THE WRITING’S ON THE WELL

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Disruption is flipping the oil and gas industry on its head. It’s also opening up opportunities for oil and gas companies to flip their fortunes. Billions of dollars in new sources of profitability are ripe for the taking.¹

Unlike the cyclical shifts they’ve faced in the past, oil and gas companies are at the cusp of a new paradigm—a paradigm that offers little to those who play by old rules. In this new paradigm, hydrocarbons’ dominance in the energy mix is, by some projections, set to fall from 80 percent today to just above half by 2060.² An abundance of oil and gas will likely increase the risk of stranded resources and upstream returns will be less significant than in the past. Accenture Strategy analysis suggests that integrated oil companies’ upstream returns have dropped by more than half and are likely never to return to the outsized levels of the past.³

This new era is not about low commodity prices or peak demand timing; it’s about disruptive outcomes driven by the combinatorial effect of various supply and demand factors.

To capture value from these disruptive forces, oil and gas leaders need to transform their core capabilities. This will involve re-imagining those capabilities with technologies—and digital technologies, in particular. Equally important, they need to re-imagine where they compete and how they will harness future sources of growth.
The price of crude collapsed from $100+ per barrel in 2010-2014 to an average price of $30-50 in 2015-2017\textsuperscript{4}. This didn’t occur in a vacuum. It is a by-product of the convergence of factors that are changing the energy industry forever.

On the supply side, technical advances in horizontal fracking, seismic imaging and other processes have swelled recoverable reserves. At the same time, breakeven compression—driven by drilling efficiencies and smarter well designs and operations—has established lower price ceilings for upstream production.\textsuperscript{5}

As margins have shifted from upstream to other parts of the value chain, diversified energy companies have reaped the rewards (see Figure 1).

**THIS SHIFT IS NOT ANOTHER TUG-OF-WAR**

between integrated and pure play models. Rather, it’s a revolution aimed at capturing opportunities across the value chain.
Growing customer demands for clean electricity, petrochemical and gas-powered solutions are creating new battlegrounds for margin and returns. In gas, production advances are positioning liquefied natural gas to make up approximately 20 percent of all gas production by 2035. The resulting “globalization” of gas not only reduces the spread of prices across geographies, but also makes gas a more feasible and cleaner source of power generation. Accenture Strategy analysis suggests that the use of gas for electrification could grow 50 percent by 2035.

Then there are renewables. The costs of extracting energy from solar and wind resources are nearing parity with fossil fuels—and are on track to be 30 percent cheaper than coal and gas by 2035. That sets the stage for a potentially irreversible decline in hydrocarbon consumption—and a blurring of industry boundaries (see Page 5).
Renewable sources of energy—coupled with internal combustion efficiencies and a rise in electric vehicles, autonomous vehicles, ride sharing, distributed electricity generation and renewable storage—will steadily chip away at developed countries’ demand for transportation fuels. It remains to be seen if rising demand in emerging markets will make up the difference.

More tellingly, changing supplies and consumption patterns will bring oil and gas, utility and automotive companies together in new and previously unimaginable ways. This industry convergence will bring about new customer-driven business models that will further compress the demand for oil.

Oil and gas companies should welcome this transformation—especially those that have built retail operations to gain insights into how end customers use their products. If in 20 years drivers are recharging their vehicles from their solar panels, rather than visiting a fueling station, the oil company will lose direct access to the customer. Industry convergence, which can give energy companies a footing “inside the customer’s homes,” will make it possible for them to generate new insights to drive future solutions. By doing so, convergence enables oil and gas companies to maintain their customer connection—and their relevance.
As we noted in *Energy Company of the Future*, oil and gas companies of the future will no longer gain a competitive advantage based on size, scale or asset-recovery capacity. Success will be determined by a company’s ability to maximize the value of every molecule, embrace digital technologies for hyper-efficiency, and work across functional areas and with external partners to deliver new solutions. These attributes, require a new enterprise “DNA”—a set of essential capabilities that gears the organization for speed, performance and innovation (see Figure 2).

**Figure 2.** Transforming core capabilities means reformulating the “DNA” of oil and gas companies, and building enabling capabilities needed to survive and thrive in the new context.

