# 2011 Chemicals Industry Perspective

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Like the economy as a whole, the North American chemical industry has received a reprieve. With stimulus money flowing in and the recession technically over, chemical companies' balance sheets and revenue levels again moved in the right direction.

The improved state of the North American chemical industry is evident in a few different ways. Plant closings have slowed. Companies are focusing on growth initiatives again and are spending heavily on innovation in order to support those initiatives. And M&A activity is starting to return to 2007 levels, with small to midsized companies as the most frequent targets.

But the rebound is not benefiting all chemical companies equally; it is favoring companies that use natural gas rather than oil feedstocks. This shift has been coming ever since 2007, when the rise of unconventional gas supplies in the U.S. sent prices tumbling. That has eroded the cost advantage that Middle East chemical producers, with their easy access to oil and gas, have traditionally enjoyed. U.S. producers have several other advantages over their Middle East counterparts, including higher levels of labor productivity (a result, in part, of effective technology investments) and lower capital costs.

Feedstocks and energy costs may be the biggest determinants of chemical companies' competitive positions in the current environment, but they are not the only ones. Also relevant is the extent to which a company competes in the historically higher-margin specialty chemical market. Indeed, most chemical companies are broad-based —producing some oil-based products, some gas-based

products and some specialty products. That means that a strategy that has promise in one part of the company may not work in another product area or business unit.

Specialty chemical companies—and the specialty units of broad-based companies—have endured a difficult few years. In a sense, they have been paying for their lack of discipline during the sustained up cycle that collapsed in 2008. The five-year period of prosperity before that led to significant product proliferation and to excess complexity in the specialty producers' product lines. It is time for specialty chemical companies to adjust their business models to a leaner reality.

**Questions & Imperatives for 2011**

Chemical producers vary with respect to their feedstock exposure and their position along the commodity–specialty spectrum. In effect, chemical companies can compete in one or more of four categories depending on their feedstocks and products: gas-based commodities, oil-based commodities, oil-based specialties and gas-based specialties. Depending on which categories they compete in, North American chemical producers face different strategic questions—and have different imperatives—heading into 2011.

**1. Gas-based commodity producers** are in the strongest position. The key question for these companies will be how to capitalize on the "gas gift." These companies have an array of options, as follows:

· *Double down in domestic markets with natural gas–based feedstock.* The North American petrochemical sector still has far too much capacity, and this is likely to remain the case for the foreseeable future. This gives bigger gas-based companies a chance to become consolidators by buying smaller companies within the U.S. producer base. In doing so, they will gain scale efficiencies and improve their relative positions on the supply curve. Further, with continued low feedstock and energy costs, the U.S. producers are well positioned to grow. Who would have predicted in recent years that chemical companies would be considering expanding their U.S.-based operations? Yet, with the U.S. swimming in cheap natural gas, this could be the right time for such a radical idea.

· *Strengthen their portfolios.* Given the stability brought by the gas dividend and the outlook for sustained low prices, now may be the time for these producers to ask how they can rationalize or diversify their product portfolios and market initiatives to position themselves for growth. For example, their current strength could provide gas-based commodity producers with a springboard into downstream markets closer to consumers or specialty markets, thus reducing the overall cyclicality of their business.

· *Pursue growth in emerging markets.* It seems clear that most near-term growth will come from emerging economies, especially in the Asia/Pacific region. Gas-based producers could start operating in these countries directly or pursue partnerships with indigenous producers.

· *Sell into a rising market.* It's been a tough few years for most petrochemical

players, and many of them have already explored the idea of exiting the sector. With the chemical market improving and valuations rising, now might be the time to sell. To be sure, this is an extreme portfolio adjustment move, one that probably makes sense only for those producers that find themselves in disadvantaged positions along the supply curve. Before they do it, companies need to be certain that a sale makes sense with respect to their long-term growth strategies.

**2. Oil-based commodity producers** are locked into a high-cost feedstock that places them at a competitive disadvantage with Middle East producers; as a result, they are on the defensive. The key question facing these companies is how to fix underperforming businesses and return to profitable growth. These companies have a few options:

· *Become cost-competitive through operational excellence.* The business challenges these companies face are so fundamental that they cannot be addressed through incremental cuts; instead, the companies must look deeper, to systemic, structural, and designed-in product costs. This kind of cost cutting is never easy, because there are so many interrelated parts involved, but it may be what’s needed to survive in a market that has so many things working against it.

· *Diversify the feedstock slate.* With crude-gas decoupling in the U.S. having become the “new normal,” oil-based chemical producers may want to retool some of their assets to make them capable of managing different feedstocks. For instance, Shell Chemicals, which once used oil for 70 percent of its ethylene production, has flipped the ratio and is now about 70 percent gas-based.

