# SPECIAL REPORTS



## Price, Margins, and Costs in an Era of High Oil Prices

#### THE PROBLEM

Recent price trends suggest that crude oil prices above \$100 per barrel might possibly become the norm rather than the exception. Many forecasters have voiced opinions that long term crude oil prices in excess of \$150 per barrel are no longer unlikely expectations. Not only have crude oil prices risen to above \$100 per barrel, the volatility of oil prices has also increased dramatically. The high volatility and prices in the past decade contrast greatly to the general stability and prices in the \$20-\$40 per barrel range of the previous three decades.

Prices for many of the first line direct derivatives of petroleum, such as gasoline, heating oil, jet fuels, etc. closely mirrored the wildly changing crude oil prices. High gasoline and heating oil prices still threaten to derail an already fragile economic recovery.

High prices for many petroleum derived chemicals such as polymers, solvent, intermediates and specialties heightened the concern that high chemical, fuel and petroleum prices might be becoming a new permanent reality.

The impact of high petroleum prices on chemical pricing is more difficult to predict. This is a critically important problem for the chemical industry since chemical price relationships often herald economic performance expectations. Historically reliable price predictors such as constant deltas, constant price spreads or constant margins along product chains are becoming less accurate as the underlying crude feedstock costs rise and become more volatile.

#### THE SOLUTION

The volatility and wide price swings in crude oil prices after 2005 revealed some even more powerful predictive methodologies for projecting fuel and chemical prices. For many of the primary fuel products and first line petrochemical derivatives, a surprisingly high mathematical correlation to crude oil price was revealed that had previously been masked by the historical narrow range of crude oil prices prior to the turn of the century.

Combining such correlations with Nexant's extensive databases and in-depth knowledge of market supply/demand drivers, technology, manufacturing economics, capital investment constraints, influence of competition and the overall industry dynamics and logistics, has allowed us to develop a highly efficient methodology for evaluating and predicting complex pricing trends without laborious data input/output and manipulation. This highly automated system has dramatically reduced analysis time.

The key takeaway from such pricing models is that it is now possible to evaluate a wide range of prices across all levels of the chemical supply chain, across numerous regions, for a large number of basic macroeconomic scenarios. The accuracy of this combined statistical and strategic methodology allows Nexant to simultaneously build a totally self-consistent set of prices across a very broad spectrum of chemical products and sectors with a very limited number of input macroeconomic assumptions.

#### VALUE PROPOSITION

Using this new robust pricing tool, Nexant has examined the likely implications on chemical profitability under the speculative assumption that the recent increases in crude oil prices and high volatility are becoming permanent economic realities. The relationship between various chemical groups and supply chains are all impacted differently and significantly change the relative profitability and competitiveness of various chemical sectors.

Sustained periods of high oil prices will have a significant effect on the entire chemical industry. Generally, higher feedstock costs increase the cost of manufacturing most petrochemicals, which could impact profitability. However, since high oil prices will alter the future price of some chemicals more than others, the relative profitability of some products will be affected more than others. Such changes may significantly alter the chemical industry.

Sustained higher oil prices will enhance inter-polymer substitution among the major commodity polymers. Capital intensive manufacturing processes will fare better than feedstock intensive processes, energy intensive processing will suffer and non-petroleum based products will be favored. Geographic price differentials will also be altered.

This study will highlight those differences that are likely to have the largest impact on current chemical producers or consumers. The iterative modeling methodology of the Nexant pricing system guarantees that all conclusions and projections are realistic and completely self-consistent, in a manner not possible with other predictive methodologies.

### PRICE, MARGINS AND COST IN AN ERA OF HIGH OIL PRICES

The "*Price, Margins, and Cost in an Era of High Oil Prices*" report is available now at the pre-publication price of US\$20,000. After publication, the price will be US\$25,000. Please contact ChemSystems@nexant.com for a subscription form.

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