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# High carbon financial risk & divestment

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eauc

A partnership between

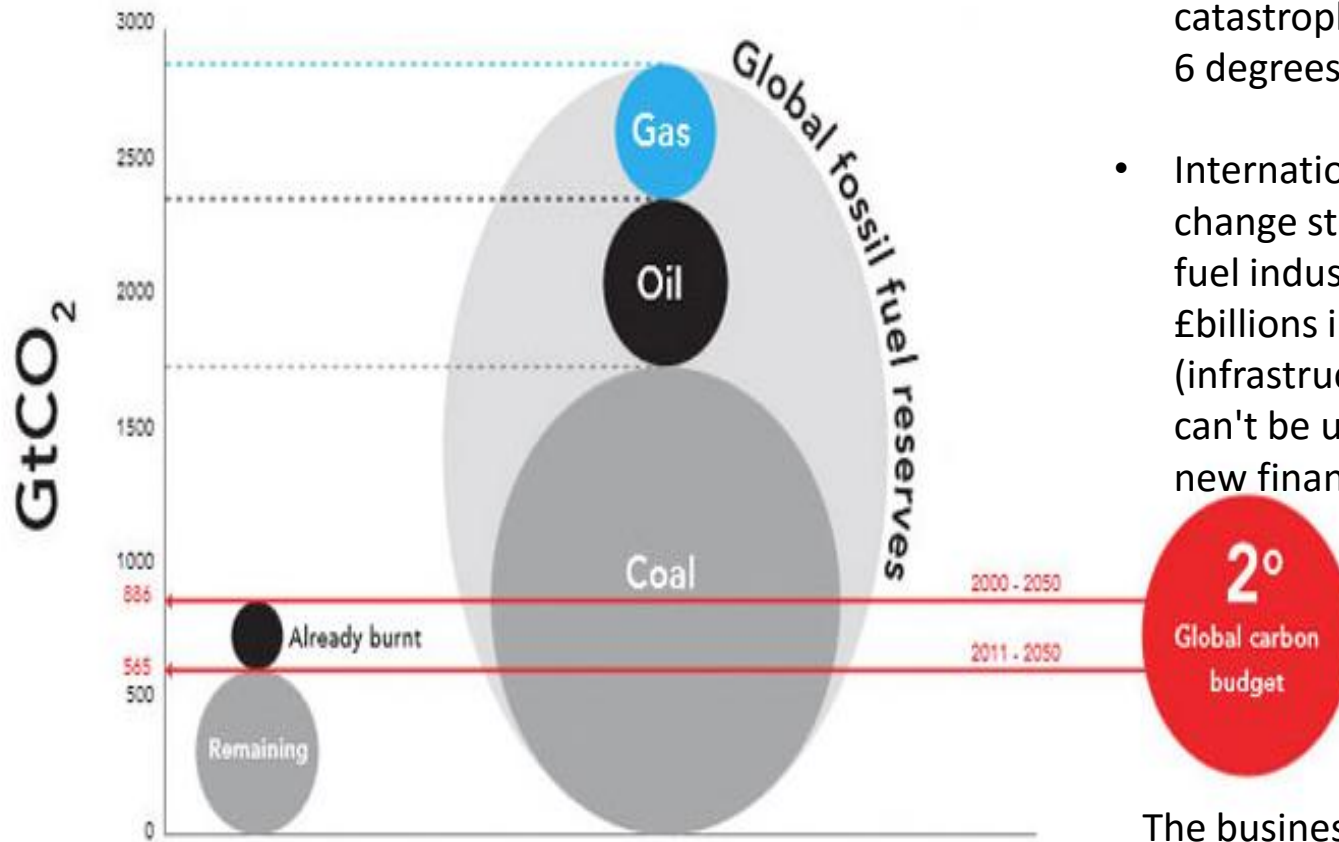
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student action on world poverty and the environment

# The Carbon Bubble



Source: The Potsdam Climate Institute / Carbon Tracker

If the fossil fuel industry tries to exploit all existing reserves there are two possible outcomes:

- They are allowed to; leading to catastrophic global warming of 5 to 6 degrees; or
- International action on climate change stops them; leaving the fossil fuel industry with hundreds of £billions in 'stranded assets' (infrastructure & developments that can't be used), likely triggering a new financial crisis

