



Oil & Gas reality check

Ten of the top issues facing
companies in the coming year

In the oil and gas sector, only the end game matters

When oil prices reached a record high of almost \$150 per barrel in July 2008, industry stakeholders recognized that prices would ultimately slip. No one, however, predicted the speed or severity of the fall. By January 2009, prices dropped to \$40 per barrel. Upstream companies that had committed themselves to higher cost projects found themselves saddled with unsustainable production costs. As approvals for new projects ground to a halt, downstream companies also began experiencing the ill-effects of the global financial crisis.

Retrenchment and cost containment are prudent responses to weak economic conditions. For oil and gas companies, however, these short-term reactions threaten to result in long-term pain. That's because industry fundamentals remain largely unchanged. As Tony Hayward, CEO of British Petroleum (BP) noted, "The future has not been cancelled."

Natural decline rates in existing fields average roughly 7% globally, which reduces annual supply capacity by approximately six million barrels per day. A post-recession resumption in the massive growth rates in countries like India and China promises to quickly reverse the recent drop in global consumer demand. The costs of regulatory compliance remain set to rise, especially in the United States, as it steps up plans to reduce greenhouse gas emissions aggressively.

Retirement rates in the oil and gas industry continue unabated, heightening the risk of talent shortages. And rising public support for alternative energies mandates a strategic response.

To address these challenges, oil and gas companies cannot afford to be sidetracked by short-term trends. They must take a long-term view as they tackle their cost-cutting and process-improvement initiatives. More than this, they must identify viable options – either to grow or simply to sustain their businesses – from exploring for new reserves and attracting new talent to engaging in strategic partnerships, mergers and acquisitions.

To help your company respond, Deloitte identified 10 of the top issues oil and gas executives will face in the near term. We identified these issues and developed this report, in consultation with Deloitte Oil & Gas practitioners from around the world and trust you will find it useful in charting your course over the coming months.

“Oil and gas companies must be prepared to explore new forms of partnership – not only between national oil companies and private companies, but also between technology companies and service companies. Industry stakeholders must share their strengths if they hope to thrive in the future.”

1 The cash crunch

Economic uncertainty may spark supply shortages

As one of the most capital-intensive industries in the world (e.g., CAPEX in E&P reached some US\$200 billion in 2005), the oil and gas sector requires tremendous and continuous investment to maintain and grow reserves in the face of accelerating depletion rates from the world's known oil fields. While some international oil companies (IOCs) and national oil companies (NOCs) have the option to finance projects and exploration through cash flow, mid-tier organizations, independents and downstream providers traditionally rely on debt and equity financing.

Although this model has worked to the industry's benefit for years, the global financial crisis is now taking a toll on companies of all sizes. Predictably, tighter credit markets are impelling smaller operators to defer expansion or capital projects, limit development and even sell off assets. Although they may have more discretion, IOCs and NOCs (at least those outside the Middle East) are also putting expansion plans on hold in an effort to conserve cash.

While limiting capital investment may placate shareholders in the short term, failure to replace resources can result in insufficient production to meet long-term demand. Despite slower growth, the International Energy Agency (IEA) still forecasts world primary energy demand growing by 1.6% per year through 2030. To meet this requirement, the IEA is calling for an energy supply investment of \$1 trillion per year through 2030. If the credit squeeze delays this spending, the ensuing supply crunch may cause oil prices to again rise to unsustainable levels and threaten economic recovery.

In recognition of this dilemma, some countries have introduced fiscal incentives to prop up key industry players. Brazil's national development bank, for instance, committed over US\$10 billion to state-controlled oil producer Petrobras. This followed a similar investment by Mexico's government in its oil producer, Pemex, to fund the construction of a new refinery.

“Losing momentum on the development of new reserves will result in less capacity over time. When demand comes back, which it will, the industry – and the world at large – will likely face another supply shortage.”

