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Will Your Next Electric Company Be a Global Oil Enterprise?

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In the past, major oil and gas companies have refrained from playing a significant role in the electric power sector. They have typically owned and operated power-generation plants primarily to supply energy to their own refineries and production facilities. In some cases, these oil companies could have taken advantage of their investment capital, infrastructure, and expertise to offer other forms of non-hydrocarbon-related energy. But, except for a period in the late 1990s when some of the oil majors made limited investments in power generation — most of which were unwound in the early 2000s — they have generally stuck to their core business, producing oil and gas and selling refined products.

All that may be about to change. Several developments have put oil and gas companies in a position in which they should consider redefining their businesses as “super-energy majors,” by diversifying their strategies and adding electric power generation to their traditional activities in oil, oil products, and gas. One development is the gradual shift to electric vehicles, which may break the hegemony of fossil fuels over the

next few decades; another is the rising importance of electric power in energy consumption, due to concerns about climate change. Many of the major oil and gas companies are in a position to take advantage of this situation, given their strong position in natural gas, a much cleaner fuel in power generation than coal or oil.

Except for Eni SpA of Italy, no major oil company has committed to this path so far. But the logic, for those that are able to make the transition, may turn out to be compelling. Such a move would allow the oil companies to escape some of the pressures that are building in their current business models. For example, it would add a diversified source of revenue and profits at a time when traditional exploration and production activities are increasingly costly and difficult, in part because state-owned companies now control the most accessible oil fields. It would also make the most use of the kinds of infrastructure that oil majors have developed: not just pipelines and refineries, but all the downstream infrastructure involved in wholesaling and retailing fuel, including links with gasoline stations that service vehicles. Such stations could be expanded to serve electric vehicle users as well.

The potential for a radical shift in the marketplace suggests a series of questions for senior leaders in oil and gas companies: Is it time to assume a broader role as a supplier of energy, rather than just a supplier of hydrocarbon fuels, by moving into power generation? What profitable revenue streams in the power sector are open to you? And should you move in partnership with existing power utility companies, in competition with them, or in game-changing ways that seek to reinvent the fundamentals of the industry?

The New Dynamics of Demand

Investment in power generation is not an entirely new idea in the oil sector. In the second half of the 1990s, several major oil companies, including BP, Eni, ExxonMobil, and Shell, took strategic positions in power generation, often through joint ventures. Their objectives varied but included wanting to be seen first as “energy companies” rather than mere oil companies; gaining better control of the profitability of their natural gas activities at a time when liberalization and deregulation were occurring in that market; and fulfilling “green” ambitions by becoming involved in wind power generation.

By the mid-2000s, however, the majors’ interest in electric power was waning. For one thing, the financial community discouraged it; investors asked for more focus on capital investments in the upstream part of the business. BP and Shell divested most of their investments, keeping only selected power-generation assets, while ExxonMobil maintained most of its positions. Only Eni continued its growth in the power sector, using its gas-fired assets as a profitable captive source of demand

and as a way of creating flexibility; it could sell in either power or gas markets as opportunities arose.

Two current trends in the energy sector are giving the oil majors reason to reconsider the power option. The first is the rise of electric mobility as technical advances gain momentum. There are strong indications that plug-in hybrids and electric vehicles will be economically viable by 2020, even in major markets like the United States and China. This development has the potential to fundamentally change



the game for the oil industry at large, because it could erode the overall demand for oil, and it should compel oil company leaders to review their position on refining and other downstream operations.

The second factor is climate change. The role of natural gas in power generation is gaining importance because gas emits less carbon per unit of electricity produced than does coal or oil. However, the value of the gas portfolios of oil companies has come under pressure of late, ow-

ing to downward pressure on gas prices caused by an oversupply in the global gas market. This glut was a result of several trends and events, including the collapse of energy demand during the recession, the continued construction of supply infrastructure, and the relatively sudden strong increase in the production of gas from shale and other unconventional sources in the United States. The oversupply in gas markets is expected to remain until at least 2015, if nothing else changes. Given the oil companies’ large exposure to gas markets, the implications are already becoming visible in their financial results, forcing executives to seek other ways to add value to their gas portfolios.

Rather than just selling natural gas in oversupplied markets, oil companies could capture three sources of value by integrating into gas-fired electric power generation. First, such integration would provide a captive market for part of the gas sales portfolio and could increase sales volume. Second, it would allow the companies to capture the “spark spread”: the difference between the sales price of electricity and the cost of the gas needed to produce it. Third, by having positions in both gas and power, the new energy majors could become more flexible and face less pressure when conditions are unfavorable for either of these markets. Oil companies may also be able to capture the growth in power demand from electric vehicle growth, replacing some of the value lost to utilities from declining hydrocarbon sales in the road transportation segment.

The Path to Power

Several paths will be available to the new, would-be super-energy majors

should they decide to diversify into gas-fired power generation. Some companies already have the capabilities needed to make this shift. Others do not, but they could develop the necessary capabilities through either investments or partnerships.

For example, one option could be investing in the construction of

could expand to include other assets, such as gas storage and wind-generation capacity. These partnerships might offer advantages to both sides: Oil companies would get exposure to power markets at lower capital requirements, as well as better scalability and more flexibility in their gas portfolios; utilities would get

right fundamentals in their power markets in terms of the potential spark spread, the evolution of the generation mix, and the regulatory environment? How would these geographies match the super-energy major's current and desired asset and market footprints?

- Is investing in independent power-production assets the best option, or would a partnership model provide more value and benefits with a lower risk profile?

- What are attractive propositions for utilities that want to form partnerships with oil and gas majors?

Clearly, becoming a super-energy major will not be the right path for every oil and gas company. But all energy companies need to adapt to the changing dynamics and constraints of the world's markets. If the growth of electric vehicles, the impact of climate change, the availability of natural gas, and the growth in energy demand all take place in line with expectations, the oil and gas companies will be called upon to change. The super-energy majors will be those that lead the way — and profit accordingly. +

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All energy companies need to adapt to changing markets. The super-energy majors will lead the way.

new generation assets through so-called independent power producers. These investments are large and complex; however, they are exactly the type of investments the oil majors are good at making and managing. Opportunities are likely to abound. Power demand is expected to continue to grow, and a prolonged period of low natural gas prices may very well lead to strong growth in gas-fired power-generation capacity. Indeed, if current prices continue to prevail in the U.S. and Europe, gas should become the preferred feedstock for new fossil fuel-powered generation capacity. In Europe alone, an additional 20 gigawatts of gas-fired capacity could be the result.

Because direct investment in power generation is capital-intensive, the super-energy majors could also seek partnerships with suitable utilities. These could range from simple tolling agreements — whereby the utility contracts part of the capacity of a gas-fired power plant to an oil company — to more complex models in which the utility and the oil major combine and optimize their gas and power operations. These more complex partnerships

more advantaged access to fuel and increased utilization of their generation assets.

Taking the Next Step

Some oil companies will be reluctant to become super-energy majors because their past experiences in the power sector have been mixed. But others may make the leap successfully — if they can devise an effective strategy and line up the appropriate assets and capabilities. To assess whether exposure to power markets makes strategic and economic sense for them, oil companies need to develop a deep understanding of a number of key questions, such as:

- Is the structure of the gas portfolio such that exposure to electric power markets can increase its value by capturing the spark spread and increasing flexibility to optimize profitability between power and gas markets?

- Can sufficient materiality be reached quickly enough to really make a difference to the market and to warrant the effort and risks of diversification into power?

- Which geographies have the

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