· *Invest in the supply chain of the future.* One strategy that could pay dividends for oil-based producers in the near term is to undertake end-to-end supply chain improvement programs. This involves, to start, a holistic assessment of how to be more efficient in multiple parts of the supply chain—not just in logistics, planning, or manufacturing, for instance, but in all three of these areas simultaneously. The idea is to come up with more flexible and tailored ways to manage the supply chain, including making changes in the manufacturing footprint. It also seems at least possible that the trade flow will swing, turning the U.S.—historically an exporter of chemicals—into an importer, especially of solid petrochemicals. Against this possibility, some producers may want to consider reverse logistics—that is, repositioning some of their facilities and people to take cheap resins and solids produced in other countries and do whatever processing is necessary to prepare them for U.S. customers.

**3. Oil-based specialty producers** are likewise on the defensive heading into 2011. This is a sector that, in some ways, overcommitted during the good times, leaving many companies with more product grades than customers really need, and dozens, if not hundreds, of SKUs they can no longer sell. Not only has this created an excessive cost structure for these businesses, but it also has interfered with their attempts to get a clear read on the market and is now creating hurdles to growth in a capacity-constrained environment. A few options are available to these producers:

· *Reduce portfolio complexity.* This should be the top priority for many oil-

based specialty producers, because of the disadvantages they already face in the area of feedstock costs. The good news: Many specialty products are in short supply, putting providers in a position to dictate which versions of their products customers use. Companies should start by examining market-back requirements, doing a customer segmentation, and designing their ideal product portfolios. Those may not be the only inputs needed to rationalize portfolios, but they are a good start.

· *Realign the manufacturing footprint.* The differences in regional growth mean that companies may want to rethink where their plants are located. Having a presence in the right places will be a critical part of reaching an increasingly fragmented customer base in emerging economies.

· *Move to new business models.* The declining returns from traditional innovation—with almost no correlation between R&D spending one year and sales in the following year or two—suggest it may also be wise for oil-based specialty producers to gravitate to new business models.

One such model is to become a maker of customized products for individual customers—a switch that would require companies to tighten their relationships with customers and rethink their approach to product development. Another new model is to become a maker of solutions and materials for groups of customers. For instance, a chemical company might decide to focus on the needs of fragrance companies, and create customized processes and add vertical market expertise in order to succeed at that. A third model is to just get back into basic chemicals, becoming a bulk provider and doubling down on the capabilities (including distribution power and operational excellence) needed to win in the commodity chemical business. This, however, represents a significant risk and should be undertaken only when less drastic changes have been considered and ruled out.

**4. Gas-based specialty producers** will have substantially more breathing room in the coming year than their oil-based competitors. To be sure, the imperatives identified for oil-based specialty players also apply to this segment. Gas-based specialty companies, however, have a financial buffer and can thus afford to be more aggressive in the market and focus on innovation. Still, these companies should think through their options carefully in order to capitalize on the advantage they've been given. With innovation returns down, and with the days of blockbuster chemical formulations over, it may make sense for these companies to make more and smaller bets on multiple platforms, instead of making a handful of big bets. They may even want to adopt a holding-company approach—managing some homegrown ventures along with some outside ones.

### The Capabilities Imperative

Indeed, as the leaders of chemical companies fine-tune their strategies in 2011, one of the key things they will need to do is assess whether their companies have the capabilities to support the strategy shifts they want to undertake. More precisely, they need to figure out if they have a *coherent* approach to their business.

Coherent companies, according to our definition, align three elements. One is a “way to play”—how the company positions itself in the market and its resulting business model, which could be as a consolidator that wins through scale, as an innovator that charges premium prices, or as a customizer able to deliver to the specifications of individual customers. The second element is the company’s product and service portfolio, and the third is the set of three to six mutually reinforcing and differentiating capabilities that support the first two.

It’s relatively rare for a company in any industry to have all three of these elements—way to play, product and service portfolio, and capabilities system—in perfect sync across its whole enterprise. But our experience suggests that companies that achieve even pockets of coherence—in a major business unit, say, or in a geography—outperform their competitors over the long term. Targeting coherence in at least a few parts of their businesses can be a great goal for the many chemical executives intending to start anew, and find new sources of advantage.

*In the past, our industry perspectives have prompted executives to call or write us with their own thoughts and comments. We hope this one sparks a dialogue with you about the challenges that chemical companies face moving forward and how we can help you make your company more prosperous in the future. To begin that dialogue, please feel free to e-mail any of the authors via:* dennis.cassidy@booz.com [1], andrew.clyde@booz.com [2], juan.trebino@booz.com [3] or jayant.gotpagar@booz.com [4].

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