“We’re not going to be able to burn it all.”
US President Barack Obama, June 2014

Financial specialists making carbon investment risk visible in the capital markets today.
Who are we?
Carbon Tracker is a non-profit financial think tank.

What is our mission?
To enable a climate secure global energy market by aligning the capital markets with climate reality.

What is our strategy?
To provide the financial and regulatory analysis to ensure that the risk premium associated with fossil fuels is correctly priced.

How we do it?
Mapping the transition for the fossil fuel industry to stay within a two degree budget.

Our key targets and objectives:

- **Empower investors** to identify and switch off capital to the highest cost, highest carbon projects.
- **Engage with companies** to re-assess both the viability of such projects and of their business model.
- **Educate mainstream financial markets and policy-makers** over the risk of a disorderly transition.
- **Work with financial regulators** to bring transparency on climate and stranded asset risk and the fossil fuel risk premium.

The Challenge: An inadequate response to climate change can lead to a market failure in the financial system.

Our analysis is demonstrating that the risk of fossil fuel investment is higher than the market perceives.

We need to level the playing field between business as usual fossil fuel investment and low carbon investment, correctly pricing the fossil fuel risk premium.
Unburnable Carbon: “Global Warming’s Terrifying New Math”

“...an easy and powerful bit of arithmetical analysis first published by financial analysts in the UK has been making the rounds... (it) up-ends most of the conventional political thinking about climate change. And it allows us to understand our precarious position with...simple numbers”.

Bill McKibben, Co-founder of 350.org, 2013

What is the Carbon Bubble?

Carbon Tracker’s reference Carbon Budget to 2050 with 80% likelihood of staying below the 2°C threshold:

2795 GtCO₂

900 GtCO₂

Total 2°C Carbon Budget for the fossil fuel industry

Allocation of the Carbon Budget by fossil fuel sector

Total estimated fossil fuel resources (listed & unlisted companies)

Gas: 40%
Coal: 36%
Oil: 24%
Our core strength is our ability to take a key aspect of the climate science, such as the 2ºC carbon budget, and frame it using terms which have resonated widely with the financial markets and beyond.

Reframing the climate debate

- **Unburnable carbon**: Fossil fuel energy sources which cannot be burnt if the world is to adhere to a given carbon budget.

- **Wasted capital**: Energy resources which, at some time prior to the end of their economic life, are no longer able to earn an economic return as a result of changes in the market and regulatory environment associated with the transition to a low-carbon economy.

- **Stranded assets**: High carbon fossil fuel projects are usually also the most high cost, and require high break-even prices to be profitable. Capital investment in such projects could end up wasted capital in a demand and carbon constrained world.

- **Fossil fuel risk premium**: Additional factor which needs to be integrated into analysis of high-cost high-risk fossil fuel assets to ensure climate risk is priced properly, and capital is allocated to align with the transition to a low carbon future.
Analytical Research and Tools for Investors

We are building a new model – investment grade financial analysis outside of Wall Street institutions – not an academic exercise.

2011

Unburnable carbon - Are the world’s financial markets carrying a bubble?

- Already in 2011, the world has used over a third of its 50-year carbon budget of 886GtCO₂.
- Only 20% of the total reserves can be burned unabated, leaving up to 80% of assets technically unburnable.

2013

Unburnable carbon 2013: Wasted capital and stranded assets

In partnership with LSE Grantham Institute

- Between 60-80% of coal, oil and gas reserves of publicly listed companies are ‘unburnable’ if the world is to stay below 2°C global warming.
- Regulators, governments and investors need to re-evaluate energy business models against carbon budgets, to prevent $6trillion of wasted capex in the next decade.
Fossil fuel companies with resources in high cost, high carbon areas are at risk of committing too much capex to uneconomic projects.

Carbon Supply Cost Curves: Evaluating Financial Risk to Oil Capital Expenditures
- $1.1 trillion of future oil investment needs to be challenged by investors as it requires a market price of over $95 out to 2025. This is largely made up of deepwater, Arctic and oil sands.

Carbon Supply Cost Curves: Evaluating Financial Risk to Coal Capital Expenditures
- $112bn of future capital expenditure (capex) in potential thermal coal production (excluding China) is at risk of becoming stranded.

Carbon Supply Cost Curves: Evaluating Financial Risk to Gas Capital Expenditures
- $283 billion of possible liquefied natural gas (LNG) projects to 2025 are likely to be surplus to requirements in a low demand scenario.

What’s next?

- **Synthesis Report**
  Bringing together the oil, coal and gas cost curves under a global carbon budget.

