An Taisce
The National Trust for Ireland

The Case for Fossil Fuel Divestment

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An Taisce – The National Trust for Ireland supports Global Divestment Day, a global climate initiative by 350.org. Their online campaigns and grassroots organising are coordinated by a global network active in over 188 countries.

Inside

About An Taisce – The National Trust for Ireland

An Taisce is a charity that works to preserve and protect Ireland's natural and built heritage. We are an independent charitable voice for the environment and for heritage issues. We are not a government body, semi-state or agency. The work of our organisation is focused in three areas:

Advocacy: We are dedicated to promoting the conservation of Ireland's nature and biodiversity as well as its built heritage.

Properties: We own a range of heritage properties in trust, including historic buildings and nature reserves.

Education: We are responsible for developing and operating some of Ireland's most popular and successful environmental programmes and campaigns

What is Fossil Free?

If it is wrong to wreck the climate, then it is wrong to profit from that wreckage. We believe that educational and religious institutions, governments, and other organisations that serve the public good should divest from fossil fuels.

We are asking institutions to:

- Immediately freeze any new investment in fossil fuel companies;
- Divest from direct ownership and any commingled funds that include fossil fuel public equities and corporate bonds within 5 years

There is a mounting global campaign to promote fossil fuel divestment from pension and other investment funds. Glasgow and Stanford Universities are among a growing number of educational institutions leading the way on the issue.

What is Divestment?

Divestment is the opposite of an investment – it simply means taking money out of pension and other investment funds that are unethical or morally ambiguous. Universities, religious organisations, retirement funds, and other institutions put billions in these same kinds of funds to generate income for their running costs. However, fossil fuel investments are a risk for both investors and the planet, so we're calling on institutions to divest from these companies.

Fossil fuel divestment takes the fossil fuel industry to task for its culpability in the climate crisis. By naming this industry's singularly destructive influence — and by highlighting the moral dimensions of climate change — we hope that the fossil fuel divestment movement can help break the hold that the fossil fuel industry has on our economy and our governments. An evaluation of the arguments in favour of divestment was published by Feasta – The Foundation for the Economics of Sustainability in December 2014[1]:

You can have an impact by simply writing to your pension or investment fund manager asking them to clarify whether your funds are directly linked to fossil fuel interests. If so, you can ask them to identify alternative, ethically sound investment funds.

The more institutions and individuals that take up this challenge, the greater the driving force for change there will be, bringing us one step closer to a sustainable, liveable planet for our children and grandchildren.

[1] http://www.feasta.org/2014/12/18/divestment-from-fossil-fuels-a-critical-appraisal/

Why Divest?

There are four main reasons why you should divest from fossil fuels:

1. The moral issue including the right of future generations to a stable climate;
2. The case for elimination of investment risk, since if effective climate emission action is to be taken, a major part of exploitable existing fossil fuel deposits will have to be left in the ground;
3. The message that future investment needs meet the constraint of the global carbon budget; and
4. To advance the investment and economic structures required to enable the level of energy conservation and renewables needed to supersede fossil fuel.

This campaign for divestment is supported by Former President Mary Robinson, now UN Climate envoy, who summed up the issue in relation to fossil fuel in February 2014 stating:

> *This is how inter-generational equity can be achieved: promoting a new investment model that responds to the risks posed by climate change. By avoiding investment in high-carbon assets that become obsolete, and by prioritising sustainable alternatives, we build capacity and resilience, particularly for more vulnerable people – while lowering carbon emissions.*

Also, Archbishop Desmond Tutu, in September 2014 called for end to the fossil era and argued that continued fossil fuel investment was a moral issue, advocating a boycott similar to that against apartheid era South Africa:

> *People of conscience need to break their ties with corporations financing the injustice of climate change. […] It makes no sense to invest in companies that undermine our future. To serve as custodians of creation is not an empty title; it requires that we act, and with all the urgency this dire situation demands*

