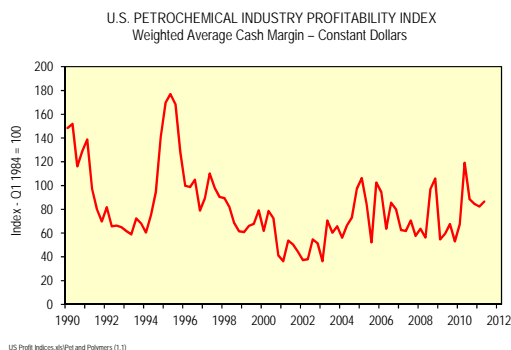


## Nexant's Commentary on U.S. Energy and Chemicals 2011 Quarter 2

### ***Nexant's Detailed Analysis of the U.S. Industry for the 2<sup>nd</sup> Quarter 2011***

Petrochemical industry margins continued to improve slightly in 2Q11 following a drop from the end of 2010. Crude prices increased while demand in the petrochemical sector overall seemed balanced. The **Petrochemical Profitability Index** tracked by Nexant (constant dollars, 1Q1984 = 100), increased in 2Q11, nearing 100.



***Nexant is in the process of launching two new multi-subscriber reports:*** 1. Plants to Plastics – Can Nature Compete in Commodity Polymers?, and 2. *Photovoltaics – Opportunities for Manufacture and Use.* (Please see our website or contact us for details.)

### ***U.S. Housing and Automotive Show Signs of Recovery***

After U.S. housing starts were expected to rebound a bit in 2011, June showed some promise with an increase of about 15 percent on May. A realistic housing turnaround though is not expected earlier than 2012 when some believe the market might see a significant increase in housing starts. J.D. Power and Associates estimated that retail automobile sales will end up around 10.6 million units in 2011, an increase of about 16 percent from 2010, while the first half of 2011 has been about 10.3 million units.

### ***American Chemistry Council Releases 2011 Projections***

The American Chemistry Council forecast U.S. chemical production, excluding pharmaceuticals, to grow about 3.0% in 2011, similar to a 3.1%

growth estimated in 2010. However, ACC reported that the U.S. Chemical Production Regional Index fell 0.3 percent in June, after a 0.2 gain in May, as chemical production remained stable or slightly slipped in all but the northeast region.

### **U.S. Market Segment Recap, 2<sup>nd</sup> Quarter 2011**

- **2<sup>nd</sup> Quarter 2011 Summary Review**

Crude prices continued to increase overall in 2Q11 remaining above \$100 per barrel for the quarter, though May showed some slow down and a slight decline. OPEC production is about 28.9 million BPD, while non-OPEC oil supply dropped with Brazil and China production down this quarter. Demand for most petrochemicals this quarter remained fairly balanced with healthy margins, although some producers experienced a decline in margins mostly due to particular feedstock cost hikes.

- **Crude Oil and Refining**

**Crude oil** prices remained above \$100 per barrel again though prices showed a slight decline in May following reports of poor economic performance in the U.S. and fears of a slowdown in China. Refinery margins improved a bit in 2Q11 due mostly to lighter distillate price increases.

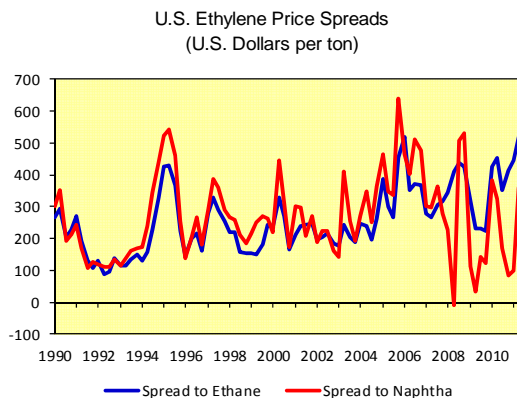
- **Natural Gas and Feedstocks**

Average **natural gas** prices barely increased in 2Q11, remaining at just above \$4.1/MMBtu. an increase of just over one percent compared to the previous quarter. All other feedstock prices including ethane, propane, butane, light naphtha and gas oil, experienced modest price hikes. Extraction margins increased over the last few months, remaining well above historical averages.

- **Olefins and Intermediates**

Ethylene contract prices increased compared to last quarter sitting at about 57.9 cts/lb by the end of 2Q11, due to high spot prices and increased production costs. Propane and n-butane crackers showed the highest margins throughout

the quarter mostly due to increased by-product propylene and butadiene prices, while naphtha remained the highest in terms of costs. However, cracker margins increased slightly across the board, while the overall average cost advantage of cracking ethane versus naphtha decreased to about 8.0 cents per pound.



The ethylene price spread to ethane (spread is defined as ethylene price less contained raw materials and by-product credits) remained strong during 2Q11, well above naphtha cracking which also showed a large improvement this quarter. Increasing ethylene prices have pushed both spreads to levels seen only prior to 2008.

- **Polymers**

**LDPE** prices increased about 6 cts/lb in 2Q11 despite low demand and good material availability in the market. Feedstock costs remained fairly steady this quarter, allowing producers to experience record high margins. **LLDPE** prices closely followed LDPE, increasing about 7 cts/lb in 2Q11; producers capitalized on steady feedstock costs and thus enjoyed improved margins. LLDPE demand was weak while availability was good. **HDPE** prices also rose, although non-integrated producers were unable to pass on all increased feedstock costs, consequently lowering margins for the quarter.

The U.S. **polypropylene** price rose about 14 cts/lb in 2Q11, mostly due to the sizeable price increases seen in propylene. Despite these large price hikes, producers still failed to cover the increased costs this quarter, which led to a decline in margins. This had a direct effect on

demand as buyers began looking into alternatives to polypropylene.

**Styrene** supply/demand was fairly tight, with demand expected to remain low as buyers are keeping an eye on feedstock benzene prices. A styrene price hike increased margins slightly compared to last quarter. The **polystyrene** market was also tight. Although PS prices continued to rise overall, they have basically been rolling over since March 2010.

**Caustic** prices increased, as chlorine demand remained reasonably strong in part due to surging PVC exports. Overall, chloralkali prices and margins improved. **VCM** demand was strong, driven by PVC exports. **PVC** demand in North America remains weak due to the poor housing market; however North American PVC exports remain very strong.

**Benzene** prices decreased by 14 cents per gallon in the first two months of the quarter, as **mixed xylenes** and **toluene** prices continued to increase.

- **Other Monomers / Intermediates**

**Ethylene glycol** prices declined in 1Q11, though the May numbers were fairly stable. **Para-xylene** prices rose about 4 cents per pound this quarter. Availability in the region was very short in 2Q11 affected by both planned and unplanned outages. **PTA** supply became critically short this quarter due to unplanned outages that hampered the region; PTA prices increased about 2 cents per pound in 2Q11.

**Acrylonitrile** demand has been steady, driven by strong ABS demand and cotton shortages which resulted in rising acrylic fiber demand. Acrylonitrile prices increased by nearly 20 cents per pound; however, margins declined compared to the previous quarter, mostly due to increased propylene costs during 2Q11. **Phenol** prices declined by about one cent per pound, following a drop of over 5 cents per pound in April.

*Note: (1) More detail on the various conclusions above can be obtained via subscribing to Nexant/ChemSystems' multi-client publications and single-client services. (Please see contact information below.) (2) This newsletter was last updated in April 2011.*