

How vulnerable is the value in energy industry business models?

The energy sector has experienced tremendous positive momentum during a very prosperous economic expansion. But even as energy companies make exceptional profits each quarter, they face new challenges, including peaking hydrocarbon prices, new competitors, rising costs that raise capital project hurdle rates, and requirements for bigger, riskier offshore, deep water, or pure exploration bets. As a result, it is more important than ever for energy executives to think about risk in a strategic context.

Traditional risk management has focused on three categories of risk: hazard, financial, and operational. There are a set of strategic risks, however, that can be even more dangerous in their threat to one or several elements of a company's business design.

Fortunately, Oliver Wyman's client work and research shows that through astute anticipation and management of strategic risks, you can turn the threats on their head and create enormous upside potential. Oliver Wyman works with energy companies to anticipate and counter risk through enterprise risk mapping, mitigation planning, and industry-leading thinking and research.

Specifically, we work with boards and senior management on several fronts:

- Achieve visibility and understanding of strategic risks and their financial implications, as well as links between enterprise risk management (ERM) and strategy
- Move beyond a checklist mentality of risk management to explore strategic alternatives
- Develop longer-term growth strategies and alternative business models that can provide countermeasures to key strategic risks
- Achieve cost effectiveness by fixing problems early on rather than at the time of crisis, and identifying valuable quick hits
- Engage and mobilize senior management on risk, in order to identify a comprehensive set of risks for priority attention, assess their magnitude and probabilities, and move out of the inertial sense that “we can’t do anything about it” or “that’s just the business we’re in”

- Bring together cross-functional groups with linked responsibilities to address common risks and organizational roadblocks
- Shift to a comparable risk-return decision-making process, within an integrated and common framework
- Emphasize integrated risk identification and mitigation, risk sizing and trade-off modeling, and capability development

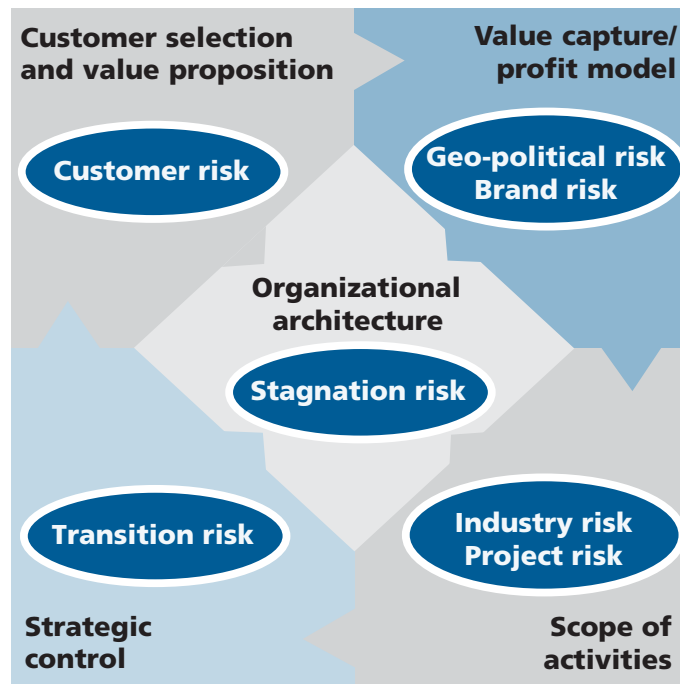
Oliver Wyman has identified seven categories of strategic risk that today’s energy executive should consider: project, customer, transition, brand, industry, stagnation, and geo-political risk (Exhibit 1). Let’s explore each in more detail.

1. Project Risk

A very common risk is that a costly investment in a new project or acquisition will fail, which is particularly costly if the company does not have a diversified portfolio.

As one example, energy companies including CMS

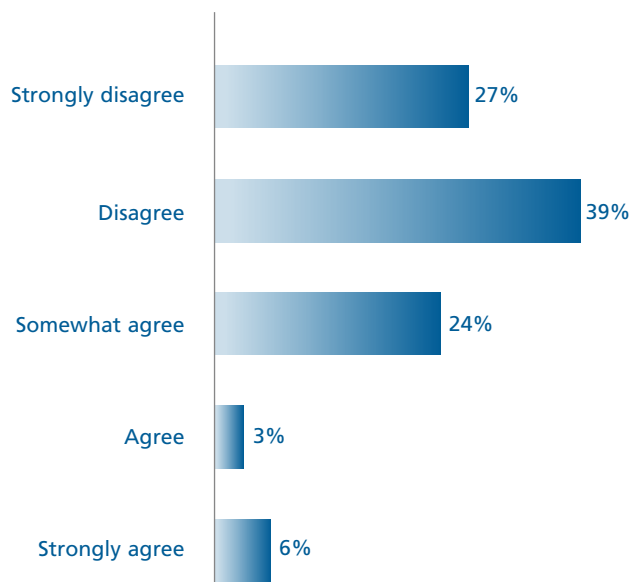
Exhibit 1 The seven categories of strategic risk



