Will IOCs turn their backs on fossil fuels?

End of an era: Oil companies may soon be forced to weigh the benefits of diversifying away from fossil fuels

AT LEAST one of the major oil companies, perhaps Total or Statoil, will turn its back on fossil fuels within the next three years, following in the footsteps of European utility E.ON, a former industry advisor predicts.

The day after Jeremy Leggett, an award-winning scientist, who has had consultations on climate change with senior oil company executives over the past 25 years, aired his views in public, he received a plethora of "interesting emails", including one from a former senior BP executive.

"He said that I'm making a very big bet, but he added it would take at least five years," Leggett, who has advised both BP and Shell in the past, told *Petroleum Economist*.

The green-energy entrepreneur, who advocates embracing renewable energy and a rapid managed withdrawal from fossil fuels, says that the climate narratives playing out today remind him of the run-up to BP breaking with the pack with its "beyond petroleum" campaign in the late 1990s.

In a ground-breaking speech by BP's then chief executive, John Browne, in 1997, the British supermajor announced to the world its decision to accept climate change was occurring and its intention to cut BP's contribution to it.

Solar energy was officially moved up to the big table on par with BP's three other lines of business – exploration, oil and chemicals. And the company pledged to stop lobbying against cleaner forms of energy, while cutting its greenhouse gas emissions.

After Browne's resignation, the company exited solar in 2011.

Nevertheless, this time round, when one of the oil companies breaks ranks, it will stick, believes Leggett, who is also chairman of think-tank Carbon Tracker Initiative.

It's happened already in the utility industry. German company E.ON recently announced it would spin off its fossil-fuel assets into a legacy holding company separate from its core future-growth orientated renewable energy business.

Aside from E.ON, there are top-to-bottom strategic reviews going on across the utility, as well as the oil and gas business.

"It will be really interesting to see which is the first oil and gas player to break from the pack, although I fear BP and Shell are going backwards not forwards on carbon," said Leggett.

Crossover

Of course, compared to the utility sector, the oil and gas business is a different kettle of fish. But there is an overlap between electricity and transport that at some point means real concerns over the threats to conventional business models are going to intersect with growing pressure on capital expenditure, which will remain severe, even if oil prices rebound, said Leggett.

At the moment those thinking hardest about these threats to their business models, as well as contemplating a managed retreat from fossil fuels in the same way that E.ON has, are French major Total and Norwegian national oil company Statoil, he added.

"You have got to identify the point at which it's all going to be thoroughly changed and you have got to map back from it," said Leggett.

In strategic terms, the point to map back from is zero carbon in the energy system, not the electricity system. The year 2050 has been earmarked because more than 100 governments want that in the next UN climate treaty being readied for signing in Paris later this year.

Still, the first oil company to take the plunge will have a substantial advantage over its competitors. They can go on a big shopping spree and snap up substantial valuable assets across the clean energy spectrum, he adds.

Leggett, who still meets regularly with senior industry executives, feels the energy business is privately aware of the problems it faces as the costs to extract hydrocarbons escalates while the costs of solar and other new technologies are dropping.

In their favour, renewables not only exhibit falling costs, but zero price volatility, lower carbon emissions and greater security of supply, as an indigenous energy source.

Both Statoil and Total are taking positive steps towards a non-fossil fuel orientated future.

Total is heavily invested in solar as it expects the renewable source to make up a significant chunk of the energy mix in the longer run. It has spent more than $2 billion in the sector after buying a 60% stake in panel maker Sunpower in 2011.

"It's clear we believe in renewables and have taken a big bet on solar," Vincent Schachter, vice president research and development at Total New Energies, told *Petroleum Economist*.

"Frankly, three years ago not many larger players were willing to take such a bet. At the time is was a scary bet and for a while the solar industry was really hard. But we're quite happy where we are now," he added.

The French company also supports several clean-tech start-ups with different promising technologies, mainly through Total Energy Ventures, its corporate venture capital arm.

