Resilience in a time of volatility: oil prices and the energy industry
The oil and gas industry was riding high, with unprecedented growth in US production and three straight years of US$100-plus prices. But the drop came quickly and surprised many. Looking ahead, industry executives are asking, “Is this the new normal?”
What will happen to oil prices in 2015 and beyond?
It’s a question that has industry experts—and industry watchers—searching for answers. Supply is up, demand is down, and it appears that some of the conditions that created crude’s rapid price slump in late 2014 could remain in place for some time.

Of course, the oil and gas business is no stranger to the market’s ups and downs. The boom and bust cycle is one that industry veterans know all too well. But this time around, many are questioning the conventional wisdom that US$50 to US$60 a barrel is an aberration and that crude prices will soon return to the US$80 to US$100 a barrel range.

The industry’s recent success in applying advanced technologies and pioneering processes to find and produce oil—both conventional and unconventional—has produced substantial supplies, even in challenging geopolitical conditions. Is the industry’s innovation and creativity responsible for the state of the crude market today? Has the industry become a victim of its own success?

In other words, is a world where oil is plentiful—and relatively inexpensive—the new normal?

**A quick look back**

Despite a modest and uneven global recovery from the economic downturn of 2008–09, the oil and gas industry nevertheless enjoyed a lengthy run of success, as geopolitical instability and uncertainty affected oil supply, underpinning higher prices for crude. In early January 2009—following the collapse of global stock markets just a few months earlier—Brent crude was trading around US$42 per barrel. Yet, only two years later, as the Arab Spring moved into Libya, curtailing almost all production, prices surged to more than US$100 per barrel, reaching more than US$125 per barrel in early May. And, aside from a few brief dips in mid-2012 and early 2013, Brent prices generally stayed above US$100 per barrel until September 2014.

<table>
<thead>
<tr>
<th>US dollar price per barrel of oil</th>
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<tbody>
<tr>
<td>January 2009</td>
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<tr>
<td>$42</td>
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<tr>
<td>January 2011</td>
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<td>$100</td>
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<td>May 2011</td>
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<td>$125</td>
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<td>September 2014</td>
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Those high prices, in turn, have underpinned the shale or light tight oil (LTO) production surge in the US, with US oil production growing by more than 1 million b/d in each of the last three years. These unprecedented increases in production were, however, largely masked (and essentially matched) by the geopolitical tensions and uncertainties, primarily in North Africa and the Middle East, along with a host of smaller, unplanned supply outages. As a result, even with only modest oil demand growth, from early 2011 to mid-2014, oil markets broadly “balanced,” with prices averaging more than US$100 per barrel.

However, by mid-2014, with some of the production outages restored, particularly in Libya and Iraq, US$100 per barrel oil in the face of weak oil demand led to a structural oversupply of oil, thus beginning the slide in oil prices. With OPEC voting in late November 2014 to maintain production levels, coupled with Saudi Arabia seeking to maintain its market share (and not be the ‘swing producer”), the slide in prices accelerated. By late January 2015, Brent crude prices had dropped below US$50 per barrel, more than 60% below their most recent peak in mid-June 2014.
It did not take long for the industry to respond, with deep cuts to capital budgets and substantial staff layoffs announced in early 2015 at more than a handful of companies, including many big players. Greater clarity on oil and gas companies’ capex plans is leading to further downgrades in 2015 E&P spending forecasts. According to Wood Mackenzie, oil and gas companies have cumulatively slashed their 2015 upstream budgets by 24% y-o-y, i.e. by US$120 billion (based on announcements from 116 companies). Independents have embarked on significant spending cuts (around 33%), followed by NOCs (27%) and majors (12%). Meanwhile, Barclays has revised its January upstream spending estimates and now expects North America E&P spending to fall by 30.2% and international spending by 19.3%, y-o-y (vs. 12.5% and 8.5%, respectively, as per the earlier estimate).¹

The industry’s quick and dramatic response to lower crude prices is seen as a necessity by most analysts and observers, but, nonetheless, others believe that the markets are overreacting to what will turn out to be a short-term blip in the supply–demand relationship. There is some evidence that supports those with more bullish views on pricing. For example, a recent review of modern crude oil price swings by the University of Texas at Austin’s Center for Energy Economics found that small supply imbalances or changes in demand growth are often accompanied by large swings in price, primarily because financial trading exaggerates and accelerates fluctuations as traders unwind positions.² Those overreactions often wind up being self-fulfilling, as the market develops future expectations based on its own actions, as well as reacting to imperfect data.