Ricardo Ruiz, Partner, Buenos Aires, Argentina

2 Counting the costs

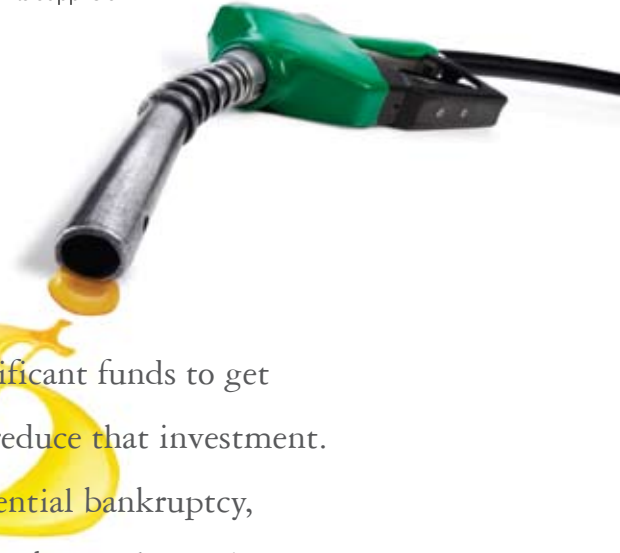
Elevated expenses squeeze margins

For oil and gas companies across the supply chain, high commodity prices in recent years translated into more than record profits. They also served to stimulate development of higher cost, unconventional crude and gas resources, which, in turn, pushed up the costs of engineering, procurement, construction, equipment, labour, land and other critical inputs. As a consequence, when prices fell precipitously capital was already committed and costs failed to drop as steeply. The result? Some projects that looked economical with oil above \$70 per barrel have suddenly become non-viable.

In response to lower current cash flows and the projected margin squeeze on new investments, companies around the world have begun to delay and cancel projects. According to the Canadian Energy Research Institute (CERI), investment in Canada's oil sands is expected to fall by \$97 billion in the next decade. For its part, members of the Organization of Petroleum Exporting Countries (OPEC) announced postponements of 35 of approximately 150 planned upstream, midstream and downstream oil and gas projects. The IEA noted

similar trends in the OECD world, estimating that roughly US\$100 billion worth of oil and natural gas projects were delayed or cancelled in 2008 alone.

This situation is exacerbated by the fact that most current costs are a function of past investment and the levels of ongoing production activities. They are not easily rebased and most will likely remain fairly static in the short term. According to a 2008 Activity Survey conducted by Oil & Gas UK, declining production combined with higher operating expenses pushed up unit operating costs by 10% to 15% year-over-year. For the industry to regain its competitive balance and forestall the shortages that slower production will bring, companies must collaborate across the supply chain to quickly and proactively reduce costs. In the Middle East, for example, Saudi Aramco reduced costs by roughly 30% by aggressively renegotiating contracts with its suppliers.



“Companies that have invested significant funds to get projects under way can’t suddenly reduce that investment. To avoid project halts and even potential bankruptcy, operators and contractors need to work together to improve efficiencies and cut costs.”