There are several other key figures who believe that fossil fuel divestment is morally, strategically and financially important. Other high profile voices speaking out in support of divestment so far can be found on gofossilfree.org/endorsements

The Science

The 'Copenhagen Accord' reached at the end of the 2009 United Nations Framework Convention on Climate Change (UNFCC) agreed that:

> *'deep cuts in global emissions are required according to science, and as documented by the IPCC Fourth Assessment Report with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius, and take action to meet this objective consistent with science and on the basis of equity'*

The following year the 2010 UNFCC 'Cancun Agreements' included the provision to:

> *'establish clear objectives for reducing human-generated greenhouse gas emissions over time to keep the global average temperature rise below two degrees'*

This has direct implication for continued fossil fuel extraction and exploration, energy and transport infrastructure, food production and land use. The year 2014 was Earth's warmest on record, according to separate reports by National Aeronautic and Space Agency (NASA) and the National Oceanic and Atmospheric Administration (NOAA) released on 16 Jan 2015. The average temperature was 0.69^{o}C above the 20th Century average, beating the previous record-holding years of 2005 and 2010 by 0.04^{o}C.

With the exception of 1998, the ten warmest years on record have now occurred since the year 2000, according to analysis of surface temperature measurements by NASA and NOAA. Since 1880, when record-keeping began, Earth's average surface temperature has warmed by about 0.8^{o}C.

The 5th Intergovernmental Panel on Climate Change (IPCC) Synthesis report published in October 2014 is clear and unequivocal. Climate change is at a speed unprecedented in all human experience and is happening now as a result of human-caused greenhouse gas emissions. Carbon emissions continue to accelerate due to humanity's burning of fossil fuels, including coal, peat, oil and gas. Deforestation and agriculture, especially with increasing dairy and meat production are also adding to greenhouse emissions.

