



## 2011 Oil & Gas Industry Perspective

Last year was a historic one for the North American oil and gas industry, marked by the discovery and expansion of a multitude of oil and gas shale plays, the doubling of North American proven gas reserves, a blowout in the Gulf of Mexico that lasted months to become the worst environmental disaster on record, and new (or threatened) rules and legislation that would constrain hydraulic fracturing, offshore permits, and derivatives trading and hedging.

In the short term, oil and gas companies face a bifurcated future:

- Gas-weighted players will be hard-pressed to show they can grow margins through at least 2014, as North American production continues to increase and demand remains stagnant, keeping prices rangebound on the lower end.
- Oil producers can look forward to better prospects with a disciplined OPEC holding supplies in balance, a weak U.S. dollar, and a broad (but slow) global economic recovery driving incremental growth in product demand.

However, both markets will also have to respond to other challenges over the next couple of years – among them, a rising public environmental concern that could limit access to some new reserves and spark a slew of regulations involving drilling projects (both onshore and off), as well as persistently high oil- and gas-field service costs that are not likely to drop anytime soon.

Longer term, the outlook is full of even thornier unknowns, such as the possibility that significant new production capacity coming online from non-OPEC producers (for example, Brazil, Iraq, Russia, and West Africa) will cap oil prices despite an improving global demand picture; whether any unanticipated factors will stimulate North American and global energy demand; which strategies, such as mergers, joint ventures, and acquisitions, large players will undertake to protect and grow their positions; and what form U.S. energy policy will take in this era of political gridlock.

## How Should Oil and Gas Companies React?

As 2011 dawns, we would like to offer our thoughts on how North American players can best navigate these challenging times and best position themselves to thrive and grow:

*Adopt a “capabilities-driven strategy.”* Given the instability of oil and gas markets, energy companies must be especially diligent about identifying their most profitable business model – which markets they are best suited for now and in the future and how lucrative these markets will be – and making sure they have the capabilities (tools, processes, systems, and skills) to get the most out of these markets. Put another way, we believe it is very difficult to build and maintain the organizational capabilities needed to simultaneously excel in oil sands (mining), deepwater offshore (capital and innovation), and shale gas (manufacturing). Few organizations have the deep skills or resources to manage the individual and aggregate risks in such diverse businesses and generate the returns expected.

Instead, most oil and gas companies should narrow their targets and focus their required capabilities. When a company aligns its business model, capabilities, and product portfolio, it can capture what we call a coherence premium, resulting in sustainable, superior returns, as we found in recent studies of dozens of businesses. (For more information, please see our new book, *The Essential Advantage*, by Paul Leinwand and Cesare Mainardi; [www.booz.com/global/home/what\\_we\\_think/books/essential\\_advantage](http://www.booz.com/global/home/what_we_think/books/essential_advantage).)

*Formalize new operating models.* Large and midsized independents, in particular, are facing a unique problem. As leasing, joint ventures, and consolidation continue apace, many players are outgrowing their entrepreneurial roots and finding that their formerly flat and lean organizational structures, which made them successful in the first place, are becoming more complex and cumbersome. As a result, these companies are in danger of losing the agility required to operate in a business environment that is fast-paced, quick to change, and dependent on new technologies that require continuous learning curve reductions to drive performance.

To address this, companies must formalize and standardize shared business processes, such as HR, information technology, finance, and health, safety, and the environment, while allowing more “entrepreneurial” parts of the organization, such as planning and the supply chain, to remain fluid and agile. The ultimate goal is to support dynamic, real-time decision making and capital allocation while minimizing complexity and risk within the organization and in the field.

*Reduce project cycle time.* For companies that can take advantage of high oil prices in the short term, it is essential to reduce cycle time to production and maximize the current portfolio by allocating more capital to liquid-rich projects. To do this, a governance and decision-making model that can nimbly accelerate portfolio activities must be in place. Such a model would assign significant roles to capital allocation, budgeting, planning, scheduling, and supply chain integration. This is essential to ensure that funding, equipment, inventory, and logistics earmarked for a project are sufficiently organized and integrated to deliver wells, midstream infrastructure, and production facilities quickly. The goal is to improve the efficiency of the operating model by increasing capabilities related to organizational effectiveness, supply chain management, and production optimization. Based on our analysis of individual wells and fields, the potential cycle time reductions in well delivery that can be achieved in this way range from 40 to 60 percent.

*Tackle offshore projects with caution.* In the aftermath of the Macondo blowout in the Gulf of Mexico, offshore drilling, particularly in deep water, has changed from an operating environment in which technology and access to capital leveled the playing field into one where the only companies that can succeed are those with financial staying power and technical capabilities as well as deep risk management and project execution capabilities.

