

Fossil Industry Transitions

Case Study #1: Ørsted

from oil driller to wind energy leader

So how did Danish Oil and Natural Gas (DONG) transform itself into Ørsted, one of the world's largest producers of wind energy? What factors motivated this large, successful company to completely overhaul its core business in the span of a decade? And, most importantly considering the imperative need to wind down all fossil energy-related activities, what lessons can be learned from this transformation and applied to other fossil fuel companies?

Creating transitional opportunities through business diversification

DONG was founded in the early 1970s and spent much of the next 30 years of its existence primarily doing the business that the Danish government had created it to do: managing Denmark's oil and gas reserves.¹ While the revenues that these ventures provided to the state continued to motivate additional fossil investments and exploration until well into the new century,² the company entered a new path in 2005 when it purchased a number of Danish utilities specializing in power production and distribution,³ forming DONG Energy. In addition to market access,

these new acquisitions brought with them a range of new industry knowledge and expertise, including teams that had already spent years working on wind energy technologies.⁴



Figure 1: EBITDA (profit) by Business Segment⁶

The motivations behind a corporate U-turn

As recently as 2010, DONG Energy still received only a small fraction of its revenues from renewable sources⁵ (see figure 1) and in 2008 at least 70% of its power and heat production was from coal.⁶ In 2009, the company announced a commitment to reach an 85% share of power generation from renewables by 2040. While this may have seemed like a surprising decision at the time, the company had experienced several shocks in the preceding years.

¹ Storrow (2020). How one fossil fuel company became a green giant. *E&E News*.

² Lena & Møller Pallesen (2016). The North Sea oil is crucial to Danish welfare. *Olie Gas Danmark*.

³ <https://www.eenews.net/stories/1063713187>

⁴ McKinsey & Company (2020). *Ørsted's renewable energy transformation*.

⁵ Ørsted (n.d.) *Reports, presentations and fact sheets*. Accessed February 2021.

⁶ Harries & Annex (2018). *Ørsted's profitable transformation from oil, gas and coal to renewables*. *PPCA*.

First and foremost, the impacts of the financial crisis led to a >75% decrease in the price of crude oil in 2008,⁷ thus reducing revenues. At the same time, environmental concerns about atmospheric CO₂ levels had started to gain mainstream attention and would be on full display at the 2009 United Nations Climate Change Conference being held in Copenhagen. At this time DONG Energy, a state-owned enterprise, was itself responsible for about a third of Danish CO₂ emissions.⁸ That same year DONG Energy lost a battle with activists and residents of Lubmin, Germany over plans to operationalize a seaside coal-fired power plant after investing more than half a decade of planning and finance into the project.⁹

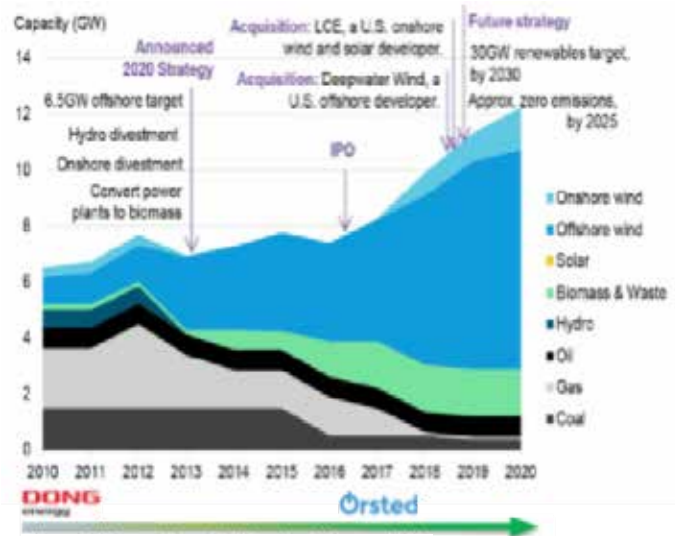


Figure 2: Energy Production Capacity⁶

Key takeaways: challenges and opportunities of corporate reinvention

With the adoption of a new company name in 2017 and the sale of its last oil and gas assets, the company made clear its intention to become a renewable energy powerhouse. The speed with which they enacted their transitional strategy may thus provide some important lessons for other unsustainable industries.

Lesson 1: Diversification yields opportunity. Even prior to its shift towards renewables, Ørsted was not content with maintaining a profitable business in an industry showing no signs of decline. In addition to the electrical power and distribution capabilities gained through acquisition in the mid-2000s, the company had vertically integrated its activities in the oil and gas sectors. As growth opportunities presented themselves in one area (renewables) and began declining in another (fossils), Ørsted could draw from its stable of industry expertise and adapt its business.