The business model for most fossil fuel companies is currently dependent upon the first scenario, i.e. that nothing & no-one will stop them causing a climate disaster

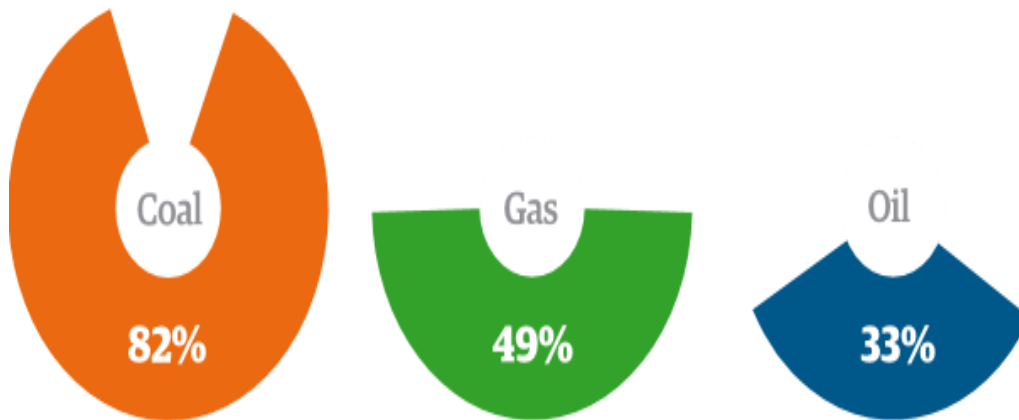
# The Carbon Bubble

## Unburnable fossil fuels

Known, extractable coal, oil and gas reserves that must not be burnt in order to prevent dangerous climate change of more than 2C

### Global reserves

Per cent that cannot be burned



Mark Carney, Governor of the Bank of England, recently warned the World Bank about 'stranded assets', stating *"the vast majority of fossil fuels are unburnable if the world is to avoid catastrophic climate change"*

UCL found the following must stay in the ground:

- 82% coal
- 49% gas – incl 80% shale gas
- 33% oil – incl 100% Arctic & 99% tar sands

In 2013 alone, fossil fuel companies spent £443bn on exploration for more oil & gas resources