Carl Hughes, Partner, London, UK

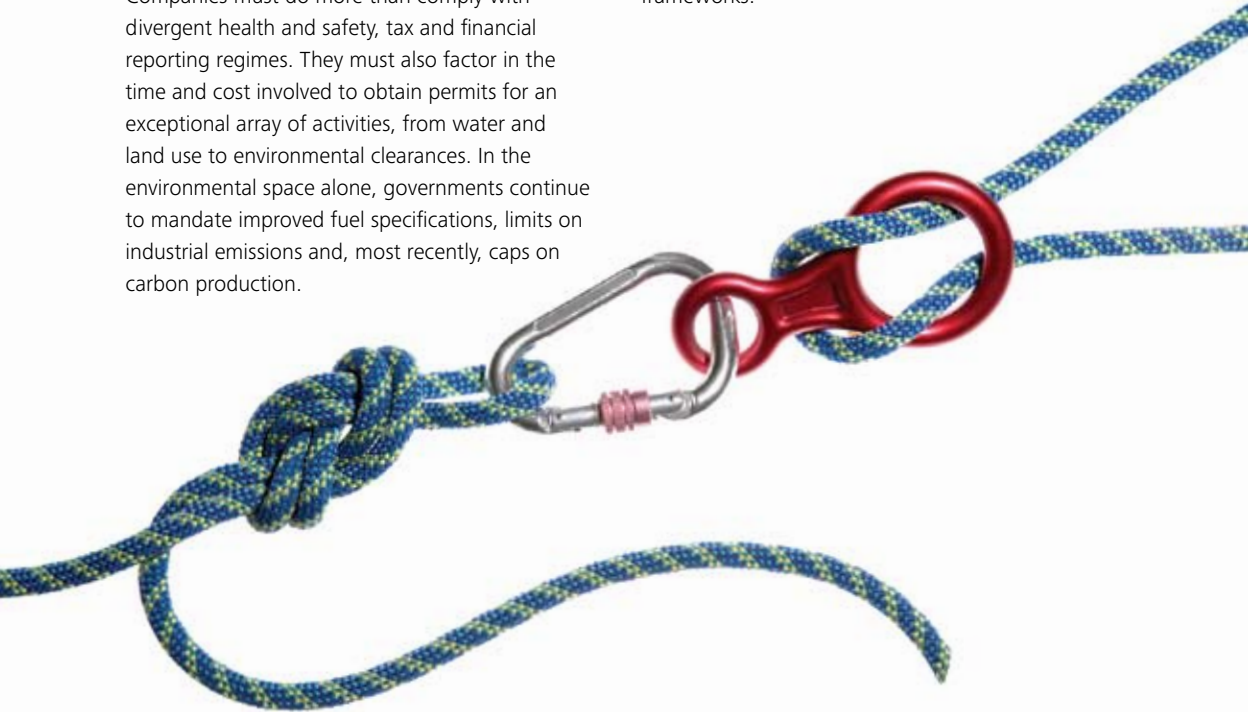
3 Regulatory complexity

Global operations demand robust processes

With oil and gas reserves scattered in locations from Russia, the Middle East and Africa to North and South America, industry players must adopt a truly global approach to their operations. Yet, as oil and gas companies expand farther afield, they are subject to variable regulations.

Companies must do more than comply with divergent health and safety, tax and financial reporting regimes. They must also factor in the time and cost involved to obtain permits for an exceptional array of activities, from water and land use to environmental clearances. In the environmental space alone, governments continue to mandate improved fuel specifications, limits on industrial emissions and, most recently, caps on carbon production.

To gain access to the reserves needed to maintain internal growth and meet external demand, oil and gas executives must continue casting their eyes to new exploration and development regions around the world. As they do, they will also need to strengthen their capacity to ensure ongoing adherence to the industry's ever-evolving regulatory frameworks.



“As the cost of regulatory compliance rises, negative effects ensue. On the one hand, higher compliance costs can reduce the economic viability of new projects. On the other hand, companies may be forced to pass these costs along to consumers, fuelling higher prices at the pump.”

Julian Small, Partner, London, UK

4 Missing in action

Talent shortages loom

In 2004, the American Petroleum Institute estimated that the oil and gas industry would face a 38% shortage of engineers and geoscientists and a 28% shortage of instrumentation and electrical workers by 2009. In the intervening years, the story has become even more ominous.

In North America and Western Europe, industry statistics show that more than 50% of the oil and gas industry's engineers will reach retirement age by 2015. Although similar trends do not prevail in India, China and the Middle East, over the next 10 years, portions of the industry are at risk of losing more than 50% of all their experienced talent. The implications of this brain drain would not be so dire if university enrolment in industry-related careers was rising. However, according to Texas Tech University, Bachelor of Science degrees granted in petroleum engineering declined 74% between 1983 and 2006.

While one might imagine NOCs to be insulated from these issues, this is not in fact the case. As NOCs look to expand, they are increasingly concerned about attracting, developing and deploying the right resources – particularly in environments where they lack the capacity to terminate unskilled staff.

These trends place oil and gas companies in a challenging situation as they consider responses to the current economic crisis. While some organizations are considering trimming their workforces, most recall the lessons of the 1980s, when a wave of layoffs left companies with significant skills gaps. To avoid similar future outcomes, companies must devise strategies for maintaining access to the talent they need over the long term. This requires more than converting current management into contractors as they reach retirement age. It also requires an ongoing commitment to enhance safety records, invest in alternative energies and take other steps to attract students back to the industry.