Energy, Dominion, and El Paso built the first four LNG terminals in the United States in the late 1970s and early 1980s. Falling natural gas prices, however, drove the closure of all these plants between 1980 and 1982. Natural gas prices did not recover enough to allow the companies to re-open the terminals until 2001. This case clearly illustrates the risks companies assume when they make major investment decisions based on the anticipated prices of commodities such as natural gas, and highlights the need to manage such bets within the portfolio.

Project risk is very real for national oil companies (NOCs). According to a survey conducted among the participants of the 2008 Marsh Energy Forum in Dubai, 66% of companies do not have a good record of their own historical project failure rates, and 63% do not have a good record of historical project failure rates in their industries (Exhibit 2).

Exhibit 2 **We have a good record of our own historical project failure rates**



Source: Participants survey, Marsh National Oil Companies' Conference, February 2008

Upstream example. Upstream projects are growing larger and more complex. The attraction of upstream profits is also driving many companies to consider expanding their investments, moving from investor to operator, or entering into this

market space from adjacent energy sectors. At the same time, the aging of experienced project managers is reducing the number of staff with the requisite capabilities. These factors have combined to raise the level of project-related risk in the upstream sector. Project risk also applies to newer technology projects, including large LNG and refinery investments.

Countermeasures. Companies can develop accurate data on the true odds of success and invest in next-generation project management processes focused on large project risk, including a review of existing talent management strategies. Firms moving into the upstream sector should prepare an organizational plan focused not only on new capabilities, but also on ensuring that they have processes that can support the evolving organization and enable management oversight of critical investment and operating decisions.

2. Customer Risk

Your customer base is decimated by shifts in their needs and priorities that make your offering unappealing.

Environmental example. Environment concerns are causing consumers to seek out cleaner and renewable fuels. While the precise direction and pace of the fuel substitution technology shift is not clear, many energy companies appear to be underinvesting in newer fuel technologies. It's a classic syndrome: Because the true threat is seen to be years away (and probably is), one underestimates the threat and underprepares for it. When the unpredictable inflection point occurs, one gets caught off guard and loses a great deal of value—unnecessarily. The time to prepare for this inflection point is when your business model is at the height of its success. In addition, getting ahead of the customer with a balanced petro- and alternative-fuel portfolio creates enormous upside opportunities for both stronger brand position and an advantage in transition management. How do you address this shift in customer preference? Where should you “double bet” on alternative fuels and renewable energy?

Retail fuels example. In the retail fuels segment of the petroleum value chain, fuels distributors and

franchisees are consolidating and gaining power, demanding supply deals with larger price discounts. This is occurring both in developed markets served by traditional major oil and gas companies and also in developing markets served by national oil companies. For example, Pemex retail franchisees in Mexico are consolidating and building future leverage to negotiate terms and conditions of the franchise and pricing. How do you navigate the shift to larger marketers for your own growth agenda? How do pricing and services need to change?

NOC/IOC example. The relationship between NOCs and international oil companies (IOCs) is determining investment in the global upstream sector. Raising requirements by NOCs for public good investment creates additional challenges for new projects. How should these relationships be structured to benefit both sides?

Countermeasure. Energy companies can increase their understanding of the most valuable customer segments—both consumers and marketers/distributors—to ensure that value propositions are tailored appropriately to these customers' needs. We see a shift to better analytical understanding and more effective response to customer risk, especially among distributors and other channel partners. Companies can also invest in enhanced strategic scenarios planning to understand the potential impact of alternative fuels shifts and of the requirement for NOC-IOC relationships. Scenario planning can create the fact base for better decision-making around direct investments and initiatives.

3. Transition Risk

Your company gets overwhelmed by an unforeseen change in technology or its business model.

Hydrocarbon extraction example. In recent years, it has become more difficult and expensive to extract hydrocarbons from declining fields, more remote fields, and newer unconventional fields (tight gas, shales). In response to this increasing exploration and production complexity and high hydrocarbon prices, oil companies are using more advanced upstream technology to drill more effective and, where possible, fewer wells. The move

toward technology-intensive and enhanced oil recovery techniques—including geosteering, 4D seismic, intelligent well systems, improved completions, sand management solutions, flow assurance solutions, improved formation stimulation, and cementing practices—will shift industry value toward participants with the best technology and ability to use that technology.