### Peering into the future

Since the first quarter of 2014, OPEC has supplied more crude oil than the market has needed and, given current expectations for global oil demand growth and for non-OPEC production growth, the amount of crude oil needed from OPEC will decline sharply in the first half of 2015. With OPEC resolved (at least at this point in time) to

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¹ Source: “Global E&P spending trending -23%, services estimates at further risk,” Barclays, 24 February 2015, via Thomson One

² Looking for the Floor, CEE PowerPoint.
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Maintain its current production ceiling of just more than 30 million b/d, and oil demand declining seasonally starting in the first quarter, the market is likely to be over-supplied by as much as 1.5 million b/d to 2 million b/d in the first half of 2015.

Over the next 12 months, it will be a contest of who blinks first – with the pain points of US LTO producers and other high-cost conventional oil producers versus the OPEC producers. Key considerations will include:

- **Economic stimulus of the price reductions**: despite substantial adverse implications for the oil and gas industry, the collapse in the price of oil will generally have positive implications for the global economy. A US$50 reduction in the price of crude oil translates into a US$4.6 billion per day stimulus to the global economy, or more than US$1.7 trillion per year. In just the US, the stimulus would amount to almost US$950 million per day, or almost US$350 billion per year. However, benefits to the broader economy would be somewhat offset by the negative impacts to the oil and gas industry. In addition, oil demand is fairly inelastic and oil demand gains will likely be modest. In countries where oil prices are subsidized, little to no benefits may flow to consumers.

- **Contraction in upstream oil investment**: we expect to see a rather sharp and quick cutback in upstream spending as a direct result of the price decline. For conventional oil, we would expect to see cutbacks in exploration and postponement or deferral of project sanctioning, particularly for the higher-cost, higher-risk projects, but little impact on short-term production. On the unconventional side, we see LTO developers and producers reducing capital spending, “high grading” their portfolios and increasingly concentrating on the so-called “sweet spots.”

  Notably, LTO developers and producers are unlikely to shut existing production as long as operating and production costs (i.e., excluding capital costs) do not exceed the market price; rather, they will defer some development drilling activity.

Cuts in LTO investment will not translate into a short-term reduction in US oil production, but rather only slow the growth in production. In addition, investment reductions can be expected to be somewhat offset by the expected continued increases in drilling and completion efficiencies.

Estimates of US oil production growth in 2015 (generally made before the recent price declines) average around 1 million b/d. Those growth estimates could be cut in half by the end of 2015.

- **Increasing cost pressures**: with decreasing cash flows from operations, pressure to reduce and control costs will escalate, with pressure on oil field service (OFS) providers particularly strong. On the other hand, these pressures could increase opportunities for efficiency.

- ** Tightened access to capital**: similarly, with decreasing cash flows, smaller, higher leveraged companies will struggle as lenders and investors tighten access to capital, limiting their ability to continue their exploration and development activities. Some LTO developers may be unable to fund the drilling required by the “unconventional treadmill.”

- **Increasing consolidation and transaction activity**: portfolio high grading, cost pressures and capital market tightness should also spur increasing acquisition and divestment activity.

- **Rising political instability risks**: producing countries with fiscal break-even prices substantially above the market and with limited fiscal reserves (e.g., Venezuela, Libya, Iraq, Iran and Nigeria) face rising risks of political and social instability, with consequently increasing risks to oil supply. Risk with regard to Russia remains very high, with the price declines adding to the difficulties that have resulted from the US and European Union sanctions in the wake of the situation with Ukraine.

- **Iranian sanctions**: a breakthrough in the Iranian nuclear negotiations, would result in a ramp-up of Iranian production and exports, and would exert further downward pressure on prices should OPEC and Saudi Arabia not move to accommodate the increased supply into the market.
Given the current oversupply, the implications of the accompanying price drop are still very real – lower prices mean that many projects are no longer economic, and there is little doubt that some highly leveraged operators will find themselves in trouble sooner rather than later. So, while today’s environment may not exactly be a new normal and we may once again see a gradual increase in prices, the uncertainty is still creating significant instability. As executives seek answers and work to develop a game plan for the future, what can they expect in the months to come?

