

The Case for Fossil Fuel Divestment

A number of high profile investor groups in NZ have recently adopted a fossil fuel free investment policy. This includes Dunedin City Council (through its Waipouri Fund) and 5 Anglican Diocese. They join a growing global movement, perhaps the most noticeable recent addition being the heirs to the Rockefeller Family through the Rockefeller Brothers Fund. Why?

In 2010, in Cancun in Mexico, the 194 countries of the United Nations Framework Convention on Climate Change (UNFCCC for short which includes all major emitters of greenhouse gases) agreed that, in order to meet their ultimate objective of stabilising greenhouse gas concentrations at levels to prevent dangerous man-made interference with the climate, global warming should not be allowed to rise beyond 2 degrees Celsius above pre-industrial levels¹.

Opinion on the exact level varies, but there is some consensus that to avoid global warming of 2 degrees, greenhouse gas concentrations (i.e. Carbon Dioxide) must not be allowed to exceed 450 ppm¹ (according to CO₂.now.org, the current level of CO₂ concentrations stand at 399ppm). For the past ten years, the average annual rate of increase is 2.07 ppm. This rate of increase is more than double the increase in the 1960s².

In its 2012 report World Energy Outlook³, The International Energy Agency (IEA) estimated that in order to have a 50% chance of limiting the rise in global temperatures to 2 degrees, the world can only emit 1,440 gigatonnes of CO₂ over the first half of the 21st century. As at end 2012, around 400 gigatonnes had already been emitted from fossil fuels. This leaves a carbon budget of around 1,000 gigatonnes. The IEA estimates that this equates to around a third of the world's current proven fossil fuel reserves. Put another way, the IEA states, "No more than one third of proven reserves of fossil fuels can be consumed prior to 2050 if the world is to achieve the 2 degree goal unless carbon capture and storage technology is widely deployed". The report highlights that two-thirds of these carbon reserves are related to coal, 22% to oil and 15% to gas. Geographically, two-thirds of these assets are held by North America, the Middle East, China and Russia.

In its 2011 paper, "Burnable Carbon – Are the World's financial markets carrying a carbon bubble"?, the Carbon Tracker Initiative⁴ calculates that to reduce the chance of 2 degrees of warming to 20%, the global carbon budget for the period 2000 to 2050 is just 886 gigatonnes of CO₂. When taking in to consideration emissions for the first decade of the century, this leaves just 565 GtCO₂ left to burn. But, the paper points out, the Earth's known fossil fuel reserves are 5 times this figure with reserves of the top 100 listed coal and top 100 listed oil and gas companies alone representing emissions of 745GtCO₂ (more than the carbon budget)⁶. If one takes a pro-rata approach, the implication is that up to 80% of the declared reserves of the world's largest listed fossil fuel companies may never be used if the 2° target is achieved. Carbon Tracker stress-tested their approach in 2013 ("Unburnable Carbon 2013, Wasted capital and stranded assets"); whilst the figures differed slightly, the conclusion remains the same⁵.

Based on the 2012 IEA projections (of energy related fossil fuel free emissions), the carbon budget will be exhausted in 16 years (from that date) if energy consumption continues unchanged. One possible solution to allowing more carbon to be burned without endangering the 2 degree ceiling is through the greater and more effective use of carbon capture and storage technology (CCS). In its 2013 paper, The Carbon Tracker Initiative reports that there are currently 8 large scale projects currently operating world-wide with a further 8 under construction. Even with high levels of investment, CCS has limited capacity to extend the carbon budget (by 12 to 14% at most)⁵.

As at the end of 2012, the market value of the 200 listed companies analysed with the largest fossil fuel reserves totalled \$4trillion (with \$1.27trillion of bonds and loans outstanding). The Carbon Tracker Initiative estimated that 20 – 30% of market capitalisation is linked to fossil fuel extraction on the Australian, London, Moscow, Toronto and Sao Paulo exchanges.

