU, as crude oil prices strengthened towards historic highs. Ethane prices tumbled almost a third, dropping to a record discount to naphtha, providing ethane crackers in the United States with a staggering cost advantage of more than $550 per ton over Naphtha crackers elsewhere.

In addition to enjoying a strong cost advantage, United States producers experienced more resilient volumes than other regions. The United States economy grew 0.7 percent in the closing quarter of 2011, its fastest rate for 18 months, stimulating domestic consumption of petrochemicals. Average margins of the U.S. industry climbed 15 percent, and remain well above their long term average. Profitability of the United States industry climbed well above that in Europe and Asia, all be it well short of that regularly achieved by the Middle East, in a high oil price environment. Thin volumes in Asia and Europe compounded their cost disadvantage, depressing margins towards historic lows. European consumption remained hindered by the faltering domestic economy, with the Euro zone economy contracting 0.3 percent in the closing quarter of 2011, after growing just 0.1 percent in quarter three. Consumption in Asia slowed through the Lunar new year holiday and was particularly slow to recover this year as market sentiment deteriorated with China cutting target economic growth rates.

Regional Petrochemical Industry Profitability
(Cash Margin Index Q1 1995=100)

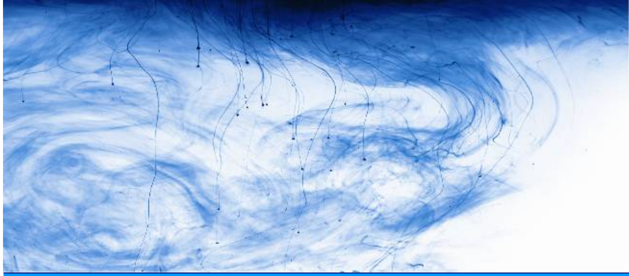


Performance of the European petrochemical industry deteriorated sharply in the second half of 2011, and there was little sign of any recovery as 2012 opened. Production costs increased steeply as feedstock costs resumed an upwards trajectory, following firming crude oil prices. Frail demand in December derailed sizeable price initiatives in January. A rapid recovery in demand through January offered some optimism to the market, but this was subsequently attributed to restocking as volumes slowed into March. Uncertainty in the economic outlook continued to restrict domestic consumption, with fears of the double dip recession intensifying. Export volumes were curtailed as Asian markets lengthened considerably. News of import cargoes heading towards Europe capped further price initiatives in February and March. Nexant's petrochemical and polymer margin index remained at its lowest ever, posting zero for the second consecutive quarter (Q1 1984=100).

Asian petrochemical profitability weakened across most value chains in the first quarter of 2012 amidst rising feedstock costs. Although Asian petrochemical prices generally increased, after bottoming out in quarter four, the ability of producers to pass through the full extent of increased feedstock costs was limited by a slowing demand side. The anticipated recovery in petrochemical consumption following the Lunar New Year holidays generally failed to materialise. Furthermore, in China, tightened property policies hampered activity in the construction sector, adding to the effect of sustained high interest rates and tight credit controls. Market sentiment deteriorated as the Chinese government announced a considerable cut in the target growth rates for their economy. Average industry margins in South Korea tumbled to an all-time low, with many integrated producers struggling to cover variable costs.

After slumping 12 percent in the closing quarter of 2011, Nexant's Middle East petrochemical cash margin index dropped a further two percent to settle at an 18 month low of 127 (Q1 1995=100). Despite losses, Middle Eastern producers continued to hold a strong cost advantage over other regional producers. Margins on exports into Asia eased, as Asian markets lengthened. Prices across Asia eased in a bid to liquidate excessive inventory. Margins on sales into Western Europe remained broadly steady, with European prices remaining above those in Asia. News of cargoes increasingly heading towards Europe restricted the rise in European prices, even as firming feedstock costs exerted heavy pressure on domestic margins.

Nexant's Quarterly Business Analysis reports review production economics for petrochemicals in regional markets, and justify trends from underlying market developments. The QBA programme now includes monthly average production economics in the principle markets of Western Europe and the United States, where monthly contract settlements heavily influence industry profitability. The reports are published as part of ChemSystems Petroleum and Petrochemical Economics Programme (PPE). Subscriptions to the programme are available from http://www.chemsystems.com.



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