The search for opportunity and potential growth industries should be an ongoing and intentional exercise. Even given its success in offshore wind energy, Ørsted has in the last few years continued to explore investments in other renewable energies and storage.¹⁰

⁷ Investopedia (2020). The 2008 Financial Crisis and Its Effects on Gas and Oil. Accessed February 2021.

⁸ Clowes (2020). Ørsted: The oil giant that went from dirty fuel to clean energy in a decade. The Telegraph [online].

⁹ DONG Energy (2009). DONG Energy withdraws from Greifswald project in Germany.

¹⁰ Morris (2018). From fossil fuels to green energy: the Ørsted story. Think at London Business School



Lesson 2: Reinvention requires responsiveness. Ørsted is not the only company to have experienced opposition to one of its fossil-based projects. However, their decision to withdraw rather than continue was fairly unique and ahead of others. Take, for example, Uniper’s decision to push through the opening of a coal-fired power plant near Datteln, Germany in 2020 despite international attention and widespread condemnation.¹¹ Given an additional decade to monitor scientific evidence, public opinion, and energy markets, the company still chose to expand upon an industry that the German government has promised to eliminate by 2038. In contrast to Ørsted, which was able to set its own transition timeline based on financial viability, Uniper has ceded control of its organization’s future to policymakers with climate conscientious constituents and will likely be forced to undergo a far more disruptive and painful transition.

Lesson 3: Resilience pays. Ørsted, in contrast to many of its competitors, also seems to have learned some important lessons from the 2008 collapse and subsequent volatility of the oil and gas markets. Like many in its industry, Ørsted’s finances at the time were vulnerable to this volatility, as they were largely tied to a boom and bust cycle significantly impacted by supply-side factors outside of the company’s control. By shifting its focus to renewables, Ørsted was able to capitalize on the built-in resilience that these technologies have to market shocks and manipulation.¹² This resilience has been on full display over the course of the Covid-19 pandemic, as shares of Ørsted have continued to climb while shares of many oil companies have plummeted (see figure 3).



Figure 3: Changes in Share Price (top) and Market Cap (bottom)⁸

Lesson 4: The devil take the hindmost. Ørsted’s responsiveness has allowed it to take advantage of its “first mover” status on two fronts. First, the company’s relative head-start in renewables, and especially in offshore wind technologies, has allowed them to gain a significant foothold in an increasingly competitive industry. Second, they have been able to receive stabilizing capital inflows through the sale of their fossil assets, which are increasingly seen as risky investments. There are still opportunities to be found, however, and those that wait the longest to transition from fossil fuels may find themselves in the unenviable position of holding assets that nobody else wants. Given that the share of global electricity production from renewables is still less than 30%,¹³ there also remains ample opportunity for organizations to follow Ørsted’s example and reorient their business towards large-scale, renewable power production.

¹¹ Paulsson, Wilkes, & Parkin (2020). Germany’s Newest Coal Plant Becomes Focal Point of Climate Protests. Bloomberg.

¹² Vetter (2020). How Coronavirus Makes The Case For Renewable Energy. Forbes.

¹³ IEA (2020). Global Energy Review 2020.

Lesson 5: Embrace adaptive evolution. While Ørsted’s initial 2009 plan called for an 85% share of renewables in power generation by 2040, the company has already surpassed this goal and begun working towards more ambitious targets. Rather than being content with mollifying climate activists with a drawn-out decarbonization plan and continuing to profit off of its fossil businesses, Ørsted embraced the profits and reputation that large-scale wind power provided and set its sights on the future. The company has stated publicly that they now plan to generate entirely carbon-neutral energy by 2025 and be carbon-neutral within their supply chain by 2040.¹⁴

To have any chance of preventing the devastating environmental effects of a 1.5° rise in global temperatures, more companies will need to commit to completely decarbonizing their businesses as soon as possible. As Ørsted has proven, this transition does not need to occur at the expense of profits.

Final Thoughts: A Sound Transitional Framework

Considering the length and scope of Ørsted’s involvement in the fossil industry, their transition provides an encouraging example for companies looking to follow suit. Their transformation into a renewable energy giant has not been flawless, of course, and even today there is room to speed up their full exit from fossils. And while the company’s first-mover and state-owned statuses are certainly advantages, it has also had to overcome some unique challenges over the course of its transition. Most encouragingly, Ørsted has been able to maintain relative stability in both revenues and employment over the course of their transition (see figure 4). As evidenced by its success during the most recent economic shock, Ørsted’s case should demonstrate to other companies that a renewables-oriented approach is also a resilience-oriented approach.



Figure 4: Annual Revenues and Full-Time Employees⁵



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¹⁴ Ørsted (2020). Ørsted to become carbon neutral by 2025.