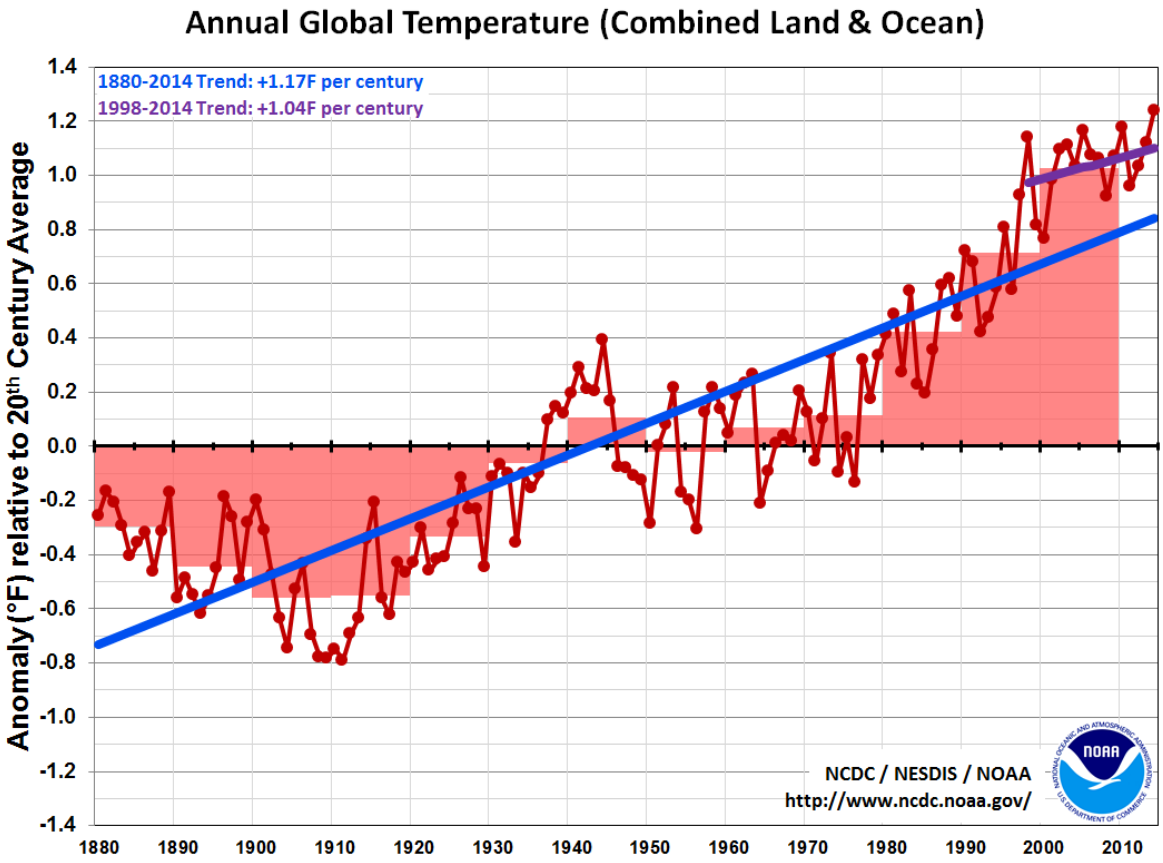

Figure 1 - Global Surface Temperature: long-term trend and trend since 1998

The new science in this fifth IPCC assessment shows that the amount of future global warming is directly related to the total amount of accumulating human-caused emissions of greenhouse gases – past, present, and future, they all add up. If our accumulated emissions continue to rise then temperatures will continue to rise, extreme weather will be more frequent and more damaging, sea level will rise ever faster, and more land and sea ice will be lost. Only deep, rapid and sustained emission reductions by all nations but especially by wealthy, high-emitting ones like Ireland can possibly bring nett global carbon emissions below zero before the threshold for tolerable atmospheric carbon accumulation is irreversibly breached. Only such decisive action can now meaningfully limit climate change and the severe dangers and risks it brings for the future of the entire human family.

Droughts, coastal storm surges from the rising oceans and wildlife extinctions on land and in the seas will all worsen unless emissions are cut, the report states. This will have knock-on effects, according to the IPCC: 'climate change is projected to undermine food security'. The report also found the risk of violent conflict and even war could increase: 'climate change can indirectly increase risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks'.

Two-thirds of all the accumulated emissions permissible if dangerous climate change is to be avoided have already been pumped into the atmosphere, the IPPC found. The lowest cost route to stopping dangerous warming would be for emissions to peak by 2020 – an extremely challenging goal – and then fall to zero later this century.

The report calculates that to prevent dangerous climate change, investment in low-carbon electricity and energy efficiency will have to rise by several hundred billion dollars a year before 2030. But it also found that delaying significant emission cuts to 2030 puts up the cost of reducing carbon dioxide by almost 50%, partly because dirty power stations would have to be closed early. 'If you wait, you also have to do more difficult and expensive things,' said Jim Skea, a professor at Imperial College London and an IPCC working group vice-chair.

The Carbon Budget

Rapid global warming and resulting climate change now taking place has a simple cause: Every addition of carbon dioxide (CO2) due to human causes traps a corresponding additional amount of solar energy in Earth's atmosphere and ocean. This warming due to the accumulation of CO2 is irreversible on human timescales – once emitted the CO2 levels remain raised. Therefore, limiting climate change will require substantial and sustained reductions of greenhouse gas emissions from now on. At some point net emissions will need to be zero to stop further warming. The agreed 2°C limit to global warming (above pre-industrial temperatures) therefore requires an absolute limit on the nett carbon emissions that can ever be emitted globally. This remaining total amount of future CO2 emissions to limit warming to 2°C is called the 'global carbon budget'.

Even such a small change in the Earth's average surface temperature can have profound changes on the climate, geography, and biosphere that are the basis for all life, and for modern society, including the supply of crops for food. During the last ice age the average global temperature was only about 5°C colder than today, yet sea level was 120m (400ft) lower and many areas populated today were deep under ice. In the last 10,000 years, a very stable climate, due to very steady natural CO2 levels, enabled agricultural civilisation to emerge and to thrive.