![Diagram](source:Accenture Strategy)
The transformation of core capabilities is underway, albeit in piecemeal fashion and with a primary focus on improving efficiencies. This is particularly evident in upstream activities, where a focus on “squeezing every penny” has never existed. Well maintenance, surveillance and optimization are prime investment targets. But few companies have developed new solutions to a significant scale or used digital advances to shape game-changing operating models.

IN THE EMERGING OIL AND GAS PARADIGM

companies will need to shift from simply digitizing existing processes to digitally transforming processes to tap new value.
Accenture Strategy research confirms that oil and gas leaders are recognizing the need to pursue new pockets of value. Only 28 percent believe their primary source of growth in 2020 will come from existing products and services. Nearly half (47 percent) see new products as most critical to their future growth. Surprisingly, 100 percent of oil and gas leaders are at least somewhat confident they will achieve their growth targets; 28 percent are extremely confident.

Further analyses reveal that this optimism might not be warranted. Only 25 percent of oil and gas leaders consider changing their business models to explore adjacent growth opportunities as one of their top three priorities. The majority is expecting growth to come from the sale of new products within their traditional commodity business.

In the emerging paradigm, we believe more valuable opportunities exist for oil and gas companies of all types to capture returns across the energy landscape. To access them, we advocate three pivots:
While demand growth for hydrocarbons will slow, demand for energy and for new molecule uses will steadily rise. We expect electricity demand to nearly double between now and 2040. Over the same period, the demand for new petrochemical solutions is expected to grow by 70 percent.\(^1\)

These shifts have profound implications for how resources will be sourced, managed and used. Energy flows, like the industry, will be disrupted (see Figure 3). As oil and gas companies compete along an expanded supply curve that extends beyond the oilfield to wind and solar farms and liquefied natural gas infrastructure, oil and gas companies will need to diversify their energy assets, or access to them.

**Figure 3.** Global Energy Flow - 2015 to 2040 Growth
Shifting the paradigm from “oil” to “energy” means oil and gas companies need to re-imagine what they do and where they compete. It means pivoting away from the asset-heavy business models of the past to incorporate integrated, “boundaryless” and customer-centric energy models of the future. We believe four opportunities for oil and gas companies hold particular potential (see Figure 4).

Companies in the integrated energy future don’t need to “own” all aspects of the new business model. For example, Airbnb doesn’t own the rooms it makes available to visitors. But it controls access to those properties and the platform that manages supply and demand. Similarly, oil and gas companies should identify and control valuable aspects of the expanded business models such as access, demand, optimized services and customer outcomes. This will require rethinking and building a completely different set of capabilities to win. Oil and gas leaders must also realize that the journey will be filled with uncertainties, since most of the opportunity domains such as the traditional power market are also being disrupted.

Figure 4. New areas of opportunity for the oil and gas industry
Rising customer demands and changing behaviors are dictating the make-up of energy supplies, services and solutions. In this environment, placing customers at the center of investment decisions is critical. Deep learning and advanced analytics can help oil and gas companies understand and predict customers’ consumption preferences, trends and behaviors. They can use these insights to inform upstream and downstream investments and the development of new, hyper-relevant services that reset the competitive paradigm.

In this regard, the customer-driven transformation taking place in the oil and gas industry is similar to other industry upheavals. Ride-sharing services match drivers with customers in need of a lift. Online retail giants maintain dominance by delivering unbeatable customer experiences and managing vast networks of suppliers, technology partners and logistics providers. Media companies such as Netflix track viewers’ consumption patterns and preferences in granular detail in order to deliver the streaming content they want and are happy to pay for. Oil and gas companies have an opportunity to become the arbiters of energy supply and demand, ecosystem architects, or providers of tailored solutions that energy customers crave.

Rising customer demands and changing behaviors are dictating the make-up of energy supplies, services and solutions.
As industry players recognize the need to transform the core and build new businesses across extended parts of the energy value chain, they must determine how to start and how to move at the right pace. We believe the winning approach will entail establishing a framework to fund, evaluate and develop businesses, channeling the right leadership and talent, incubating an innovation culture, and rethinking the capabilities needed to flourish in the new context. While such actions pose a significant challenge for many players, the need to look forward rather than backward has never been greater.

The days of focusing solely on extracting resources are over. The days of extracting value from new business models and changing customer behaviors have just begun.
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