In the short term (i.e., this year, 2015), in the absence of substantial changes to the expected balance – stronger oil demand, unexpected outages in supply or a slowdown in the growth of non-OPEC supply – oil prices should remain weak for the first half of 2015. The fundamentals should start to improve in the second half of 2015, albeit only slightly, as oil demand is expected to increase and non-OPEC supply growth is possibly moderate. As a result, we can expect to see some uptick in prices in the second half of the year.

After 2015, the medium-term price of crude (i.e., the next three to five years) should settle into a range that is driven by both fundamentals and expectations. We see three possible price paths or scenarios. Critically, in each of the scenarios, we note the following context:

1. Short-term expectations of relatively low or at least uncertain prices will reduce upstream investment and raise the investment risk or “hurdle rates” for new investment.
2. As a consequence, higher-risk, higher-cost and sub-economic projects will be deferred or canceled outright, and future conventional supply will be reduced, with subsequent upward price pressures as the industry struggles to replace depleting reserves and meet increases in oil demand.
3. On a global basis, natural decline or depletion rates for conventional oil continue to average more than 5% per year.
4. The industry has seen modest exploration success during the last 10 years or so, with new oil discoveries averaging around 13 billion barrels per year. The industry similarly has had modest success in converting those discoveries into reserves, with reserve growth in non-OPEC countries, measured in terms of reserve replacement rates, collectively averaging about 130% per year.
5. Critically, however, OPEC controls a dominant and growing proportion of the world’s oil reserves – close to 75%, with much of those reserves in lower-cost, “easy” oil. Access to potential reserves for the IOCs is generally limited to higher-cost and riskier conventional resources, and to unconventional resources.

The differentiators in the scenarios are how quickly the supply and demand fundamentals could shift, how quickly and sharply those upward price pressures could come, and whether any other factors could moderate those pressures.

**Pricing scenarios**

1. In the first scenario, our low-price scenario, OPEC generally adheres to its stated production ceiling and there is only modest growth in demand, such as we have seen in recent years, and there are no major geopolitical disruptions of supply. Importantly, capital discipline, operational optimization, innovation and continued gains in efficiency keep US unconventional production relatively strong, i.e., only a modest slowdown in production growth. As a result, the gradual tightening of markets will be drawn-out. Together, these factors could result in a price range of roughly US$65 to US$75 a barrel for the next several years – the US$70 world.

2. In the second scenario, our medium-price scenario, the market tightness becomes apparent sooner and more sharply. Demand growth remains modest, but Saudi Arabia and the other members of OPEC respond to growing fiscal pressures by agreeing to limit production slightly. Most importantly, US unconventional oil production flattens and then slows, as capital discipline, operational focus, innovation and efficiency fail to counteract the reduced investment. This scenario could see prices in a range of US$75 to US$85 a barrel – the US$80 world.

3. In the third scenario, our higher-price scenario, the global economy strengthens on the heels of lower energy prices and global oil demand growth increases. Renewed geopolitical tensions again threaten oil supply, while OPEC maintains a tight grip on access to conventional reserves. The impacts of the deferrals and cancellations of new conventional developments begin to become apparent, while the cost to develop new oil discoveries increases as projects grow in size and complexity. Growth returns to US unconventional production, but not enough to counter the growing market tightness. Together, these factors could push oil prices back into the US$85 to US$95 a barrel range – the US$90 a barrel world.

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3 EY analysis of data from the BP Statistical Review of World Energy 2014.
So, while today's environment may not exactly be a new normal and we may once again see a gradual increase in prices, the uncertainty is still creating significant instability.
Of course, assigning probabilities to these scenarios is difficult. Perhaps the second medium-price scenario can be seen as more likely than the low or higher price scenarios. Companies should look at these scenarios and determine which ones they can and cannot survive and gear their actions toward where they fit into the scenarios.

While it is not our intent here to develop a detailed view of the longer-term (i.e., beyond five years), we point to several key uncertainties:

- The sustainability of the US shale “revolution” - both from a geological and political perspective. Typical forecasts of US LTO production see it peaking in the next 10 years, while opposition to hydraulic fracturing may also limit overall production levels.

