Unburnable Carbon 2013: Wasted capital and stranded assets

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The World Bank: The Carbon Bubble - Unburnable Fossil Fuels
3rd March 2014
Our Mission
Financial experts making carbon investment risk visible in the capital markets today

Our Team
- Anthony Hobley (Chief Executive Officer)
- Mark Campanale (Founder and Executive Director)
- Jon Grayson (Chief Operating Officer)
- James Leaton (Research Director)
- Luke Sussams (Senior Researcher)
- Reid Capalino (Senior Researcher)
- John Wunderlin (Staff Attorney & USA)
- Jeremy Leggett (Chair, Board of Directors)
- Alice Chapple (Director)
- Cary Krosinsky (Director)

Our Partners
“…an easy and powerful bit of arithmetical analysis first published by financial analysts in the U.K. 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
‘This report shows very clearly the gross inconsistency between current valuations of fossil fuel assets and the path governments have committed to take in order to manage the huge risks of climate change’

Professor Lord Stern of Brentford, Chair, Grantham Research Institute on Climate Change and the Environment, London School of Economics

WHAT DOES THIS ANALYSIS MEAN?

• Markets are based on a 6 degree trajectory
• Investors are tied into the markets
• The markets are not responding to climate policy
• The financial world faces a systemic risk
• Because financial markets have no “visibility” on the three possible outcomes

• *If we are clear on the scenarios there is an opportunity to address both financial & climate risk using financial transparency*
The three possible outcomes:

1. The Goldilocks Scenario; Policy & regulatory signal in time to allow orderly transition & managed deflation of the carbon bubble

2. The Nightmare Scenario; Global community fails to send policy & regulatory signal, catastrophic warming of 3 to 6 degrees;

3. The Last Minute Scenario; Action delayed until events drive political shift, resulting action swift & severe – carbon bubble bursts resulting in massive financial shock.
2C BUDGET: BROKEN IN JUST A FEW DECADES?

When will we break the carbon budget?

80% probability limiting to 2C; IPCC estimate

- IPCC RCP2.6
- IPCC RCP8.5
- IEA Current policies
- IEA 450

YEAR


CUMULATIVE CO2 EMISSIONS PROJECTIONS (GtCO2)

0.0 200.0 400.0 600.0 800.0 1000.0 1200.0 1400.0

2045

80% probability limiting to 2C; IPCC estimate
Listed reserves are a quarter of all known fossil fuel reserves.

Current listed reserves (762GtCO₂) far exceed a quarter of the total carbon budgets but could double (1541GtCO₂).

If we break the 2°C budget we very quickly hit 2.5°C and 3°C.
CURRENT RESERVES ON STOCK EXCHANGES

GLOBAL TOTAL: 762GtCO₂

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<th>OIL</th>
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KEY:
- ● TOTAL
- ● COAL
- ● OIL
- ● GAS
REBALANCING IS NEEDED BETWEEN FLOWS: The Capex Hungry Beast

$1.27tn DEBT
$4tn EQUITY
$126bn DIVIDENDS

$27bn

$927bn

$674bn

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COAL VERSUS OIL VERSUS GAS

WHAT IS AT MOST RISK OF STRANDING AND WHAT DOES THIS MEAN FOR FOSSIL FUEL ASSET VALUATIONS?
• Impact on price?

• Coal most exposed

“Only 20% of global coal reserves can be developed by 2050 without CCS in the 450 scenario” (IEA Redrawing the Energy Climate map 2013)
UNCONVENTIONALS TO FALL OFF THE COST CURVE

- Low-cost conventional giants: Brazil, Norway, Iraq, Guyanas
- US unconventional gas and LNG projects
- Marginal LNG, Heavy Oil
- Deepwater GoM & W. Africa

(Citi: Global Integrated Oil to 2020)
Costly Quest

Exxon, Shell and Chevron have been spending at record levels as they seek to boost their oil and gas output. It has yet to pay off. Below, change in production and capital expenditures since 2009.

Exxon Mobil

Royal Dutch Shell

Chevron

Note: Spending in 2013 reflects company estimates; for Shell it is net of asset sales; production rate in 2013 is through the first nine months. Source: the companies

The Wall Street Journal
• Oil sector cannot continue to spend more just to maintain production levels.
• E.g. Shell taking a haircut on its oil shale assets.
• Denial
  • “We will see it coming”
  • “It will happen gradually”

• Commercial concerns
  • Risk of backlash from investors for not pursuing value added investments
  • Management have flexibility over capital expenditure

• Shareholder message?
  • Low return projects tend to be at greater risk from tax, costs and price – sensitivity scenarios please
  • Growth is over-rated

• Conclusion? Be more disciplined on capital investment and return to shareholders if necessary
FOSSIL FUELS: NEW BUSINESS MODELS REQUIRED

Paul Spedding, Oil & Gas Sector Analyst,
April 2013

“Carbon Tracker’s report “makes it clear that 'business-as-usual' is not a viable option for the fossil fuel industry in the long term.

Management should already be looking to new business models that reduce the risk of stranded assets destroying shareholder value.

In future, capital allocation should emphasise shareholder returns rather than investing for growth.”
“Financial models that only rely on past performance and creditworthiness are an insufficient guide for investors.”

Analysis of oilsands operators: “We note that under a meaningfully lower long-term oil price, the commercial viability of undeveloped reserves and hence the core business model could come into question unless development costs also fall. This could potentially result in a downgrade of more than one notch if we were to place less reliance on undeveloped or probable reserves than at present.”
UNWINDING THE CARBON BUBBLE
WHAT CAN INVESTORS AND REGULATORS DO?
1. Review valuation assumptions
   Commission equity and credit research which considers different future scenarios; what happens if 20% probability that Governments take preventative measures on climate?

2. Challenge CAPEX plans
   Question merit of Company Boards of spending shareholder funds to develop high cost high carbon projects

3. Disclosure Enhancement
   Listed corporate owners of fossil fuels should disclose embedded CO2 in reserves – future emissions

4. Regulation
   Address climate change as a systemic risk by collaborating with other investors in challenging financial regulatory framework
Engagement with 45 companies on carbon asset risk

• “Institutional investors must think over the long-term, which means that we must take environmental risks into consideration when we make investments,” said New York State Comptroller Thomas P. DiNapoli

• “Companies must plan properly for the risk of falling demand by stress-testing new investments to minimize the risk our clients’ capital is wasted on non-performing projects.” said Craig Mackenzie, Head of Sustainability at Scottish Widows Investment Partnership
SUMMARY OF OUR WORK PROGRAMME

1. Assessing **systemic climate change risk** and the role of capital market regulators in managing financial stability
2. Challenging **valuation assumptions** and debt risk profiles of publically traded owners of fossil fuels
3. Identifying **stranded assets** and looking in depth at high capital expenditure fossil fuel projects
4. Reviewing the **accounting standards** for impaired/stranded/sub-prime assets
5. Investigating the **capital raising** process and how climate risk is factored into IPO’s and debt raising
6. Exploring the contradiction between **climate policy** and how capital markets function
Questions

More information:
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