Alternative fuels example. The energy industry faces a major decision point: What will be the dominant alternative or renewable fuel-producing technologies that are both effective and cost-efficient in satisfying demand? Many alternative fuels are under consideration, such as ethanol, biofuels, wind, solar, and coal-to-liquids. Are companies staying on top of technology developments and planning for potential major shifts? Which alternative will emerge as the leader? How can companies move forward on these alternatives without unduly risking shareholder value?

Countermeasure. Double betting, whereby a company invests simultaneously in two or more technologies or business models, can help companies hedge and outlast transition risks. National oil companies need to determine where to improve upstream technology capabilities and build knowledge to avoid being disadvantaged and to own this evolving source of strategic control.

In the UAE, for instance, Abu Dhabi is becoming one of the first hydrocarbon-producing nations to execute a double-bet investment on alternative energy technologies through the Masdar future energy initiative. Masdar will make investments to develop and commercialize a wide range of renewable and sustainable energy technologies, including a sizable clean-technology private equity fund and building the world's first carbon-free city advancing the latest clean energy technologies.

4. Brand Risk

The value of your brand collapses suddenly or gradually erodes in the wake of competitive assaults, disastrous publicity, or a long-term failure to invest.

BP example. BP witnessed a threat against its

brand because of several environmental and safety incidents; as one issue was believed to have been contained, another would emerge. Given the industry's record profits of late, the media spotlight was intense. What strategies can companies take to avoid or reduce adverse impacts on brand perception?

Retail exit example: More oil companies are decapitalizing from the assets closest to customers by exiting company retail operations and leaving much of the customer interface to other channel partners. While inadequate economic performance of these assets is the motivating force, there is a risk in not developing adequate measures and strategies to protect the brand longer-term. What strategies do you employ to ensure you can continue to capture—if not improve—the brand strength that can drive market premiums?

Countermeasure. Energy companies can evolve their brand management capabilities to better understand what factors drive brand equity and value and how best to spend precious brand investments. In some cases, it pays to look at successful brands in other industries for lessons and approaches. NOCs are beginning to realize that even though some of their operations extend beyond national boundaries—and in fact some NOCs are globalizing at a rapid pace—their brands often do not fully support the international recognition that's required for successful expansion. Investing to broaden brand recognition, increase brand equity, and implement brand tracking programs are key countermeasures to avoid brand risk.

5. Industry Risk

Your industry becomes so saturated and competitive that the entire industry turns into a no-profit zone.

Fluctuating cost structure example. The industry is facing a set of new fuels and green momentum. This could cause huge swings in cost structure in a short period, depending on regulatory actions or even customer sentiment. What are the implications for the business models companies employ today?

Collapse of the middle example. For several years, the upstream services industry has been experienc-

ing a collapse of the middle in which one-size-fits-all service companies have evolved to either low-cost, low-tech commodity service providers or to higher-tech, bundled services and even integrated-program-management providers. For national oil companies that own services companies as part of their business, there is a risk that the services part of the business evolves to very low economic value-added. An additional risk is that the largest, higher-tech service companies consolidate to shift value chain leverage away from oil companies.

Countermeasure. To counter industry risk, companies should explore strategic collaboration, outsourcing, or joining forces with their rivals (where it is legal) to carry out largely undifferentiated functions or processes.

6. Stagnation Risk

Your business achieves a level of maturity that makes further volume and profit growth difficult.

Multiple examples. The oil and gas industry faces several types of stagnation risk:

- The exploration and production industries are struggling to replace oil reserves through the drill bit.
- Refiners must find ways to expand marketing channels in order to facilitate refinery capacity growth and leverage the value of marketing to help maintain refining margins.
- Branded fuel suppliers increasingly view markets from an integrated downstream vantage point, potentially resulting in a more aggressive pricing environment.

Countermeasure. To cope with stagnation risk, companies can find dedicated “homes” for incremental volume and demand innovation, expanding the array of services a company can sell to its customers. Pemex did this through joint venture refining investments and supply agreements to increase demand for Maya crude. Valero and Tesoro are expanding their branded retail networks to build on network synergies and become more dominant players and brands.

7. Geo-political Risk

Unexpected political or environmental changes in the region or the country disrupt the company's business strategy in the area.

Terrorism example. Terrorism concerns throughout the world have expanded to include large industrial and energy targets, such as oil company infrastructure.

Political tension example. Continuing political ten-

sions between hydrocarbon-producing and hydrocarbon-consuming nations lead to further market disruptions, as with unilateral government actions in Venezuela and Russia.

Countermeasure. To cope with growing geo-political risk, more extensive portfolio diversification becomes critical to ensuring that the company is not over-exposed to any one area with potential political instabilities. ❖

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We would be pleased to discuss our perspectives on managing strategic risk with you. For more information, please contact your Oliver Wyman account representative, or one of our energy team leaders:

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