“Executives need to consider how to manage talent in this cyclical environment. If companies let people go now, they won't be able to turn on a dime when prices bounce back. That's why organizations must devise sound strategies that will give them access to the right people, at the right place and at the right time.”

Dick Cooper, Energy & Resources Industry Leader, Canada

5 Boosting reserves at bargain prices

The pace of mergers and acquisitions accelerates

With the world's markets characterized by ongoing volatility, the oil and gas sector has slipped into two camps. On the one side are IOC producers, NOCs, government utilities and other organizations that boast strong balance sheets and secure cash flows. On the other side are smaller producers, independents and downstream providers, some of whom find themselves facing severe cash flow and capital shortages as lenders turn off the taps. Bringing these two camps together is a narrow window of opportunity that may spark a wave of industry mergers and acquisitions (M&As).

As the financial crisis continues, analysts expect different players to join the M&A game. Majors can boost reserves by acquiring struggling smaller companies with good sized portfolios and by gaining access to unconventional gas resources, at what may appear to be bargain prices. NOCs are showing a growing appetite to expand overseas

to address increasing energy demand – either domestically or abroad. National gas utilities are looking to strengthen their upstream asset portfolios to secure their gas supply. And sovereign wealth funds with money in their pockets have already begun buying distressed assets.

To ensure optimal mergers, both acquirers and targets must prepare in advance. If you are considering an acquisition to build reserves, careful due diligence is necessary to determine both an appropriate purchase price and an anticipated return on investment. If you are a potential target of either a friendly or hostile bid, it's equally important to identify optimal merger candidates, prepare for a competitive auction process and take steps to protect shareholder value.

“For larger companies, acquiring barrels on the markets is often cheaper than engaging in new exploration. That’s especially the case in the current economic climate as firms closer to the drill bit struggle to pay for capital investments they can no longer afford.”

Peter Bommel, Partner, Amsterdam, The Netherlands

6 Nowhere to go

Market access limited by resource nationalism

Business and politics have always made for strange bedfellows. That's particularly the case in the oil and gas industry. In the late 1990s, when oil prices were at record lows, governments around the world opened their borders to foreign companies in a bid to attract the infrastructure investment and technological advancement required to extract their resources, but as oil prices escalated, however, many countries began singing a different tune.

To lock up a share of the wealth generated by the oil and gas sector, many producer states set up nationally-owned oil companies. Today, NOCs control access to approximately 75% of the world's proven conventional resources. At the same time, governments introduced fiscal measures targeted at energy companies. In Canada, Alberta's government increased royalty rates for oil and gas producers in late 2007. Similar royalty programs, as well as bans on domestic drilling, exist in the U.S.

At the other end of the spectrum, countries from Russia and Kazakhstan to Algeria and Bolivia tightened their grip on oil reserves by renegotiating contracts with the private sector. In addition to taking control of national assets, Venezuela threatened to nationalize private projects if oil majors failed to comply with its new rules. For its part, Ecuador took steps to award its refinery projects and the development of new fields exclusively to state-owned partners.

New conditions prompt new rules

Despite the hard-line stance many countries adopted when oil was trading above \$100 per barrel, falling commodity prices are prompting a softer approach. In early January 2009, Iraq's oil ministry proposed opening 11 oil and gas fields to foreign firms as part of its efforts to double production in coming years. The following month, Russia called for "mutual access" to the country's energy assets, opening a window of opportunity for foreign firms to regain access to critical global reserves.

“NOCs control the bulk of the world's resources, making it harder and costlier for public companies to gain access to reserves. This is challenging for IOCs, but even more challenging for smaller producers who together must compete for less than 20% of the world's proven reserves.”

David Traylor, Partner, Houston, US

That said, oil and gas companies are learning from past experience in this area. Countries that took steps to renegotiate contracts in the past may be compelled to do so again as prices rebound. On the flip side, Libya recently cited falling prices as potential justification for nationalizing its oil industry, with the aim of halting production so that limited supply could once again push prices over the \$100 per barrel mark. Although the country is unlikely to pursue this course, especially in light of its urgent need for investment dollars to improve infrastructure, the announcement does underscore the ongoing risks related to nationalism.

