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## National inquiry on the impact of climate change on the human rights of the Filipino People

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# Who are we?

- Identity** Carbon Tracker is an independent non profit financial think tank funded by EU and US foundations interested in climate.
- Vision** To enable a climate secure global energy market by aligning the capital markets with climate reality.
- Mission** Mapping the transition for the fossil fuel industry to stay within a two degree budget.

## Strategy

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.



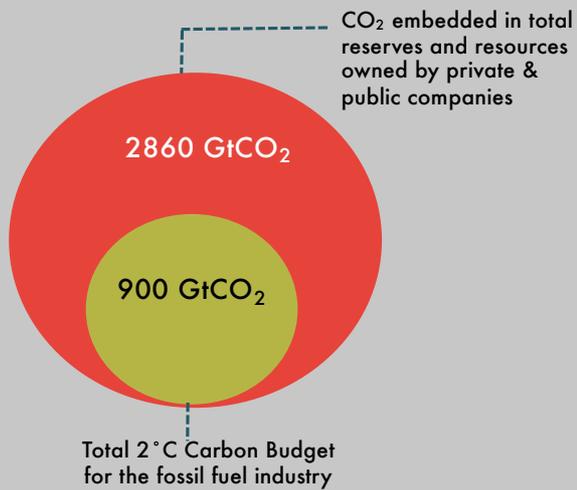
Educate mainstream **financial markets** and **policy-makers** over the risk of a disorderly transition.



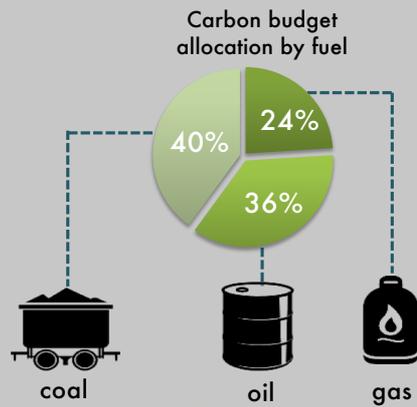
Work with **financial regulators** to bring transparency on carbon and stranded asset risk and the fossil fuel risk premium.



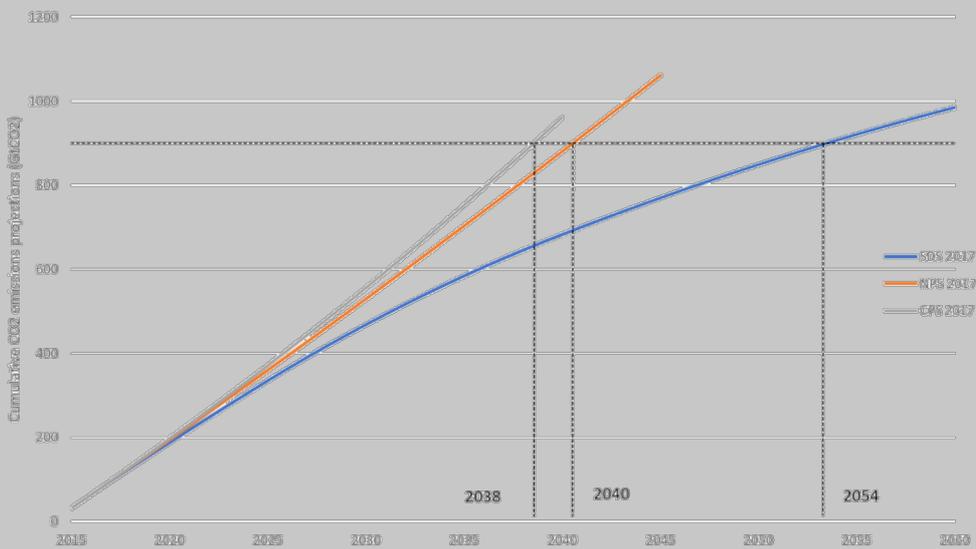
# The Carbon Budget



Carbon Tracker highlighted the fundamental problem for fossil fuel companies by taking a carbon budget to 2050 with 80% probability of staying below the 2°C threshold, and comparing this to fossil fuel reserves.



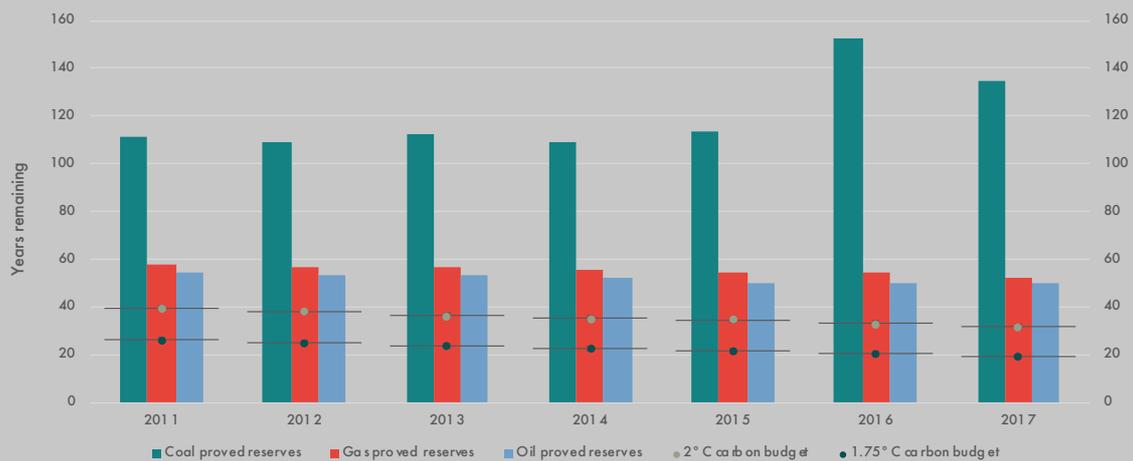
# When will we pass the carbon budget?



