CHEMSYSTEMS
PPE PROGRAM

Report Abstract

Quarterly Business Analysis
Quarter 4, 2009

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

December 2009

Nexant

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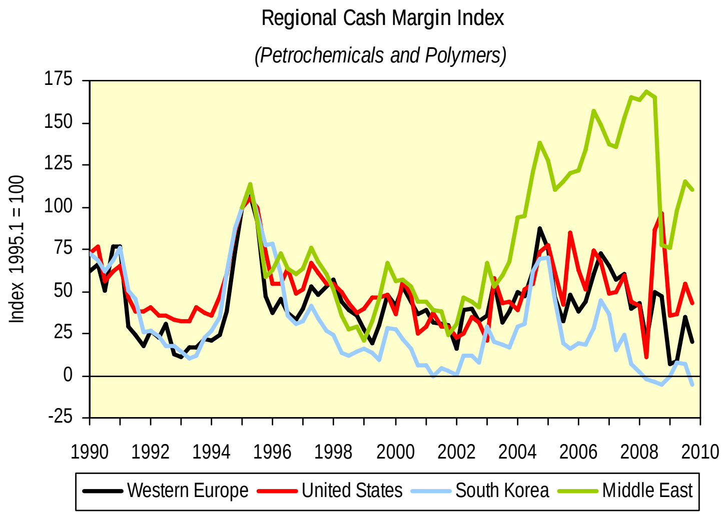
Nexant, Inc. (www.nexant.com) is a leading management consultancy to the global energy, chemical, and related industries. For over 38 years, ChemSystems has helped clients increase business value through assistance in all aspects of business strategy, including business intelligence, project feasibility 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.

PETROCHEMICAL PROFITABILITY ELUSIVE DESPITE IMPROVING DEMAND

The burden of rising feedstock costs, as crude oil rebounded has prevented any significant recovery in petrochemical margins even as market weakness eased towards the end of 2009. Nexant's West European petrochemical industry margin index has recorded its lowest ever annual value for 2009 at 57 (Q1 1984=100).

Regional Petrochemical Industry Cash Margin Indices



Demand for petrochemicals in the United States has improved steadily through the first three quarters of 2009, following an improvement in the domestic economy, which emerged from recession in quarter three. However, the pace of recovery in domestic consumption of ethylene derivatives has slowed considerably towards the end of the year as government initiatives to stimulate the economy are scaled back. Consumption in the vinyls sector has been particularly hard hit, with the seasonal slow down in activity in the construction sector. There are fears that demand could slow further into December as many processors plan to shut for an extended period over the New Year holiday period. Meanwhile, other processors are holding ample inventories following little disruption to the supply chain through the Hurricane season.

Domestic consumption of petrochemicals in Western Europe has increased steadily through 2009, but volumes still lag far behind that achieved in the first half of 2008, prior to the sudden severe slump. Economies across the region have improved in the second half of 2009, with the European Union as a whole emerging from recession in the third quarter. However, industrial production, a key driver of petrochemical consumption remains very fragile. Much of the growth in 2009 has been supported by extensive government investment in a range of initiatives to stimulate key sectors of the economy such as the automotive industry. There are mounting fears as to the sustainability of the recovery and faltering demand, as government spending is cut towards the end of the year, in a bid to ease escalating deficits in national accounts. Meanwhile, exports of petrochemicals, which have offset the fragile domestic demand situation in recent quarters, ended the year in a strong fashion as Asian demand was rejuvenated after a slow third quarter.

Crude oil prices improved in quarter four as positive signs of economic recovery and a weak US dollar improved sentiment in the market. Seasonal demand for crude oil in the Northern Hemisphere was less prevalent this winter as demand for industrial fuel in the United States dropped and gasoline consumption in Western Europe remained weak. Despite the consumption of refined products in Japan shrinking, demand for light products in India and China showed strong improvement in the past few months. During October and November, Dubai FOB crude oil prices settled at an average of US$75 per barrel, an increase of around ten percent from the previous quarter average.