For oil and gas producers that have been “locked out” of the globe’s most attractive supply sources – especially those that compete with both NOCs and IOCs – this new landscape may present an unprecedented chance to capture new reserves. Yet, as politics and policies shift, both smaller producers and IOCs will need to bolster their risk management and strategic planning processes significantly before sitting back down at global negotiating tables.



7 The end of easy oil

Reserves are getting harder to reach and extract

Oil and gas companies that fail to renew their resources on a continuous basis will suffer diminishing market values and eventual obsolescence as their reserves run dry. For their part, NOCs of producing nations must exploit their hydrocarbon reserves as efficiently as possible to meet national goals. For IOCs and NOCs of non-OPEC, importing nations, this means access to resources is quickly becoming a critical challenge.

As the IEA states in its World Energy Outlook for 2008, oil and gas will remain the world's main sources of energy for many years, even under the most optimistic assumptions about the development of alternative technology. Nevertheless, a significant proportion of the earth's remaining fossil fuels exists in more difficult-to-extract form (e.g., the oil sands of Canada and the heavy oil of Venezuela's Orinoco belt), with high levels of contaminants (e.g., sour reserves in the Middle East) or in difficult-to-reach places (such as the deep Gulf of Mexico, Far Eastern Siberia or below the Arctic).

Given the geological and technical implications of both extracting and refining this oil, many non-Middle Eastern companies are waiting out current market conditions rather than investing in projects that are economically unviable in today's environment. Over the longer term, however, producers must create a business case for drilling in harsher climates and extracting non-conventional and "difficult" deposits. Mid-stream and downstream operators will also have to make necessary investments to upgrade existing refineries, lay new pipeline and engage in other infrastructure renewal projects.

Very likely, this activity will significantly push up oil costs. Many oil and gas executives agree. In a study sponsored by Deloitte's Oil & Gas industry group, 56% of senior executives at large petroleum companies said they believe the world would run out of reasonably priced oil in the next 50 years, which partly explains the urgency around the development of alternative fuel sources.

“Falling oil prices are inducing many ‘oil-poor’ companies to delay projects in harsher climates or deep water. Yet this exploration remains critical and will likely resume as prices rebound.

Continued investment by oil-rich companies, particularly in the Middle East, will maintain the shift in balance of power within the global industry.”

David Williams, Partner, Dubai, United Arab Emirates

8

Playing it safe

Health and safety remain critical concerns

Ever since companies first began drilling for, storing and transporting oil and gas, the risks of accidents have been a concern. Fire, explosion, release of gas and structural failure all have the potential to cause major loss of life. They can also result in severe environmental damage.

Legislation is in place around the world to minimize the hazards related to the operation of onshore and offshore installations, wells and pipelines. To protect their workforces and avert the negative publicity of serious accidents, oil and gas executives continue to place incident-free days at the top of their agenda. Yet risks remain. Between 2006 and 2008, the UK's Health and Safety Executive was involved in 1,042 incidents in the North Sea oil and gas sector alone.

As industry infrastructure continues to age, cost pressures grow and workforces operate in more isolated locations, companies will need to continue to grow their investment to maintain the highest standards of health and safety. They must do so not only to protect their people but also to attract much-needed talent to a challenging industry.



“In an industry as geographically dispersed as oil and gas, companies must do everything they can to continue to protect their people. The risks of reducing focus are simply too great.”

Michael Lynn, Director, Perth, Australia

9 An inconvenient truth

Carbon reduction targets rise in prominence

Since U.S. President Obama announced his intention to cut carbon emissions back to 1990 levels by 2020, all eyes have been turned to the oil and gas sector. While traditional extraction produces comparatively fewer emissions, non-conventional extraction, refining and the final consumption (i.e., combustion) of hydrocarbons are significant greenhouse gas (GHG) contributors. According to the IEA, energy-related carbon dioxide emissions are set to increase by 45% between 2006 and 2030, reaching a total of 41 giga-tonnes. Three-quarters of the increase is expected to arise in China, India and the Middle East, with a full 97% taking place in non-OECD countries.