Data source: IEA World Energy Outlook 2017

# The carbon bubble continues to inflate

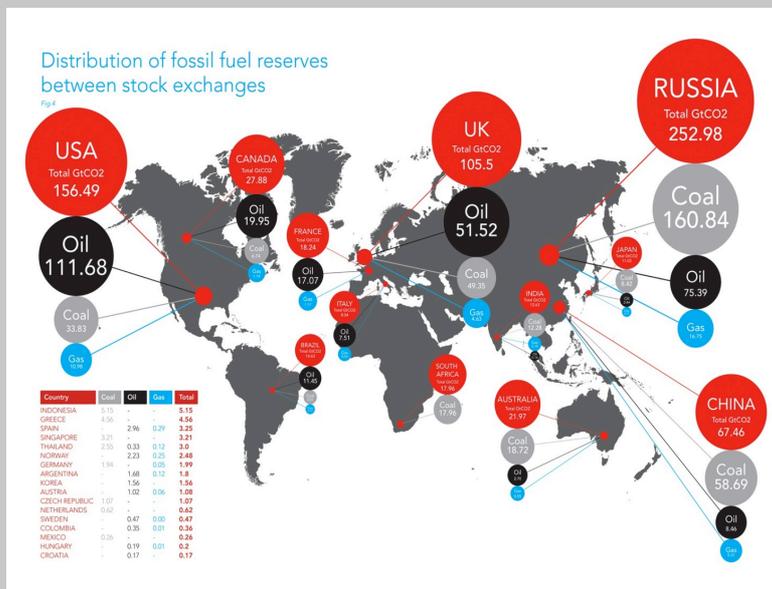
Despite the Paris Agreement and Carney's 'Tragedy of the Horizon' speech, the fossil fuel industry is not diverting from business as usual. There is an overhang in all fossil fuels, with coal reserves life exceeding the remaining "well-below 2°C" budget life by a factor of 7.



**Notes**

Reserves, production and emissions data taken from BP's Statistical Review of World Energy 2018. 'Life' of reserves is defined by total annual proven reserves divided by annual production rates. Carbon budget years remaining is calculated as remaining carbon budget divided by annual emissions. Carbon budget data is for energy sector emissions only and was taken from the 2°C Scenario and Beyond 2°C Scenario in the IEA's Energy Technology Perspectives 2017. Both scenarios provide a 2015-2100 carbon budget consistent with 50% chance of success. Carbon budget data for 2011-2014 was derived by adding annual energy sector emissions to the 2015 baseline. A period of sharply lower oil prices has had very little impact on oil and gas reserves and prices have since increased. Carbon Tracker does not guarantee the accuracy of the data.

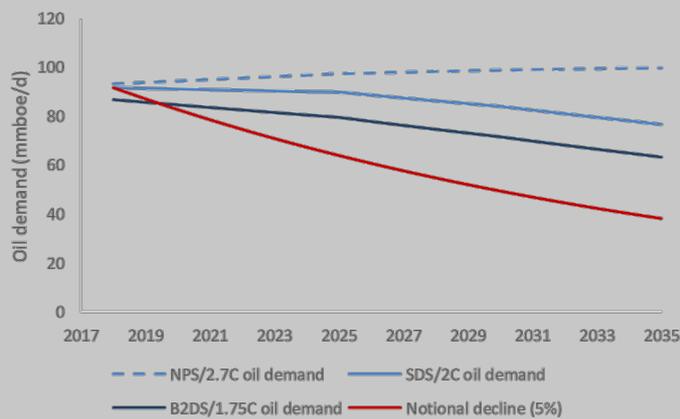
# Fossil fuel reserves held by listed companies



