

**Flash Analysis**  
Credit risk management

**Oil and gas**

**>>> 'Big Oil' – Death of a business model?**

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*Throughout their long history, the world's major international oil corporations have overcome quite a few crises. However, their business model now appears to be under more threat than ever before. Or, as Carl-Henrik Svanberg, Chairman of BP, puts it: "In our 109-year history, it is unlikely that there has ever been as much change as there is now." Is their business model at risk of becoming redundant?*

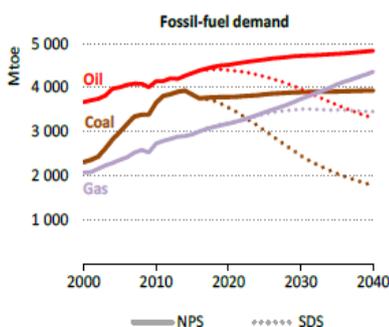
**Oil majors under pressure**

The oil majors are in a tight spot. Not only faced with the swift rise of oil frackers, who have revolutionised the oil market, they are also under increasing pressure from investors and the general public, who are demanding responses to the risk of climate change. Two years ago 195 countries signed up to the UN's Framework Convention on Climate Change. To keep global temperature rise below 2 degrees, the convention has set a number of goals, including "making finance flows consistent with a pathway towards low greenhouse gas emissions". This will thus mark a move away from carbon-heavy investments.

**No need to worry ...**

Nevertheless, suppliers of the fossil fuels oil, gas and coal are still by far the most predominant players, covering 81% of the world's primary energy demand. And, according to the International Energy Agency (IEA - a Paris-based autonomous intergovernmental organization), this is not going to change anytime soon. In its baseline scenario (New Policies Scenario, NPS – see chart) set out in its recent World Energy Outlook, the IEA assumes that conventional energy sources will continue to dominate the global energy mix (with 75%), even in 2040. While primary energy demand will grow by 1% p.a. , demand for oil will rise by 0.4% p.a. until 2040. As the Outlook explains, oil products are particularly difficult to replace in the petrochemical industry, aviation, and road /sea transport. Thus, the IEA believes predictions foreseeing an imminent "peak demand" in oil to be misleading. Instead, it draws attention to the current low level of investment in the industry, which may lead to an oil shortage over the next ten years. In this scenario, however, the battle against climate change would be lost (based on current models, the NPS would lead to a temperature rise of 2.7° by 2100).

**... Or is there?**



Source: World Energy Outlook 2017

In order to reach the 2-degree target, oil consumption would have to peak no later than 2020 and drop from the current 97 million barrel per day (mb/d) to 73 mb/d by 2040 (see chart). The biggest drop would need to occur in the transport sector, with electric cars constituting 40% of the world's car fleet in 2040.

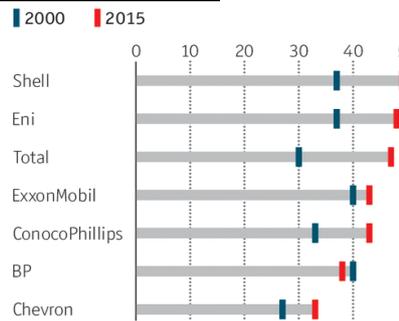
The issue has now made its way to the capital markets, too. The oil majors' shareholders (primarily institutional investors with a long-term investment horizon) are calling for better transparency concerning climate risks in portfolios. ClientEarth, an environmental law firm, recently warned BP and Glencore that their optimistic assumptions for oil demand are misleading shareholders and could therefore result in legal action. Exxon, on the other hand, is alleged to have been aware of anthropogenic climate change since the end of the 1970s (i.e. before the issue broke through to mainstream science) but is said to have covered it up (see "Exxon knew"). The time of denial, thus, appears to be over. So, what options are now open to the oil majors?

**Adapt or die — Options for oil majors**

Up until now, the answer has been *more gas*. Under the NPS, gas will continue on a stable upwards trajectory as it is regarded as the "cleanest" fossil fuel. According to the IEA's estimates, global demand for natural gas will grow by almost 50% by 2040 (Exxon forecasts 44% growth and BP 38% until 2035). Shell, Eni and Total in particular have actively re-gearred their business towards natural gas (see chart).

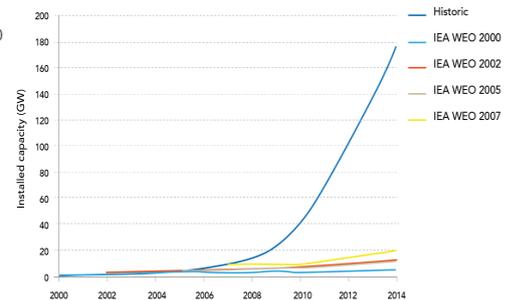
However, in light of the ever-increasing competitiveness of renewable energy, a rosy future for gas no longer seems so certain. Forecasts regarding the future market share of renewables vary greatly and the development of photovoltaic expansion was drastically underestimated by many observers, including the IEA, (see chart).

**Proportion of natural gas in total energy production compared to IEA scenarios**



Source: Economist Special Report, Nov. 2016

**Actual development of photovoltaic plants**



Source: Carbon Tracker

**Diversification ...**

While American producers (Exxon, Chevron) have adopted a slightly hesitant approach to this matter, their European counterparts are on the attack. *Statoil* is engaging in an increasing number of offshore wind projects and is planning to apply 15 to 20% of its CapEx for renewables by 2030. With its acquisition of New Motion — a leading provider of charging stations — and its announcement that it will be collaborating with Ionity to build up charging stations in ten European countries, *Shell* is attempting to play on its strengths as the world's largest service station operator. Furthermore, Shell recently showcased its own concept car (Project M), which is designed to consume just 2.6 litres of petrol. *OMV* is also planning to build charging stations for electric cars at its service stations. *Total*, on the other hand, is concentrating on investments in energy storage and energy efficiency. According to its plans, one fifth of all investments will go to this division by 2035. To achieve its plans, Total has acquired the French battery producer Saft and the majority shares in the American solar power company SunPower.

**... Or managed decline?**

Despite all this, the oil majors are still latecomers to these areas and their transition into green companies entails plenty of risk. Many analysts therefore believe a "managed decline" to be the best alternative: Big Oil should concentrate on extracting maximum revenue from the final stage of the oil era and pass these earnings onto their shareholders. Shareholders can then use these proceeds to invest in already market-tested and commercially viable businesses. The tobacco industry is a successful example for this approach. Over the last 20 years, it has bestowed shareholders with returns of around 13% p.a. (compared to 4.5% for the market as a whole) by concentrating on cutting costs as sales dropped

**Conclusion**

The oil majors may currently be facing their biggest challenge to date. Should they take the risky path towards low-carbon technology or abandon themselves to their fate? The wide array of answers to this question will result in increasing differentiation among the oil majors when it comes to strategy and business models over the next five to ten years. And, this in turn will also affect their credit risk profile.