Given these statistics, some industry stakeholders argue that oil and gas companies can play only a small but important role in the reduction of GHGs. This can prove to be a dangerous stance. Already, the viability of some companies may be

threatened as countries work to wean themselves off their hydrocarbon habits. In a bid to enforce stricter automobile emission standards, California is seeking a waiver to restrict the sale of energy whose extraction produces excessive GHGs, such as reserves from Canada's oil sands. Thirteen other states have indicated they will follow suit. Admittedly, this stance may simply serve to shift demand towards natural gas or alternative sources of oil, but only time will tell.

Even companies whose products are not legislated out of existence face mounting challenges, including long waits for environmental clearances, more limited access to capital and ongoing complexity in their attempts to comply with disparate, and increasingly onerous, global regulations. To tackle these issues, oil and gas companies must continue developing plans for addressing climate change – both within their organizations and in collaboration with various levels of government.

“In recent years, scientists have become increasingly confident regarding the link between the consumption of hydrocarbons and material damage to the environment. Companies have recognized that they have a responsibility to protect the environment and public sentiment would appear to agree.”

Pat Concessi, Partner, Toronto, Canada

10 It's not easy being green

An alternative energy strategy is mandatory

If alternative energies weren't already on the minds of oil and gas executives, recent trends have made this issue impossible to ignore. In response to spiralling consumer demand, automotive manufacturers have rolled out a range of vehicles fuelled (in whole or in part) by alternative energies. Governments in most OECD nations are introducing regulations designed to reduce national reliance on fossil fuels. China recently announced plans to double its nuclear power plants in the next decade. And in a revised plan revealed in early 2009, Brazil's Petrobras committed to investing \$2.4 billion in the biofuels sector over the next five years, up 60% on its previous forecast.

Despite this passion for alternative fuels and renewable energy, international reliance on hydrocarbons is unlikely to abate in the near term. Some oil and gas companies consider this reality a reason to maintain business as usual. Yet, absent a strategic approach to the alternative energy movement, oil and gas companies may face diminishing demand for their products in the coming decades.

“Our sampling of oil and gas executives paints an interesting directional picture – one that’s at odds with the common perception that petroleum companies are reluctant to embrace serious change in how we produce and use energy.”

In a study sponsored by Deloitte’s Oil & Gas industry group, 56% of senior executives at large petroleum companies said they believe a transition away from reliance on fossil fuels is an appropriate industry goal. The key questions are “How?” and “When?” Before the bottom dropped out of the commodities market, companies could plan on investing a percentage of revenues to the investigation of alternative fuels. In today’s constrained market, companies are focusing more intently on capital conservation. Unquestionably, the development of alternative energies will not be appropriate for all industry players. But the inexorable move toward a fossil-free future requires all stakeholders to articulate a clear strategy.



Gary Adams, Leader, U.S. Oil & Gas practice, Houston, U.S.

Exploring the options

Strategies to help oil and gas companies respond to current challenges

Although the solutions you adopt depend on the nature of your operations, these steps can help you address current challenges and lay a foundation for the future.

Managing costs

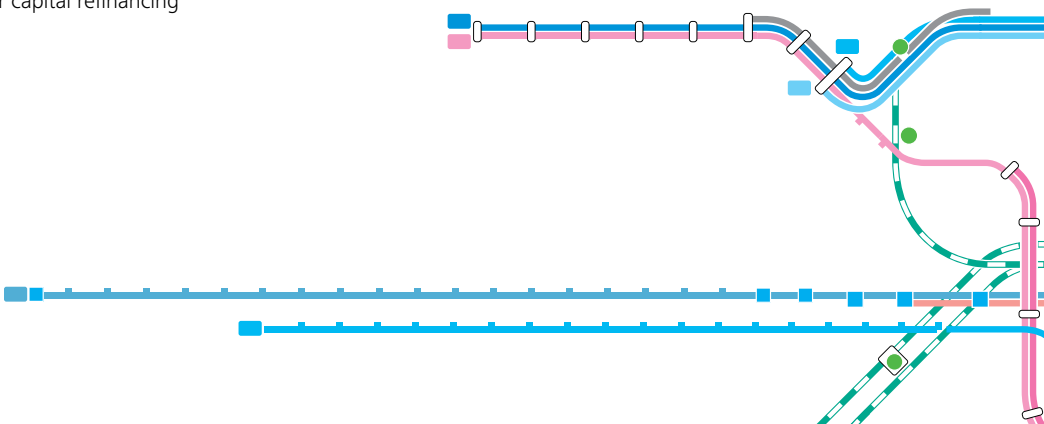
In coming years, combating cost pressures is sure to remain a high priority item. To strengthen your financial position, you can:

- Review your cost structure, identify inefficiencies and determine how to conserve cash and improve margins
- Optimize costs across the value chain – from maintenance and production planning to inventory and workforce management
- Outsource non-core activities so you can focus internal resources on revenue generation
- Collaborate with your suppliers to renegotiate onerous contract terms or request necessary concessions
- Go back to the basics to optimize your cash flows, safeguard your liquidity and ensure you have systems in place to deliver real-time financial data
- Ensure your tax structures are designed to minimize your tax liabilities and preserve cash over the short and long terms
- Explore necessary strategies for debt restructuring and/or capital refinancing

Improving performance

Beyond strengthening your bottom line, top line growth remains essential. In pursuing performance enhancement, companies can:

- Strengthen internal processes, such as enterprise resource planning, project management and change management, to ensure optimal design and efficiency
- Align your key performance indicators with your strategic objectives
- Benchmark your human resources programs against international standards to ensure you are putting the right systems in place to attract and retain skilled talent
- Ensure you are maximizing your tax credits
- Work with specialists who can help you assess the operational and financial impact of environmental issues and decommissioning liabilities
- Look at innovative ways to enhance collaboration with industry peers, such as infrastructure partnerships, shared service models and production alliances



Reducing risk

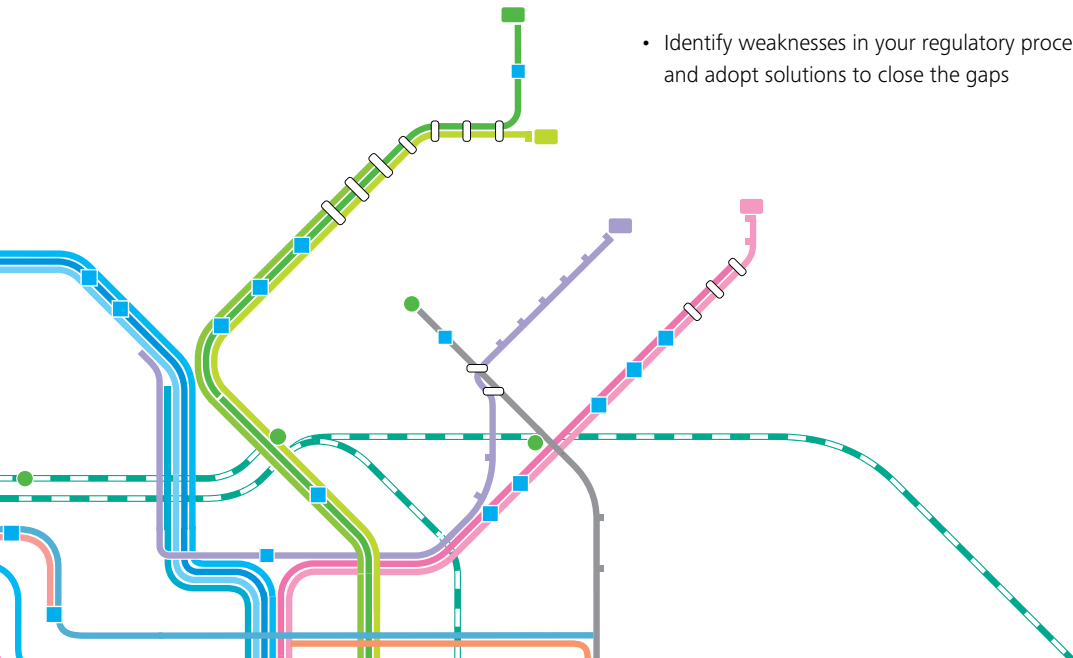
While risk comes in many flavours, to mitigate its effect you can:

- Put a risk management program in place to improve your ability to prevent, detect, correct and escalate critical risk issues
- Standardize your risk management principles and language to ensure enterprise-wide adoption
- Design and implement a risk management framework that integrates potential risks from across your entire organization
- Redesign your processes and forecasting models to gain a greater understanding of your risk profile
- Re-examine your financial risk exposures in light of recent market volatility

Streamlining consolidation and improving compliance

From mergers and acquisitions to regulatory compliance, oil and gas companies face growing complexities. To enhance your long-term sustainability, you can:

- Take a strategic approach to M&A activities to ensure you develop an appropriate strategy, effectively screen targets, conduct in-depth due diligence, execute seamlessly and enjoy a smooth post-deal integration
- Put a structured plan into place to manage anticipated asset disposals, spin-offs or the receipt of takeover bids
- Work with accredited valuers who can calculate defensible values for potential M&As
- Develop carbon and sustainability strategies to meet the expectations of regulators and other stakeholders
- Identify weaknesses in your regulatory processes and adopt solutions to close the gaps



Bringing bright ideas to the surface

No one disputes that oil and gas companies are facing endemic challenges. Low oil prices, combined with the risk of resource nationalism and harder-to-access resources, are constraining growth across the sector. At the same time, companies face rising costs to sustain operations, comply with evolving regulations and meet swelling demand for alternative energies.

In light of these circumstances, many companies will need to undertake some painful transitions and identify creative approaches if they hope to thrive into the future. To forestall current challenges and position for long-term success, top-performing oil and gas companies are already adopting best practices, including:

- **A rigorous and relentless approach to capital cost management.** By focusing on cash preservation and negotiating supplier concessions, these companies tend to have the flexibility to scale down, or up, as conditions warrant. This has also positioned many organizations to take advantage of current opportunities to pursue strategic mergers and acquisitions at discounted costs.
- **Robust performance management processes.** Companies that can manage at appropriate levels of detail and accuracy are best-positioned to ride out any market cycle.
- **Ongoing talent management and recruitment.** To avoid talent shortages, leading organizations engage in a variety of best practices, including recruiting from overseas, offering flexible shift rosters, co-sourcing talent and aligning with educational institutions to ensure the development of appropriate industry programs.
- **Technological innovation.** Top performers use technology to address a range of industry challenges, from accessing difficult reserves and alleviating talent constraints to pursuing alternative energy solutions.
- **Building alliances.** In a slower production environment, the time is ripe for producers to form new partnerships, leverage upstream knowledge and capacity and increase vertical integration along the value chain.
- **Strategic collaboration.** To address critical industry challenges, companies must increasingly consider new forms of partnering, such as sharing assets, accountability and responsibility, project risks and rewards, and supply chains and common infrastructure.

Although many of the actions oil and gas companies must take require an altered business approach, their efforts to keep pace with social and economic trends can only work to the benefit of their shareholders, their partners and the world at large.



Proud to be the Official Supplier of Professional Services to the Vancouver 2010 Olympic and Paralympic Winter Games



1858 **150** 2008

Deloitte celebrates
150 years of professional service



www.deloitte.ca

Deloitte, one of Canada's leading professional services firms, provides audit, tax, consulting, and financial advisory services through more than 7,700 people in 57 offices. Deloitte operates in Québec as Samson Bélair/Deloitte & Touche s.e.n.c.r.l. Deloitte is the Canadian member firm of Deloitte Touche Tohmatsu.

Deloitte refers to one or more of Deloitte Touche Tohmatsu, a Swiss Verein, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu and its member firms.

© Deloitte & Touche LLP and affiliated entities. Member of Deloitte Touche Tohmatsu.
™ © 2006, VANOC.

Designed and produced by National Design Studio, Canada. 09-1659