The problem for modern human civilisation which depends on large scale burning of fossil fuels for energy, thereby releasing CO2, is that at current, increasing rates of annual emissions, the remaining 2°C global carbon budget will be entirely exhausted within as little as 15 to 30 years. Moreover, there is enough carbon stored in proven reserves of peat, coal, oil and gas to result in extremely dangerous global warming of 6°C or even more.

Due to greenhouse gases from fossil fuel burning, livestock agriculture and deforestation, about 0.8°C of warming has occurred since industrialisation. Now though, due to rapidly rising CO2 – and also due to other greenhouse gases, especially methane – oceans and atmosphere are warming rapidly by accumulating very large amounts of additional solar energy. Continuing the current pathway of ever increasing emissions would mean that a rise of 4°C is entirely possible by 2100. This is a very dangerous rate of warming, faster than any known rise, even faster than during geological extinction events. On this dangerous track, it is quite certain

that within ninety years every part of the world will be entirely changed and will continue to change, with very serious negative consequences for human civilisation and for all ecosystems. The only certain way for humanity to limit dangerous climate risk is to limit emissions within the available carbon budget. This means rapid and major changes in consumption patterns and energy production are needed. To do this at least cost means starting very soon and proceeding very quickly. The biggest question for humanity is how to divide the 2°C carbon budget equitably between nations and future generations. There is no doubt though, that the greatest responsibility to act for change, and act fast, lies with wealthy nations and institutions.