# Real cost of fossil fuels

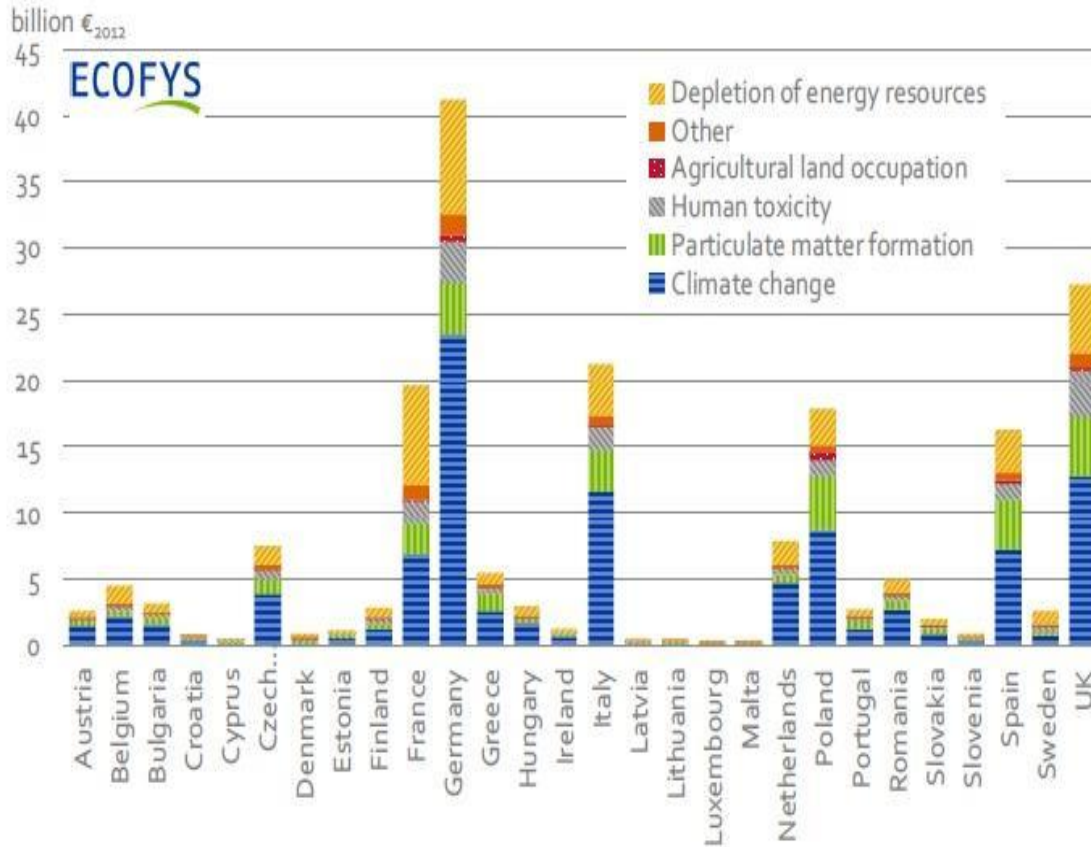
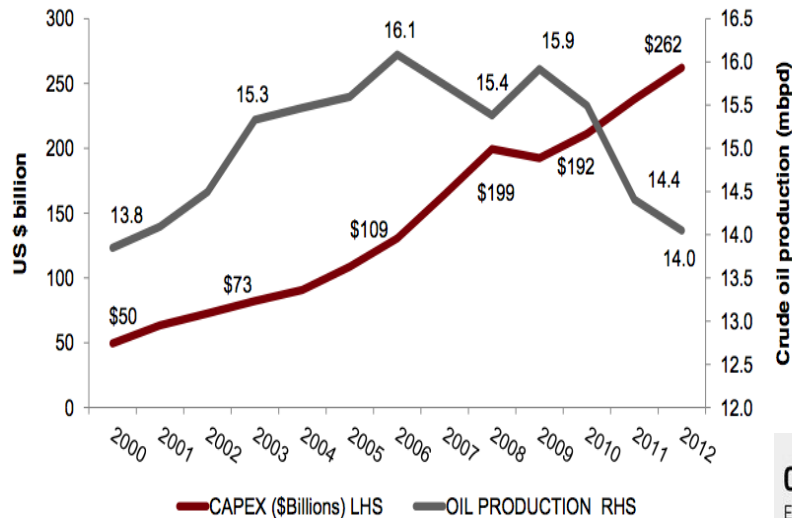


Figure 3-12: Total external cost per Member State in 2012 (in billion €<sub>2012</sub>)

- Because UK energy companies burning fossil fuels pass these costs to society they are effectively being subsidised by £22bn per year
- If energy companies had to pay these costs, renewables would be much cheaper than fossil fuels:
- onshore wind €105; offshore wind & solar €125; gas €164; and coal €233 (per MW/h)
- Onshore wind is therefore 60% cheaper than gas and 120% cheaper than coal
- Solar and offshore wind is therefore 30% cheaper than gas and 85% cheaper than coal

# Oil industry costs soaring

Listed Oil Majors: Capex and Crude Oil Production



## Crude Oil Production and Capex

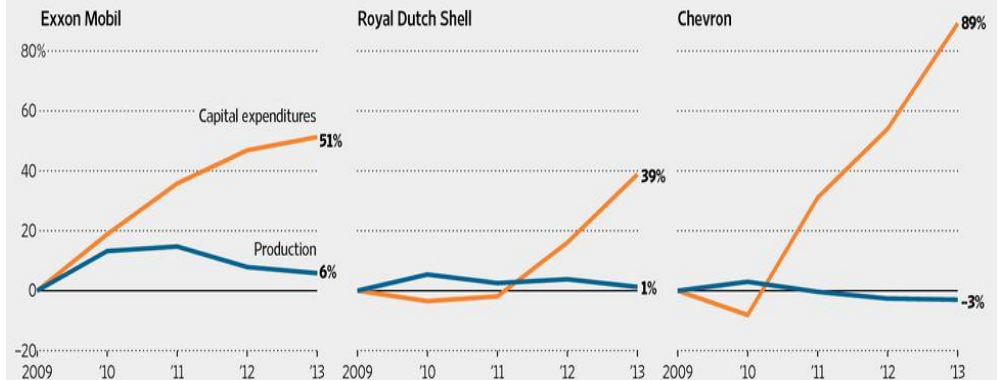
Combined data for BG, BP, COP, CVX, ENI, OXY, PBR, RDS, STO, TOT, XOM  
Source: Bloomberg via Phibro Trading LLC