Source: Carbon Tracker report, Unburnable Carbon, 2011

## Low demand scenarios include new O&G...

### Oil demand pathways

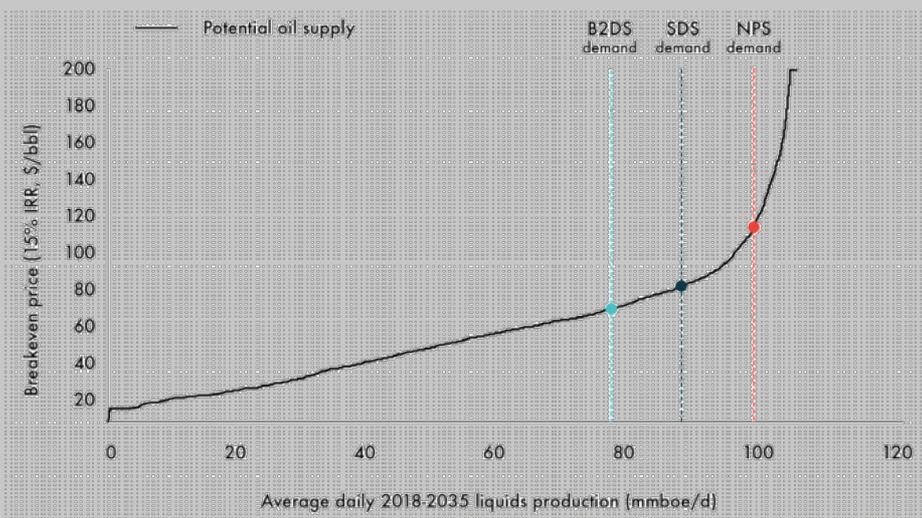


Source: IEA, CTI analysis

- ... But not all of it.
- Demand declines (1-2% p.a.) more slowly than natural field production decline (c.4-7% p.a. absent further investment), implying the need for some new projects
- Reserves numbers alone do not tell whole story, as the timing of production needs to match demand
- Carbon Tracker uses the production profiles and costs of potential projects to allocate risk

# Lower demand implies lower cost supply options only

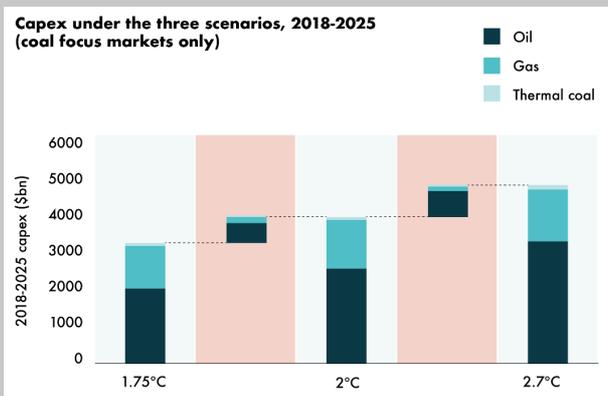
Oil supply cost curve compared to demand scenarios



- Carbon Tracker cost curve approach assumes economic logic plays out
- Lowest cost supply will be most competitive for reduced demand
- Risk mostly with future project options - reflects reality that capital has been sunk on existing projects

Source: Carbon Tracker report, 2 Degrees of Separation, 2017

## Oil & gas dominates upstream capex risk

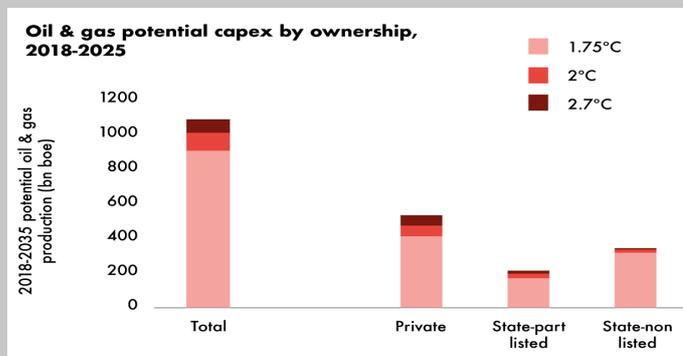


Source: IEA, Rystad Energy, Wood Mackenzie, CTI analysis

- Significant fossil fuel investment to support remaining production is required even in low-carbon scenarios, but materially less
- 1.75°C requires \$0.7tr less than 2°C, which requires \$0.9tr less than 2.7°C
- Oil & gas account for over 90% of capital expenditure in intervals between scenarios

Source: Carbon Tracker report, Mind the Gap, 2018

## Higher risk capex mostly private-sector



Source: IEA, Rystad Energy, CTI analysis

- Despite distribution of reserves, majority of affected capex held by private sector
- Disproportionate ownership of high cost assets
- Non-listed, state owned entities own just 12% of oil & gas capex in 1.75°C to 2.7°C gap

Source: Carbon Tracker report, Mind the Gap, 2018

## Company level distribution of capex

Company	Country of headquarters	% of upstream capex outside 2D budget (% band)	2017-2035 carbon budget (GtCO <sub>2</sub> )	Potential CO <sub>2</sub> outside 2D carbon budget (GtCO <sub>2</sub> )
Southwestern Energy	United States	60% - 70%	1.0	0.6
Apache	United States	60% - 70%	1.1	1.0
Cabot Oil and Gas	United States	50% - 60%	0.6	0.4
Diamondback Energy	United States	0% - 10%	0.4	0.0
Antero Resources	United States	0% - 10%	1.3	0.0
Seven Generations Energy	Canada	0% - 10%	0.7	0.0

- Exposure to high-risk projects varies by company
- Capex is POTENTIAL – much still hasn't been sanctioned, so there remains flexibility not to progress
- Success in navigating the energy transition will be driven by management behaviour from now on

Source: Carbon Tracker report, 2 Degrees of Separation, 2017



For more information please visit:

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