- Oil demand is also difficult to predict. Global economic sluggishness has slowed oil demand in recent years, but a sustained uptick in the global economy could lead to higher oil usage. Conversely, now that the threats around “peak oil” seemingly have been dismissed, might we be transitioning to a world of “peak demand”? Might we see the more rapid adoption of conservation and energy efficiency technologies, or a concerted political and environmental push away?
For energy executives managing in this uncertain world, there are three major areas of focus that can provide the strength and resilience needed to weather an extended period of lower prices.

**Financial resilience:** Companies must learn to manage the imbalance between new levels of cash generation in a lower-priced environment and their internal and external obligations. Financial resiliency includes optimizing the company’s capital structure, restructuring the balance sheet, refinancing certain loans, if possible, and raising equity.

It also should include making certain that the company has a strong working capital performance, that cash balances are optimized, and that tax and corporate structures are analyzed for maximum benefit. It is important to review the company’s dividend structure and determine if cash flows are sufficient – at a variety of price points – to maintain existing payout levels. If necessary, the company could divest assets or business units to generate cash. Additionally, understanding and managing possible impairment risks can also be beneficial.

**Portfolio resilience:** What are the strategic implications and risk exposures when investment assumptions no longer hold true? Which assets are underperforming or are distressed and could be carved out or divested?

Now is a good time to optimize the company’s overall portfolio by restructuring capital allocations away from high-cost, lower-return projects. For companies with stronger balance sheets, it may also be time to seek out opportunistic acquisitions of challenged businesses or expand into growth markets. Joint ventures to share risk capital could also be explored.

**Operational resilience:** Executives must gain a thorough understanding of marginal and break-even costs and use that knowledge to challenge operational assumptions. In the current environment, it is more critical than ever to deliver capital projects on time and on budget. Leadership teams must be willing to take bold action – such as re-scoping, deferring or stopping outright – any projects that are not on track.

In addition, companies should be working to re-engineer their business models to lower their cost base, as well as renegotiating their supply chain and supplier arrangements to reduce expenses and collaboratively drive efficiency.

By optimizing their financial position, reshaping their portfolio, limiting costs and reducing risks, companies can weather a lower-price environment and position themselves for even greater success when prices rebound.

**Different companies, different impacts**

While every oil and gas company can benefit from seeking resilience in finance, portfolio and operations, not every company is impacted in the same manner by lower oil prices. Regardless of market fluctuations, the integrated majors will survive – and even thrive. Many of the largest oil and gas companies will see a new normal as an opportunity to pursue affordable acquisitions that strengthen their strategic positions.

Most national oil companies will endure intense fiscal and political pressures, but will survive. But smaller independents, especially those that are highly leveraged or insufficiently hedged, will find themselves in trouble if the price of oil stays low for any extended period.

In the months to come, we are likely to see a number of acquisitions and asset sales across the industry as distressed companies seek relief and strong companies seek bargains. One reason is that much of the recent growth in domestic production was fueled by debt. The Wall Street Journal reported recently that US-based E&P companies were carrying close to US$200 billion in debt at the end of the third quarter of 2014, up from US$128 billion in 2010.

In the OFS sector, the recent long run-up of high crude prices meant high activity and strong margins. Those figures mean there may be a lot of give in OFS pricing, and we are likely to see these companies give some of that margin back to producers. We will likely also see continued consolidation in the OFS sector as financially strong companies seek to bolster their competitive advantage in a down market.

One of the biggest issues facing the industry is the impact lower prices will have on retaining talent. A repeat of the 1980s and 1990s, when the core workforce was hollowed out across the industry, would be devastating today – at a time when many oil and gas companies have finally restocked their technical and managerial benches. Smart companies will find a way to hold on to their key people by keeping crews active and moving them to core assets, although we may see a number of older workers retiring as companies look to shed costs.
**Conclusion**

No one really knows how long the conditions we see today will be “the new normal” in an industry known for its volatility and cyclical nature. Energy markets are more diversified and complex today and as a result uncertainty is heightened. But regardless of where the price of crude settles, energy executives should strengthen their companies by focusing on financial, operational and portfolio resilience.

Savvy companies that can compete over the long term are resilient against uncertainty. Taking the necessary steps today – in concert with an experienced advisory firm knowledgeable in corporate finance, capital and debt, working capital, transactions, tax, and valuations and business modeling – can protect your competitive position and position your company to thrive.

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- **Portfolio resilience**: business resilience framework support through, stakeholder, market, capital and operational
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Resilience through volatility: oil prices and the energy industry
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