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Fossil fuel companies are facing an existential threat from global action on climate change and the unstoppable shift to cleaner sources of power.

It's widely accepted that in order to meet the Paris accords to hold global temperature rise below two degrees Celsius (compared to pre-industrial levels), countries will need to drastically cut emissions. Efforts to catalyse a more rapid move toward greener practices by companies, investors and capital markets are multiplying. Fossil fuel as an energy source still dwarf renewables but the shift to cleaner sources of power is accelerating. Since the Paris Agreement in 2015, various major international banks have begun to abandon the coal sector; either announcing their exit or scaling back finance for the coal mining and coal power sectors.

It will not be long before financing restrictions are extended to the oil and gas sector. The Task Force on Climate-related Financial Disclosures (TCFD) recommendations mean banks are taking a closer look at the carbon intensity of projects and businesses that they are financing. At the end of 2017 the World Bank announced the end to financial support for oil and gas extraction¹.

EU regulation which is expected to come into force in 2019 will require all pension schemes to have a formal Environmental, Social and Governance (ESG) policy and to disclose it in their annual reports to members adding pressure on all investors, asset managers and companies to ensure that sustainability is high on the agenda.

<u>Litigation and climate legislation</u>

The divestment campaign to put public pressure on companies that extract fossil fuel to divert investment into renewable energy is growing. It is not just a political message by investors but an economic one due to the risk of 'stranding'. Assets become stranded often as the result of technological shift in a dynamic economic system. New technologies replace old ones and new companies out compete incumbents. The horse and carriage was replaced by trains and automobiles, mobile phones superseded landlines and we are seeing this with renewables reshaping electricity markets and electric vehicles disrupting the car sector. In terms of policy or regulation risk, it is estimated that one third of oil reserves, half of gas reserves and more than 80% of known coal reserves should remain unused in order to meet global temperature targets under the Paris Agreement.²

Cities are also suing big oil companies. New York City not only announced they would divest investments in fossil fuel businesses in their pension funds but also filed a lawsuit earlier this year against five major oil companies seeking to collect billions of dollars in damages to pay for city efforts to cope with the effects of climate change. These legal actions may take years to resolve but it could come at a time when demand for their fossil product is declining; a double whammy for big oil's bottom line.



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Shift in demand

The shift to cleaner energy sources is accelerating with more competition due to falling renewable generation costs and battery storage production boom. This colossal structural shift is happening at a pace that is taking leaders in the oil and gas sector by surprise. Some of the world's largest oil companies have spoken of the ongoing energy transition as a "global transformation"³, that is "reshaping the energy industry"⁴ and "unstoppable"⁵. A United Nations report highlighted the record breaking year for renewable energy creation worldwide in 2017 with global spending on solar higher than any other energy source. Australia invested \$8.5 billion in renewables in 2017 with the price per watt of solar photovoltaics in Australia falling to \$1.40 per watt in 2017 compared to \$6.40 in 2010; mirroring a global trend with solar on course to become the world's cheapest source of energy. According to Bloomberg New Energy Finance report in 2017 solar is already at least as cheap as coal in Germany, Australia, US, Spain and Italy By 2021, it will be cheaper than coal in China, India, Mexico, the UK and Brazil as well.

It is clear thermal coal has had its "day in the sun". Its place in the global energy mix is threatened by both economic and environmental considerations. The transition from coal-fired power to lower-carbon and renewable energy is already underway in developed economies.

Oil and gas | Challenge and Opportunities

Despite the low penetration of electric vehicles in the world, the death knell for the internal combustion engine has been rung. The UK, France, Norway and Netherlands have all announced they will ban sales of petrol and diesel cars by 2040. China, the world's largest electric vehicle market, is working on a timetable to end production and sales of petrol and diesel vehicles⁸. The Chinese city of Shenzhen already boasts the world's largest electrified bus fleet, larger than five largest North American bus fleets combined⁹. It is not the only Chinese city to electrify its bus fleet.