- **Capex Tracker**
  Lead indicator of global warming. New tool to monitor fossil fuel company capital investment flows (capex). Capex is the necessary precursor to production of fossil fuels and, eventually, CO2 emissions.
Why does increased transparency matter?

Carbon Tracker believes that there is a need for smarter regulation to improve the disclosures of fossil fuel companies to give the market a view of the collective risk of significant adjustments in energy markets. This could be delivered by companies being required to stress test their business model against a range of demand and price scenarios, and indicating their level of exposure to carbon-intensive assets.

The question is whether regulators and policy-makers can create a smooth glide path for an orderly transition or leave us to an emergency landing.

Recognising Risk, Perpetuating Uncertainty. A baseline survey of climate disclosures by fossil fuel companies (October, 2014)

- 99% of sampled fossil fuel companies recognise it’s risky business...
- ...but only 7% of companies provide evidence of adequately integrating this risk into corporate project and capital expenditure assessments.

Letter to the U.S. Securities and Exchange Commission (February 2015)

Carbon Tracker highlights that fossil fuel company disclosures have not effectively conveyed the risks to company business models of trends towards a low-carbon economy.

‘Stranded assets’ on the agenda of the Bank of England (February 2015)

Following our engagement with the Bank a new research programme including climate risk and stranded assets is announced.

Carbon Tracker hopes to see other financial regulators around the world responding in a similar fashion.
A Climate Fix Would Ruin Investors - Martin Wolf, June 2014

Exxon Mobil and Shell are the most recent to get back with their assessment of the risk: zero. “We do not believe that any of our proven reserves will become ‘stranded,'” says Shell.

The Elephant in the Atmosphere - July 2014

What does media say of Carbon Tracker?

**FT**

“I believe humanity is making risky bets in the climate casino. I think it is likely that humanity will continue to make these risky bets. ... If that happened, fossil fuel reserves would indeed be stranded. Investors beware: the risk of that cannot be zero.”

A Climate Fix Would Ruin Investors - Martin Wolf, June 2014

**The Economist**

Exxon Mobil and Shell are the most recent to get back with their assessment of the risk; zero. “We do not believe that any of our proven reserves will become ‘stranded’,” says Shell.

The Elephant in the Atmosphere - July 2014

**The New York Times**

“CTI has triggered the Climate Swerve – a major historical change in consciousness that is neither predictable nor orderly.”


**The Daily Telegraph**

“The epicentre of irrational behaviour across global markets has moved to the fossil fuel complex of oil, gas and coal...Yet the sheer scale of “stranded assets” and potential write-offs in the fossil industry raises eyebrows.”

Fossil industry is the subprime danger of this cycle - Ambrse Evans-Pritchard, July 2014

**WSJ**

“Investors, it says, should question the assumptions underpinning that spending”.


**The Guardian**

“Carbon Tracker has changed the financial language of climate change”.

Jackie Wills, The Guardian, May 2014

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**Media Coverage 2014**

*Number of most influential articles quoting Carbon Tracker (top 8 countries)*

- **US**: 883
- **UK**: 331
- **CA**: 116
- **DE**: 39
- **CHINA**: 33
- **NE**: 29
- **NO**: 33
- **AUS**: 178

*These figures do not include syndicated or broadcasts content.*
Who are we engaging with?

We have a core group of targets we need to reach to redirect the flows of capital through the financial system.

Investor Coalitions
Carbon Tracker provide clear-cut arguments to shareholders used in successful resolutions (E.g. Ceres, IIGCC, IGCC, UNPRI, UKSIF).

Climate NGOs
Eg. CDP, CDSB, WWF, The Climate Group, 350.org, Greenpeace, WRI, Sierra Club, 2 Degree Investing, AODP, ShareAction.


Fossil Fuel Companies
Carbon Tracker engaged in a substantive debate with the oil and gas industry on stranded asset risk (Eg. Royal Dutch Shell, ExxonMobil, 2014; IHS, IPIECA, 2015).

Multilateral and Governmental Organisations
UN SG, UNFCCC, OECD, IEA, World Bank, WEF, EU Commission and Parliament, the White House, Ministries of Finance and Environment (Eg. UK, US, France).
What is the Carbon Tracker Initiative?

The Carbon Tracker Initiative is a non-profit financial think tank aimed at enabling a climate secure global energy market by aligning capital market actions with climate reality.

“Carbon Tracker has changed the financial language of climate change”. The Guardian, May 2014

Carbon Tracker won the Guardian Sustainable business Award for Innovation in Communicating Sustainability May, 2014.

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