Although we believe that the slow permit process that exists today will speed up somewhat over time, the current conditions reflect a new normal for North American offshore development. This situation represents fresh opportunities for the strongest and most capable companies due to lower offshore asset valuations, the expiration of undrilled leases, and the strong political sentiment behind job creation, taming energy inflation, reducing export payments, and enhancing energy security. In the medium term, we expect significant consolidation, partnering, and the entrance of well-capitalized, opportunistic new players in the offshore arena.

*Move to the left on the natural gas supply curve.* For natural gas producers, there is little room to maneuver. At best, price recovery will occur around 2014, primarily due to growth in gas-fired power generation, but even that may be delayed because many power generators are deeply skeptical that gas providers can actually deliver long-term price stability. Moreover, the prospects for supply-demand balance remain low as reserve replacement through the drill bit has delivered tremendous results – North American reserves have doubled in just five years and will likely continue to grow this year.

To ride out these challenges, gas producers must cut costs, increase efficiency, and be extremely disciplined and efficient with capital and leverage – all in an effort to move to the left side of the supply cost curve. Given natural gas producers’ intense interest in this topic – and the importance of it – here are specific recommendations for undertaking a left-side shift:

- *Accelerate the adoption of an exploration and production “factory operating model”* by introducing standardized, repeatable processes in field development, drilling, and completions, as well as in asset operations and the supply chain. In recent years, many oil and gas companies have embraced this approach by establishing continuous improvement teams trained in lean, Six Sigma, and other cross-industry best practices aimed at eliminating waste and inefficiency. For the greatest performance improvements, gas producers should link these efforts with broader strategy and operating model changes involving, for example, integrating geological and geophysical teams with drilling and completions teams; incorporating procurement and construction units and the supplier base into early planning phases; and connecting production schedules to demand commitments on a daily, real-time basis.
- *Seek savings through the supply chain*, where as much as 80 percent of costs lie. Supply chain teams should expand their role beyond traditional procurement and begin working with the business side of the company on specification improvement, demand planning, and more closely managing suppliers to elicit tangible performance improvements. Identify your “natural supply chains” (i.e., business activities that have inherent similarities based on their respective requirements). Then match an appropriate set of capabilities with the requirements of each natural supply chain to provide a customized solution that maximizes value. Under this approach, performance across all important measures – including supplier reliability, supplier risk management, project completion, and costs – can be improved by 20 percent or more.
- *Focus on the most attractive returns*. As oil prices continue to decouple from those of natural gas, companies should use the capabilities they’ve developed in either market to (a) gain first-mover positions in new plays; (b) develop a coherent portfolio and capital planning strategy that can quickly be executed to monetize positions (either entrance or exit); (c) understand their tail performing assets and which field development plans still have upside; and (d) look for natural

arbitrages with regard to oil-field service costs, midstream processing, and even downstream supply agreements – gas to liquid, petrochemical, and power generation.

*Propel demand for natural gas.* Last year, the U.S. Energy Information Administration more than doubled its assessment of proven undeveloped gas reserves to 827 trillion cubic feet, or about 33 times the current annual usage in the U.S., while the American Petroleum Institute estimated that locked up in currently inaccessible acreage is as much as 4 million barrels of oil equivalents per day of new capacity, which could generate more than 500,000 new jobs and US\$150 billion in new tax and royalty revenue by 2025. With an apparent surfeit of supply, there couldn't be a better time for natural gas producers to take an aggressive role in driving demand higher by working with Congress and the White House to provide more incentives for natural gas consumption.

Natural gas producers can also form private-sector partnerships to develop creative approaches for motivating large users to switch to natural gas. As Booz & Company's Global Innovation 1000 study found, in today's business environment the effectiveness of innovation efforts depends less on the total amount of money invested in R&D than on how those dollars are spent. In the natural gas arena, producers and industrial companies could join together to develop relatively inexpensive pilot projects in transportation and power usage that make a strong case for the value of natural gas, and encourage cities and development projects to give natural gas a larger role in their energy mix.

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Undoubtedly, 2011 is poised to be an intriguing year for the oil and gas industry in North America. Even as oil and gas companies address today's already significant challenges, the following questions remain:

- Will any new scenarios emerge to increase natural gas demand?
- Will oil shale production make a serious dent in foreign oil imports, improve the balance of payments, and improve our energy security over time?
- Will international shale resource development finally get off the ground and begin to scale? If so, will experienced North American companies be able to export their capabilities to fully exploit these new fields?

- Who will enter (or leave) the North American energy market, and what will be the market-shaping dynamics beyond price (for example, the direction of capital markets, legislation, and consolidation)?

We hope that this letter stimulates your thinking. We would welcome the opportunity to hear your thoughts about the year ahead and to discuss how you might create a more prosperous 2011 for your company.

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