In an era of volatile pricing, innovation is king

Is US shale the new swing producer?
With no global swing producer to create long-term price stability, the US shale industry must rely on ingenuity and creativity to survive and thrive

Since its formation in 1960, the Organization of the Petroleum Exporting Countries, or OPEC, has had a powerful influence on global crude prices.

Because of the sheer size of their production, the strongest OPEC members, such as Saudi Arabia, have often acted as “swing producers” - increasing production to keep prices competitive, and reducing production to boost prices and raise revenue when desired. These swings were easy to coordinate and sustain, given the structure of OPEC and the fact that its members exert state control over oil production and exports.

In the past, OPEC’s power to influence pricing was possible because developing new production in non-OPEC countries often required years of investment and planning before supplies became available. There was no easy “on-off” switch for international oil companies and domestic independents.

Of course, that has all changed now. Over the past five years, new technology and industry ingenuity made the economic development of shale and tight oil possible, and the US once again became a major producer of crude. Ironically, it was OPEC’s efforts to maintain a high per-barrel price for crude that in effect subsidized massive amounts of unconventional development around the globe, from shale to deepwater.

Now that those technologies and resulting infrastructure are in place, it is impossible to ignore the production they make possible. Thanks to shale, the US today has a large band of production that can be spooled up or down relatively quickly in response to changes in OPEC production levels.

In addition, many non-OPEC countries, such as China, have moved to a policy of energy independence, or at least, have plans to do so. These countries are working hard to capitalize and develop their own infrastructure and production. So, instead of balancing to global supply and demand as in the past, we are likely faced with a long-term market structure where supply consistently outstrips demand.
No true swing producer

Today, the US unconventional story is well known by those in the industry, and the resulting glut of crude available in the world marketplace has significantly impacted prices. Just as important, it has changed the market paradigm that has existed since the last price crash in the ’80s – the idea that crude supplies will always struggle to keep pace with global demand, and high prices are inevitable.

In an era where low oil prices could last for the foreseeable future, there is a considerable lack of clarity among US energy executives as to next steps. But one thing is certain – it is unlikely we will emerge as a true “swing producer” in the years to come.

The reason is simple: The supply curve has been altered significantly and that isn’t going to change, barring some major unforeseen geopolitical development. We’ve moved from an era of scarcity to a time of abundance, with multiple players all producing at rapid rates in order to keep revenues flowing.

Even if OPEC decided to significantly curtail production in the coming months to increase prices, US producers would simply respond by bringing new supplies online – for example, by completing shale wells that have already been drilled. Technology advances, increasing innovations in surface-level and downhole oilfield services and well-developed infrastructure will enable this new production to remain economical, even at lower price levels.

In other words, OPEC can’t purposefully swing prices upward any longer, and even the most optimistic of prognosticators are beginning to recognize this fact. Most insiders agree we will see a protracted period of US$40-US$60 a barrel, with a great deal of volatility within those levels, and they are adjusting their expectations accordingly.

A new competitive world

What does this mean for US producers? To remain competitive, they must become more nimble – with an organizational structure and strategic plan optimized to respond quickly to subtle shifts in the marketplace.

For starters, US producers should shift priorities from proving up new reserves to managing positive cash flow. It no longer makes sense to bulk up balance sheets with as many reserves as possible; the best approach going forward is to carry only high-quality reserves, especially those that can be produced at a low cost.

We are seeing many small and independent producers working today to upgrade their portfolios with a focus on quality over quantity. Many are also seeking out partnerships, joint ventures and mergers/acquisitions to achieve geographic and project synergies that can reduce their overall cost-per-barrel.

Over the next few years, the marginal cost to produce will become even more important for US companies. This is especially true if, as expected, Washington, DC, lifts the ban on crude oil exports. The drive toward greater efficiency is critical for small and mid-sized independents.

But this will require more than simply pulling out the old playbook and cutting staff or squeezing price concessions from vendors. Most companies simply can’t cut enough – whether it is people, administrative and general, capital expenditures or a combination of all three – to overcome US$40 a barrel oil for a decade or so.

What has made the US energy industry great over the years has been innovation, often in the face of adversity. The entire shale revolution is the result of human ingenuity and investment. That same level of creative thinking is needed today.
Digitizing the “smart field”

There are tremendous opportunities in furthering the digitalization of the industry, ending some of the old ways of doing business that hamper productivity and efficiency. Cost ticketing, for example, is still done on paper in many US fields.