The current market valuations of fossil fuel companies assumes exploitation of these proven reserves. A number of recent papers have highlighted examples of risk to equity investors and bond holders. In its 2013 paper, "Oil and Carbon Revisited" HSBC examined the impact of falling oil process in a lower carbon environment and the impact on European energy (oil and gas) companies. The paper surmised that the combined value at risk ranges from 40% to 60% of their market capitalisation⁵.

In a similar vein and in their earlier 2012 paper of the same name, HSBC examined the risks for the 4 major UK mining companies in a scenario where demand for coal is static or falls. It concluded a potential share price impact/reduction of 4 to 15%⁵.

In 2013, Standard and Poor's examined the credit worthiness of companies with exposure to Canadian oil sands on a lower oil price scenario and concluded that deteriorating financial risk profiles could lead to negative outlook revisions and downgrades⁵.

And all the time, companies continue to invest in further potential extraction. In 2012, the top 200 listed fossil fuel companies spent US\$ 674 billion on capital expenditure in the pursuit it is assumed of more fossil fuels. In contrast, these companies paid US\$126 billion in dividends to shareholders; they are spending 5 times as much on seeking new reserves (that may never be extracted) than they are on returning capital to shareholders⁵.

In summary, the international community has agreed that greenhouse gas emissions should be reduced to avoid a rise in global temperatures of above 2 degrees above pre-industrial levels. This implies a carbon budget must be adhered to, but this budget is fast being used up. Listed fossil fuel companies and governments will be forced to limit the quantity of known reserves to be extracted if the 2 degree ceiling is to be achieved. From an investor's perspective, the market value of many listed fossil fuel companies are at risk if one assumes that a significant portion of their reserves will never be extracted.

Whilst shareholder (and bondholder) interests are important, the broader economic and environmental impacts of unchecked global warming must not be overlooked. One of the conclusions in the 2006 Stern review was that "Central estimates of the annual costs of achieving stabilisation between 500 and 550ppm CO₂ are around 1% of global GDP"⁷. In June 2008, Lord Stern⁸ said that because climate change is happening faster than predicted, the cost to reduce carbon would be even higher, of about 2% of GDP instead of the 1% in the original report.

Environmentally, the predicted impacts have been widely reported. In his book, "Six Degrees – Our Life on a Hotter Planet"⁹ Mark Lynas⁹ outlines the effect of various temperature rises. At 3 degrees of warming, he predicts, Australia will become the world's driest nation. Days when the temperature exceeds 40 degrees will increase 6-fold, the frequency of droughts will triple and rainfall will plummet by 25%. Australia's main rivers for water supply will lose between 25% and 50% of their flows.

Matthew Mimms, September 2014

IMPORTANT INFORMATION: Any information expressed or recommendation made in this article is in respect of a class of financial product only and should not be construed as a recommendation or opinion in relation to the acquisition or disposition of any specific financial product. Neither The Investment Store, nor any of its directors or employees gives any warranty as to the reliability, accuracy, suitability or currency of the information contained in this blog. Nothing in this blog is, or should be deemed to constitute, financial, investment, taxation or other advice from the investment store or a recommendation from the Investment Store to purchase any product or service. The information provided in this communication is for discussion purposes only and should not be relied on in making an investment decision.

¹New Zealand Climate Change Centre. "The Challenge of Limiting Warming to Two Degrees". No 1, November 2011.

²CO₂.now.org

³World Energy Outlook 2012. The International Energy Agency, November 2012.

⁴Unburnable Carbon – Are the world's financial markets carrying a carbon bubble? Carbon Tracker Initiative. 2011.

⁵Unburnable Carbon 2013: Wasted capital and stranded assets. Carbon Tracker Initiative and Grantham Research Institute, LSE. 2013.

⁶The balance fossil fuel assets are state owned.

⁷Stern, N. (2006). "Stern Review on the Economics of Climate Change - Executive Summary". HM Treasury, London. January 2010.

⁸Jowit, Juliette; Wintour, Patrick (26 June 2008). "Cost of tackling global climate change has doubled, warns Stern". *The Guardian* (London).

⁹Sourced from "A summary of Conclusions from Six Degrees – Our Life on a Hotter Planet". Colin Carrit – Sustainable Woodstock. Information courtesy of Mark Lynas' book.