2012 Chemicals Industry Perspective, Part 1

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We would like to offer our thoughts on the current business environment for chemical companies, what the future holds and which specific capabilities they need to enjoy the greatest success.

Current Trends

Not long ago, the center of the global chemical industry seemed destined to be moving to the Middle East from North America and Europe, propelled by the ready availability in the Arab world of relatively inexpensive oil as a feedstock. That idea has now been turned on its head.

A wave of drilling activity has unearthed giant supplies of natural gas in shale rock around the world, but mostly in the United States, creating a surfeit of raw material for making ethylene-based plastics inexpensively even as the cost of oil skyrockets. Indeed, with this sudden boom in natural gas capacity, the price of Henry Hub futures dropped about 13 percent in the first nine months of 2011.

This has altered chemical industry dynamics in significant ways. For one thing, demand for most ethylene-based petrochemicals -- including polyethylene -- is skyrocketing as their price falls in line with that of natural gas. This demand boom is particularly true in fast-growing markets in emerging nations.

As a result, many of the large integrated majors like Exxon Mobil, Dow Chemical, Shell and Chevron are quickly adding to their natural gas reserves in North America with the goal of manufacturing ethylene polymers locally and shipping them to factories around the world, where the chemical can be used for everything from sandwich bags and cling wrap to car covers, squeeze bottles, water pipes and cable insulation.

This trend could force Middle East chemical companies to think twice before increasing their petrochemical capacity, but also may in time create an ethylene price war and profit margin pressure for the chemical companies with the most invested in this commodity. Indeed, the possibility of an impending price war is further punctuated by activities in China, where natural gas resources are substantial and ethylene factory capacity is increasing at a rate equal to that of the rest of the world combined.

Meanwhile, some petrochemicals are facing a far different set of conditions. Higher-end oil-based chemicals -- essentially, the propylene polymers -- are losing their attractiveness as the price of oil continues to be high and volatile. And as the tilt toward natural gas exacerbates, the demand for propylene feedstock will likely continue to spiral downward. The riskiness of this chemical sector was a big reason that Dow Chemical sold its polypropylene unit in July to Braskem, Brazil's biggest petrochemical company.

With this deal, Braskem became the biggest U.S. producer of polypropylene, and Dow exited an uncertain sector, while generating cash to pay down debt and fund growth in other areas. There's likely to be much more industry consolidation of this type in the immediate future.

And as the dynamics in the basic chemical sector fluctuate, specialty chemicals continue an inevitable march toward commoditization in much of the world. Just a decade ago, gross margins for specialty products, including additives, pigments and personal care items were extremely attractive; thus, many companies -- even many large ones -- were motivated to participate in the specialty segment. But today, specialty chemical margins have tumbled to historical lows.

The reasons are painfully obvious, if difficult to address. As more and more competitors seek to take a piece out of this still highly profitable market and put pressure on prices to improve their market share, specialty chemical providers are compelled to move into lower-margin applications in hopes of expanding and creating new markets for their products -- often overlooking the fact that these less profitable applications and additional R&D expenditures may not be warranted.

In several cases, the specialty chemical company suddenly finds itself in a race toward the bottom. Further, the sector is weakened by improvements in downstream design and manufacturing processes that allow customers to eschew specialty chemicals in favor of more standardized feedstocks for their products. With all of these challenges, a long and costly price war -- or, in this context, commoditization -- is the unavoidable result.

To overcome these handicaps in the specialties niche, diversify portfolios, and enhance scale and breadth of existing businesses, companies are turning to acquisitions to swell their specialty offerings relatively quickly without the enormous upfront R&D costs that ultimately demand a long-term commitment to the product in order to realize a satisfactory return.

For example, DuPont purchased the Danish niche chemical firm Danisco last May for US$6 billion to gain access to Danisco's synthetic enzyme technology, which can be used in cleaning supplies, textiles, food and animal feed, as well as Danisco's strength in cellulosic ethanol research, which complements DuPont's interest in carbon reduction products.

And just a few months earlier, Belgian-based Solvay acquired Rhodia, a French producer of specialty chemicals for cosmetics, personal care, water treatment and plastics, for nearly $5 billion. This deal will give Solvay direct access to emerging markets in Asia and Latin America, where Rhodia has strong distribution and supply chain networks. That could be an enormous coup for Solvay, particularly in China, which has few specialty chemical facilities and relies primarily on imports for its rapidly expanding specialty needs.

If nothing else, these transactions show that many specialty chemical companies are still feeling positive about their prospects, even if a big part of their business model is to stave off commoditization. Decent revenue and earnings growth, primarily in emerging markets, has allowed them to build up cash and minimize debt, making this period of business expansion relatively pain-free financially.

And as 2011 came to an end, along with these clear conditions and trends, signs of instability and uncertainty bedevil the chemical industry -- chiefly, in demand growth. Though demand will certainly rise over the next few years, the steepness of the curve is impossible to predict. With GDP growth in developed nations projected to be well below 3 percent under the best scenarios in the next few years, the chemical companies are counting on emerging countries -- especially China and India -- for robust revenue and profit streams.

But even in these markets, hints of trouble are apparent. In both China and India, inflation is rising and growth is slowing. In September, China's inflation rate rose about 6 percent, well above the government's 4 percent target, while third-quarter GDP gains dropped to 9.1 percent from 9.5 percent in the prior three months. As business conditions tighten in these regions, chemical demand will be a victim. Consequently, chemical companies must develop well-thought-out strategies and skills to deal with the changing dynamics in emerging countries, including establishing reasonable production and R&D footprints in Asia to best compete with local suppliers for both market share and talent.

Please stay tuned for the second part in this series, which will be published tomorrow. For more information, please email Cassidy via dennis.cassidy@booz.com *[1] or visit* www.booz.com *[2].*

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