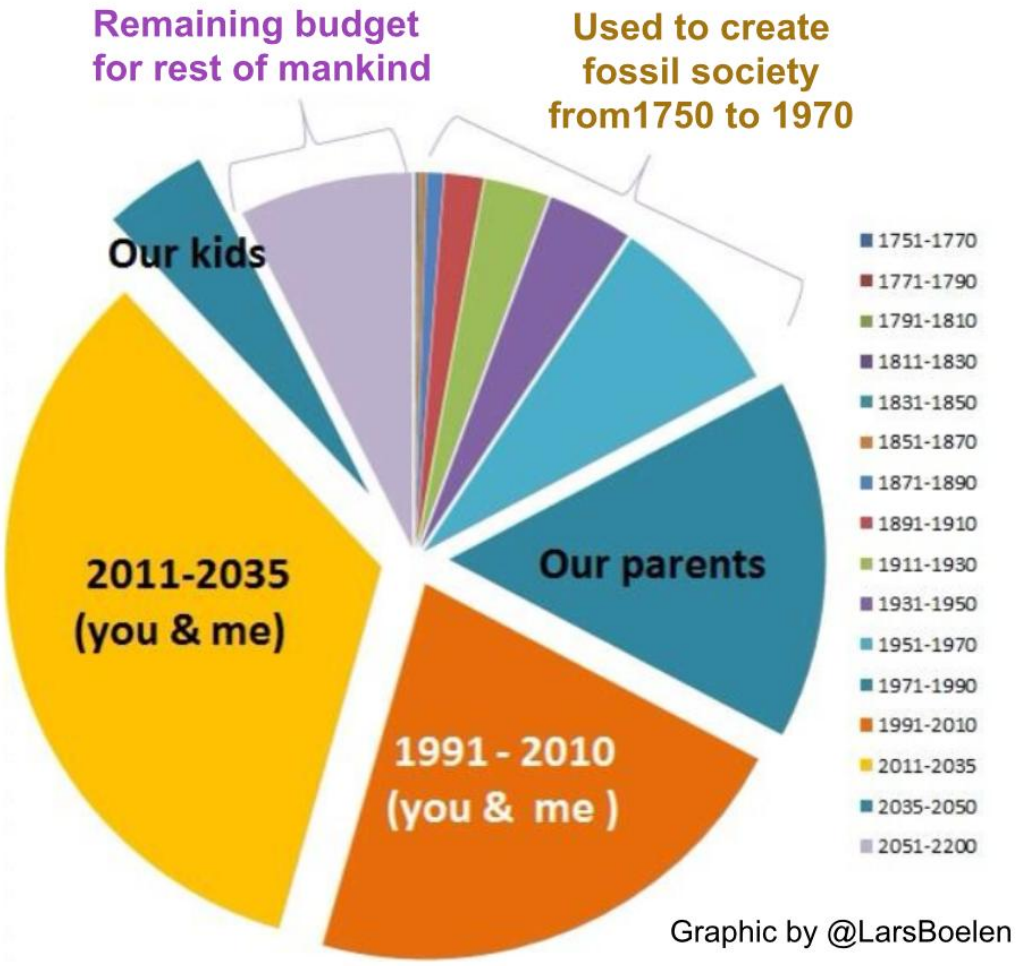

Figure 2 - Carbon Budget per Generation for 2°C: more than a third of emissions have been since 1970. The available remaining budget to limit warming to 2ºC is being exhausted rapidly

Further Reading

Globally energy companies are in an exploration race to continue a level of fossil fuel extraction which if burned is incompatible with the level of decarbonisation required to stabilize global climate at 2 degrees average surface temperature above pre industrial levels as agreed in the Copenhagen Accord.

The extension of oil and gas exploration into new areas, and using problematic new technologies, extends from the Arctic wilderness to Central Africa. The 2010 Deepwater Horizon spill clearly highlights the risks involved in deep sea drilling. Oil and gas extraction in the Niger delta has a high carbon impact and is the cause of major local pollution. The increased level of extraction from Canadian Tar Sands is devastating in environmental impact and generates a much higher level of emissions than conventional wells. The Keystone XL pipeline proposal to link Alberta to the southern United States highlights the mounting conflict between the fossil fuel lobby and climate science. Fracking in the US has created new environmental risks and has significant additional climate impact through methane leakage during the extraction process.

The global tonnage of coal extraction is increasing in China including Outer Mongolia and India, driven in large part to serve the production of consumer goods for the developed world. The expansion of open cast mining in West Virginia is removing mountain tops and filling in valleys. In Australia mining expansion is linked to port development which would have potentially severe impacts on the Great Barrier Reef.

There is a convergence of research and reports by leading scientific authorities on the implication of allowing warming to exceed 2 degree Celsius, and the action needed in limiting burning of fossil fuel other climate impacts.

Among the most significant reports are the following:

Carbon Tracker Initiative and the Grantham Research Institute on Climate Change and the Environment (2013). *Unburnable Carbon 2013: Wasted capital and stranded assets*. London: (Carbon Tracker & The Grantham Research Institute.[2]

[2] http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-2-Web-Version.pdf

This assessed the consequence of burning existing total fossil fuel reserves against global atmosphere capacity to absorb the emissions generated if temperatures are not to exceed 2 degrees above preindustrial levels.

It concluded that between 60-80% of coal oil and gas reserves of publically listed companies are unburnable if the world is to have any realistic chance of not exceeding global warming of 2 degrees Celsius. Conversely, if there is effective societal action to limit the extent of climate change, then this will raise the spectre of fossil fuel installations and distribution networks collapsing in value, with the global economy already facing 'the prospect of assets becoming stranded, with the problem only likely to get worse if current investment trends continue - in effect, a 'carbon bubble'.

The World Bank & Potsdam Institute for Climate Impact Research and Climate Analytics (2012). *Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, The World Bank 2012*. Washington: The World Bank.[3]

This report assesses the scientific data on the implications of allowing emissions to exceed a 2 degree threshold. The abstract for the report states:

> *'This report focuses on the risks of climate change to development in Sub-Saharan Africa, South East Asia and South Asia. Building on the 2012 report, Turn Down the Heat: Why a 4°C Warmer World Must be Avoided, this new scientific analysis examines the likely impacts of present day, 2°C and 4°C warming on agricultural production, water resources, and coastal vulnerability for affected populations. It finds many significant climate and development impacts are already being felt in some regions, and in some cases multiple threats of increasing extreme heat waves, sea level rise, more severe storms, droughts and floods are expected to have further severe negative implications for the poorest. Climate related extreme events could push households below the poverty trap threshold. High temperature extremes appear likely to affect yields of rice, wheat, maize and other important crops, adversely affecting food security. Promoting economic growth and the eradication of poverty and inequality will thus be an increasingly challenging task under future climate change. Immediate steps are needed to help countries adapt to the risks already locked in at current levels of 0.8°C warming, but with ambitious global action to drastically reduce greenhouse gas emissions, many of the worst*

[3] http://documents.worldbank.org/curated/en/2012/11/17097815/turn-down-heat-4%C2%B0c-warmer-world-must-avoided

projected climate impacts could still be avoided by holding warming below 2°C'

Price Waterhouse Cooper (2014). *Two degrees of separation: ambition and reality Low Carbon Economy Index 2014*. London: Price Waterhouse Cooper.[4]

The 6th Annual index published by PWC shows the mounting failure in global action on decarbonisation to meet the 2 degree target:

'*The 2014 Low Carbon Economy Index (LCEI) shows an unmistakeable trend. For the sixth year running, the global economy has missed the decarbonisation target needed to limit global warming to 2°C. Confronted with the challenge in 2013 of decarbonising at 6% a year, we managed only 1.2%. To avoid two degrees of warming, the global economy now needs to decarbonise at 6.2% a year, more than five times faster than the current rate, every year from now till 2100. On our current burn rate we blow our carbon budget by 2034, sixty six years ahead of schedule. This trajectory, based on IPCC data, takes us to four degrees of warming by the end of the century*'

International Energy Agency (2014). *World Energy Outlook 2014*. Vienna: International Energy Agency.[5]

The Vienna based IEA presents an annual global overview on energy. The 2014 Outlook report models the climate impact of the continuation of current energy policies as follows:

'*By 2040, the world's energy supply mix divides into four almost-equal parts: oil, gas, coal and low-carbon sources. Resources are not a constraint over this period, but each of these four pillars faces a distinct set of challenges. Policy choices and market developments that bring the share of fossil fuels in primary energy demand down to just under three-quarters in 2040 are not enough to stem the rise in energy-related carbon dioxide (CO2) emissions, which grow by one-fifth. This puts the world on a path consistent with a long-term global average temperature increase of 3.6 °C. The Intergovernmental Panel on Climate Change estimates that in*

[4] http://www.pwc.co.uk/assets/pdf/low-carbon-economy-index-2014.pdf
[5] http://www.iea.org/publications/freepublications/publication/WEO_2014_ES_English_WEB.pdf

order to limit this temperature increase to 2 °C – the internationally agreed goal to avert the most severe and widespread implications of climate change – the world cannot emit more than around 1 000 gigatonnes of CO2 from 2014 onwards. This entire budget will be used up by 2040 in our central scenario. Since emissions are not going to drop suddenly to zero once this point is reached, it is clear that the 2 °C objective requires urgent action to steer the energy system on to a safer path'

Christophe McGlade & Paul Ekins. (2015). The geographical distribution of fossil fuels unused when limiting global warming to 2°C. *Nature*. 517 (187–190).[6]

In January 2015 the international scientific journal Nature published a major paper the level of fossil fuel burring compatible with maintaining a stable climate:

'If global warming is to be limited in this century to the much-publicized 2 °C rise compared to pre-industrial levels, fossil fuel use and the associated release of greenhouse gases will need to be severely limited. This raises questions regarding the specific quantities and locations of oil, gas and coal that can be safely exploited. Christophe McGlade and Paul Ekins use an integrated assessment model to explore the implications of the 2 °C warming limit for different regions' fossil fuel production. They find that, globally, a third of oil reserves, half of gas reserves and over 80% of current coal reserves should remain unused during the next 40 years in order to meet the 2 °C target and that the development of resources in the Arctic and any increase in unconventional oil production are incompatible with efforts to limit climate change'

[6] http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html

If you require any further information on the above policy issue, please get in contact

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