<<< The oil industry is having to increase spend by £billions to get less oil in return

Some oil companies your university might have investments with, showing costs rocketing whilst production falls >>>>

## 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.



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 industry therefore needs high oil prices

- With soaring costs to produce oil, the industry needs high oil prices to be profitable (and therefore be a good investment for your university)
- Oil prices have plummeted in recent months to under \$50 per barrel, almost half of what they were just 6 months ago
- This means the oil industry is actually losing money developing some projects, particularly high cost developments like Canadian tar sands (break even at \$80-\$100) and Arctic and deepwater projects (need \$120)



# Oil industry has failed to heed investor warnings

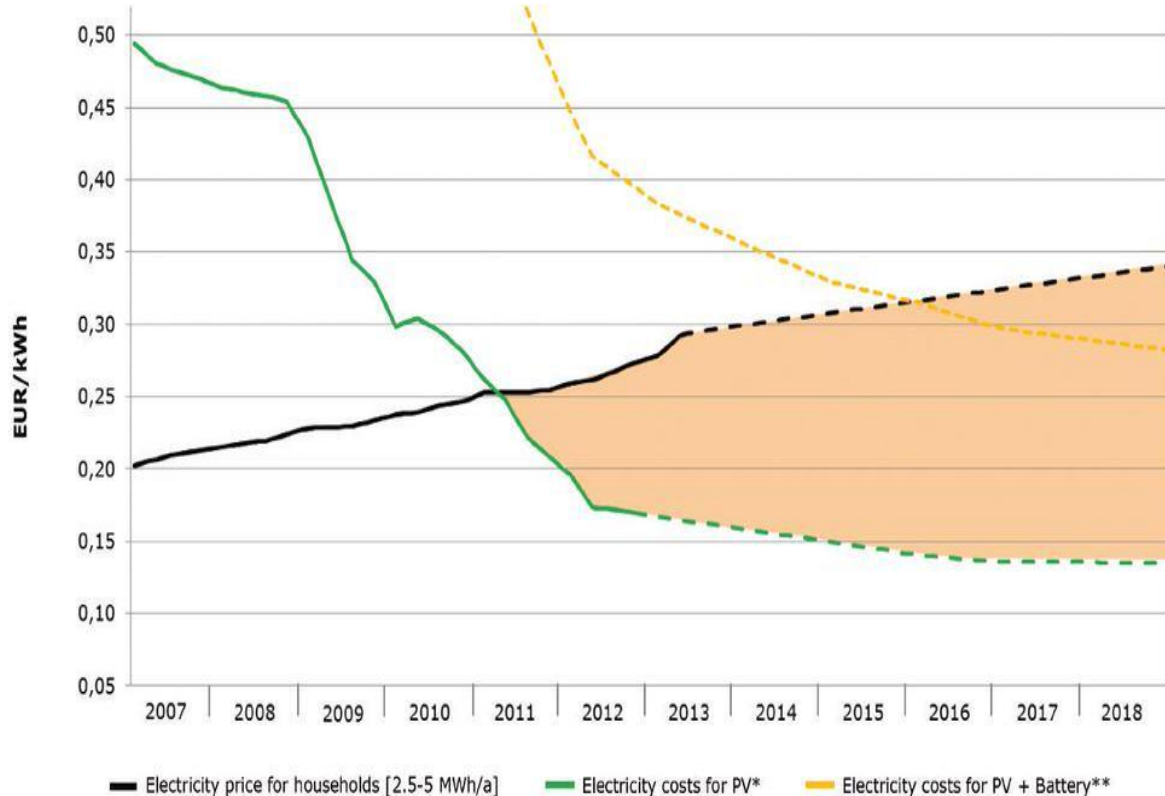
- For over a decade responsible shareholders have engaged with the oil industry, e.g. in 2010, The Co-operative Investments & a coalition of charities tabled anti tar sands shareholder resolutions at the AGMs of Shell & BP
- The resolutions warned tar sands were high risk due to price volatility, likelihood of climate change regulation, & risk of legal action due to environmental & First Nation impacts. Shell & BP dismissed these concerns. Shell has just cancelled a large tar sands project, costing them £millions.
- **Shareholder engagement with the oil industry has achieved little and the time has come for divestment from this ailing sector**
- Citigroup doesn't rate its future: *"oil is caught in triple encirclement by cheap natural gas, much more efficient vehicles and breathtaking advances in solar power"*