These include Aquion Energy, EnerVault and Lightsail Energy, all working on energy storage solutions. In January, Total Energy Ventures invested in Stem, which specialises in energy optimisation solutions, marking the company's 21st investment since its creation in 2008. It will be its fifth in the area of smart grids and energy storage.

It is also developing a low-cost, long-life, liquid metal battery in partnership with the Massachusetts Institute of Technology in an effort to cut costs on grid-scale energy storage systems.

And Vincent says the French-based player is "waiting with bated breath for the price tags to be right" to make more investments in the clean energy sector.

Meanwhile, Statoil and GE Oil & Gas recently launched a research and development partnership to explore ways to cut greenhouse gas emissions.

At the launch, Eldar Sætre, Statoil's chief executive, said that "climate challenge is real, and we are part of the source of it, and we need to be part of the solution".

Sætre said the company, which has faced criticism in Norway over its environmental record, aimed to take a lead on emissions reduction technologies, because he believed it would be a source of competitive advantage in the future.

"We believe the world will see increasing regulations (on emissions), and as an industry we need to adjust to this forcefully," he said.

Statoil has already started to use an implied price of $50 per tonne of carbon dioxide in its planning and investment decisions – a level at the higher end of the range of prices used by other oil companies. By way of comparison, US supermajor ExxonMobil uses a carbon price of $25/t.

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The price of carbon is a sticky subject for many oil companies.

The Carbon Tracker Initiative, which aims to raise awareness among key decision-makers about the risks that fossil fuels pose to wider financial stability, believes the oil and gas industry is understating the risks to its business models.

It is well established that there is a far greater amount of fossil fuels than the world can afford to burn if global warming is to be kept below the 2°Celsius obligation that has been set internationally.

Yet if business as usual continues, then enough carbon will be emitted to break the carbon budget well within the next two decades. And yet cash flows from current oil, gas and coal production are recycled into future projects, and exploration continues. This raises the probability of stranded assets, should policy makers take tougher action on emissions, and therefore risks significant destruction of shareholder value, the think tank said.

It further argues that the oil and gas industry remains blinkered, believing that any moves on carbon are beyond their investment horizon.

Laszlo Varro, head of gas, coal and power at the International Energy Agency (IEA), told *Petroleum Economist* that "the direct effect of dropping high-cost undeveloped assets would be minimal for most companies as the vast majority of an oil company's valuation is associated with cash flows from existing assets, which would continue even under the strictest climate policies, so they don't become stranded in a geological sense – they don't stay underground. However, strong climate policies will have a major impact on fossil fuel demand and thus prices, which will cut the cash flow generated by continuing production, potentially making it impossible to recover capital costs from long lead time high carbon assets."

Still, engaging with fossil fuel companies on climate change has largely become futile, reckons prominent UK environmentalist Jonathon Porritt, who spent years working on sustainability projects with BP and Shell.

"There was a time when I seriously persuaded myself that it was still just about possible for companies like Shell and BP to find some way of transitioning into fully integrated energy companies, investing as much in renewables, storage and efficiency as in hydrocarbons, instead of reverting to what they are today: pure-play hydrocarbon dinosaurs," Porritt, who is the founder of non-profit sustainability consultancy Forum For The Future, wrote in a recent blog. "It didn't happen. Worse yet, the lengths they went to justify their continuing investments in new hydrocarbons have become more and more extreme.

"With BP the moment (for transition) came and went under the leadership of John Browne, and with Shell, it pretty much died after Mark Moody-Stuart moved on," said Porritt.

Porritt reckons fossil fuel companies are ultimately doomed, if not in the short term. "It has been quite a painful journey for me personally. I so badly wanted to believe that the combination of reason, rigorous science and good people would enable elegant transition strategies to emerge in those companies". "But we learn as we go. And those companies surely will, if not in the near future."

It remains to be seen what the future holds for the oil and gas companies. But it's hard not to feel the industry will reach an inflection point sometime this decade. **DE ●**