In the United States, average natural gas prices increased fractionally in the first two months of the fourth quarter, while petrochemical feedstocks saw large price hikes, with lighter feeds seeing a more significant percentage increase than heavier feeds. Western Europe and Asia meanwhile saw naphtha prices rally to a 14 month high, climbing above $700 per ton at the start of December, amidst strong demand in Asia. Propane and butane prices strengthened considerably relative to naphtha, on growing seasonal heating demand, removing the cost advantage that had been available from cracking LPG for much of the last year.

Ethylene markets in the United States have improved considerably from the sharp downturn at the end of 2008, yet remain relatively weak in quarter four. Fragile domestic demand was heavily supported by buoyant exports. Production increased modestly, but operating rates remained depressed just above 80 percent, despite recent cracker closures. West European ethylene markets weakened appreciably towards the end of the year. Demand for ethylene remained broadly steady, as a strong resurgence in exports to Asia countered fragile domestic consumption of derivatives. The supply side lengthened, with most crackers operating efficiently, after almost a quarter of capacity had been halted in September. Demand for olefins in Asia was slow at the beginning of the fourth quarter as demand in China was lackluster during an extended national holiday period. After the holiday period, demand for olefins steadily improved in order to replenish inventories. Supply of olefins in Asia has lengthened since the last quarter as major new crackers across the region achieved full production and imports from the Middle East were restored towards usual volumes, after mid year curtailments. Profitability of ethylene production in Asia was generally depressed by the heavy burden of rising feedstock costs in quarter four.

Propylene markets in the United States remained tight through quarter four. Supplies from refineries were heavily curtailed as refinery operating rates dropped below 80 percent on poor margins. Demand recovered from a very slow start after the staggering 12 cent per pound increase in September polymer grade contract prices blighted exports of derivatives. Price volatility was driven by refinery propylene values which tumbled 15 cents per pound into October before renewed pressure from crude oil restored prices close to $50 cents per pound by mid-December. West European propylene markets were balanced in quarter four, after some tightness mid year. Domestic consumption of propylene derivatives slowed as the year end approached, but this was offset by resurgence in Asian export markets. Improved supply from crackers was countered by restricted supply from refinery sources. Contract prices fell for the first time in 2009, shedding almost €40 per ton through October and November, restricting margins of dedicated supply sources.

The United States polyolefin market has been rather sluggish over the last few months, but has been held in balance mostly due to high demand coming from Asia, more specifically China. Polypropylene markets have seen large volumes of exports to China and supply issues as a result of several production outages. A very similar picture can be seen for LDPE and LLDPE, while HDPE has seen demand from China slowing down, causing that market to lengthen. The West European polymer sector remained very weak through to the end of 2009. Appreciation of the Euro against the dollar reduced the competitiveness of European producers in export markets. Prices fell sharply in October, as producers feared drawing in excess imports on slow Asian demand. Meanwhile, feedstock costs continued to firm through to the end of the year. PET was the only polymer to cover cash costs of production, on a non-integrated basis, benefiting from an upturn in demand in what is usually the slowest season of the year.

Aromatics markets saw benzene contract prices fall in the last quarter of 2009, with West European prices falling 20 percent as demand remained weak following the shutdown of downstream derivatives. Despite sluggish chemical markets, toluene and mixed xylenes prices were supported by rising gasoline prices.

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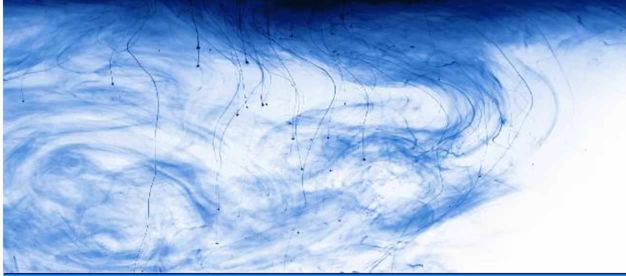

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