## Shell shelves plan for tar sands project in face of low oil prices

Withdrawal from the Pierre River project is the latest in a series of blows to industry reliant on high cost production struggling with oil prices at six-year lows



# The future is very bright for solar & energy storage



\*Based on systems <10kWp, 802 kWh/kWp, 100% financing, 6% interest rate, 20 year term, 2% p.a. O&M costs. \*\* Based on 5,000 battery cycles

## Electricity & solar prices in Germany

- Solar panels cost 80% less than they did just 5 years ago
- Solar is now cheaper than residential electricity prices in Germany, Italy, Spain, Portugal, Australia and the US southwest. It is forecast to be the same in 80% of all countries within 2 years (source: Deutsche Bank) and in Britain by 2020 (source: Citigroup)
- Analysts predict over the next 3 to 5 years, energy storage will become very affordable, very quickly.
- This will transform & democratise the energy market & allow communities & individuals to become totally energy self sufficient within the next decade.

# 'Big Six' energy companies – a bleak future

- The 'Big Six' are the UK's main energy providers: Npower (RWE); British Gas; EDF; Scottish Power; Scottish & Southern Electric; and E.ON
- The vast majority of the power they provide comes from large power stations that burn fossil fuels
- UBS (the world's largest private bank) in a briefing paper to their clients said: *"Power is no longer something that is exclusively produced by huge, centralised units owned by large utilities. By 2025, everybody will be able to produce and store power. And it will be green and cost competitive"*
- Citibank has estimated that in their current form utilities in developed economies could see the size of their market shrink by more than 50%
- Barclays has downgraded its credit rating on all US electricity utilities



## European utilities

### How to lose half a trillion euros

Europe's electricity providers face an existential threat

Oct 12th 2013 | From the print edition



# Examples: E.ON & RWE (nPower)

- Expanding renewable energy has reduced wholesale electricity prices, impacting the profitability of traditional utilities that run coal, gas and nuclear power plants
- The combined market value of E.ON and RWE, two of the largest energy companies in Germany, the UK & Europe, has fallen 76% since 2008 (Source: The Economist)
- In March 2015, E.ON reported an annual loss of 3.2 billion euros & RWE reported a 45% decline in profits
- RWE chief financial officer has admitted:  
*“Conventional power generation, quite frankly, as a business unit, is fighting for its economic survival”*
- **The future is bleak for large centralised fossil fuel burning power. Divestment is the sensible choice.**

German energy giant E.ON records biggest annual loss in company history

Published time: March 11, 2015 15:58

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GERMANY'S BIGGEST POWER GENERATOR RWE'S PROFITS FALL BY 44.6%

# Divestment vs Engagement

- Responsible investors have been engaging with the oil industry for over a decade to act on climate change and other risks, with little success
- Shell and Exxon (ESSO) have denied their reserves will become 'stranded assets', with Exxon claiming renewables will only account for 4% of energy by 2040 (wishful thinking) & Shell stating governments will not take action to prevent catastrophic climate change (irresponsible gamble)
- Lord Stern (who wrote the landmark 2006 Stern review of the economics of climate change) has said that Shell and Exxon's denial of the carbon bubble is "mad and reckless"
- Divestment in the oil industry is now the only option left. If fund managers will not divest, the minimum they should do is meaningful engagement to stop the dirtiest & most expensive fuels (e.g. tar sands & Arctic)
- This engagement should include voting against the re-election of Executives that press ahead with tar sands & Arctic drilling and/or deny the 'carbon bubble'; and against their bonuses & remuneration packages
- Divestment of the coal industry (some coal mines have already been put up for sale with no buyers, i.e. they are already 'stranded assets') & divestment of fossil fuel dependent power companies, is the only financially sensible option

# Community energy is a sound alternative for investment

- An safe and reliable alternative investment for university endowments and other funds is community energy
- Lancashire County Pension fund has led the way with a £12 million investment in Westmill Solar Co-operative – the world's largest community owned solar park
- Community energy provides predictable, reliable, long term investment returns, which should appeal to endowment funds. In addition to supporting communities and addressing the threats posed by climate change



**News : Lancashire County Pension fund invests £12m in the world's largest community-owned solar power station.**

*Wednesday, 13th February 2013*