Given the deep disruption already being felt in the power sector and the big players acknowledging the transition to a low carbon economy, some of the supermajors like BP, Equinor, Shell and Total are investing in clean technology. Total, the French integrated oil and gas company, has invested a combined US\$2.5 billion in Saft, a French battery maker and a majority stake in SunPower, a US solar company. Equinor, formerly Statoil, of Norway has invested US\$2.3 billion into offshore wind and aims to be investing 15% to 20% of its capital expenditure in renewables by 2030. The CEO of Equinor, Eldar Saetre, in their energy outlook released in 2018 said, "We need an energy transition of enormous proportions" and that "the transition is simply too slow, and must speed up." The two US Oil supermajors, ExxonMobil and Chevron, are in the minority as they resist jumping on the renewable bandwagon.

Capital expenditure on clean technology by some of oil supermajors may seem significant but it's a small drop relative to their overall capital spend. Given the proved reserves of international oil companies typically stretch for only 10-15 years, it could be argued that the supermajors have



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flexibility to focus investment and adjust spending up or down depending on how quickly the energy transition evolves. However, the current pace of transition means oil and gas companies may have to move more quickly to reposition their portfolios. Most energy projects are costly and long-term. Commitment will be difficult with the knowledge that the Paris Agreement will be difficult to achieve on their business as usual trajectory.

Our approach | What are we doing?

Investment risk is extremely high for the coal and coal-related businesses for economic and environmental reasons. The challenge for the oil and gas sector is whether they can transition to a low-carbon economy. For bond investors that manage to an index or do not adequately measure ESG risks, there is a real prospect of their investments stranding. This could entail financial loss given the value of companies that extract, distribute or rely heavily on fossil fuels may not fully reflect that risk.

Our approach is to assess the credit risk of companies by fully factoring in their ESG performance, including the risk of stranding.

Companies involved in the production or sale of thermal coal are excluded from the investible universe for the Altius Sustainable Bond Fund.

¹ World Bank, "World Bank Group Announcements at One Planet Summit", 12 Dec 2017 http://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit

² Carbon Tracker Initiative "Unburnable Carbon – Are the world's financial markets carrying a carbon bubble? September 2014,

 $[\]underline{https://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf}$

³ Saudi Aramco, "At WEF 2017, Saudi Aramco CEO outlines the future of energy", 18 Jan 2017, http://www.saudiaramco.com/en/home/news-media/news/wef-2017-saudi-aramco-ceo-outlines-future-of-energy.html

⁴ Equinor, "Statoil CEO's message to CERAWeek", 8 Mar 2017, https://www.statoil.com/en/news/ceraweek-test-not-in-crisis-but-recovery.html

⁵ Shell, "The three keys to a successful global energy transition", 22 Mar 2017, https://www.shell.com/media/speeches-and-articles/2017/three-keys-to-successful-global-energy-transition.html

⁶ Frankfurt School – United Nations Environment Programme & Bloomberg New Energy Finance, "Global Trends in Renewable Energy Investment 2018"

⁷ Bloomberg New Energy Finance, "New Energy Outlook 2017", June 2017 https://about.bnef.com/new-energy-outlook/#toc-download

⁸ CNBC, "China looks at ending sales of gasoline cars" 10 Sep 2017, https://www.cnbc.com/2017/09/10/china-looks-at-ending-sales-of-gasoline-cars.html?stream=politics

⁹ World Resources Institute, "How did Shenzhen, China build world's largest electric bus fleet?" 4 Apr 2018, http://www.wri.org/blog/2018/04/how-did-shenzhen-china-build-world-s-largest-electric-bus-fleet

¹⁰ Equinor, "Energy Perspectives 2018", June 2018,

 $[\]frac{https://www.equinor.com/content/dam/statoil/documents/energy-perspectives/energy-perspectives-\\ \underline{2018.pdf}$



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