Mobile technology holds great promise in helping shale producers better manage their field operations while streamlining administrative tasks and enabling back-office groups to work more efficiently. The “smart field” can be a distinct competitive advantage, especially given the speed of shale production. That means drilling and production efforts fully supported by mobile apps for smart phones, tablets and wearable units to capture and transmit real-time rig, production and purchasing data – allowing field managers to easily oversee maintenance, service, well treatment and staffing requirements while collaborating with engineers and geologists miles away.

In most US locations, we are a long way from the “smart field” being a reality. Despite its reliance on technology, the energy industry lags behind many of its peers in accepting and integrating mobile technology to empower workers at the job site and facilitates decision-making and data sharing.

Other technologies can help

Given the volatile nature of prices going forward, the shale industry would also benefit from new technologies that make it easier and less expensive to shut in producing wells as prices fall ... or ramp up production quickly when prices rise. Companies that develop new techniques or processes will have a definite advantage.

New stimulation technologies are needed, as well, to keep low-cost fields productive longer and reduce the need for expensive exploration. In recent years, we’ve seen enhanced oil recovery techniques create significant new value in traditional fields considered dead or dying. The industry would be wise to continue investing in stimulation technologies that can be applied to shale and tight oil.

What all this means is that shale companies must continue to innovate as they did at the onset of shale development. Investing in research and development is a must, because game-changing technology isn’t free. The companies that respond best to the new environment will be those that give prominence to innovation, organize around it and collaborate with others in the industry to move promising ideas forward.

One way for shale companies to increase their focus in this area is to commission “innovation committees,” composed of a cross-section of engineering and field employees, who can evaluate new technologies and develop ideas for new processes and tools. In the years to come, we may even see the appointment of “chief innovation officers,” who will oversee a portfolio of ongoing projects to test new field technologies and the information technology apps and software that provide support.

Would your company benefit from advanced 3-D printing to enable field crews to create parts on the fly, right on site? Those are the kinds of questions nimble, groundbreaking companies are exploring today. If your company isn’t, you are falling behind.
Innovation beyond the field

Two other areas ripe for innovation are organizational structure and financing.

How long has it been since senior management thought strategically about your organizational structure and the company’s ability to quickly capture opportunities when they present themselves – from changes in crude prices to key acquisition targets? Or about the talent demands the next decade or so will place on independents?

Today’s shale producer needs to be able to respond to changing conditions rapidly. Companies with rigid processes, lengthy approval processes and multiple layers of management may not be able to adjust. The org chart is more than just a piece of paper; it represents the way your company operates and how your employees think about their individual contributions.

Even lean companies often have organizational structures that are basically holdovers from an earlier time, at least in terms of how various functions interact with one another. Executives should be open to new ideas and new ways of organizing talent that may be complete departures from today’s setup. Decentralization of services is one example, with teams developed around specific asset needs versus individual functions, each acting independently.

Over the next few years, we will likely see an increase in unconventional financing opportunities as pension funds, insurance companies, private equity funds and other types of investors chase opportunities in energy. Many of these funds are flush with capital and are waiting on the sidelines for the right types of vehicles to invest in. Smart companies are working now to identify new ways to attract this type of capital via innovative offerings.

For example, we may see US producers seek to extend their reach and strengthen their competitiveness by partnering with companies traditionally seen as end users of energy rather than industry participants. Is there value to be gained by a shale oil producer creating a joint venture with an auto manufacturer? Or a natural gas producer partnering with a power company? These types of joint ventures are not typical for the energy industry but in an era of abundance where prices are low, they might make sense for some shale companies.

Don’t go into the future alone

EY is positioned to help shale companies understand and respond to these global changes. Our experienced team includes a broad range of knowledgeable individuals with diverse backgrounds who can help you develop a strategic path to success.

For more information, please contact:

Vance Scott
+1 312 879 2185
vance.scott@ey.com

Matthew Shirk
+1 713 750 8289
matthew.shirk@ey.com

Fay Shong
+1 312 879 2133
fay.shong@ey.com

Michelle Seale
+1 713 750 1328
michelle.seale@ey.com

Oscar Durham
+1 214 969 8469
oscar.durham@ey.com

Deborah Byers
+1 713 750 8138
deborah.byers@ey.com
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EYG no. DW0570
1509-1690662 SW

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