

Accounting for the energy transition

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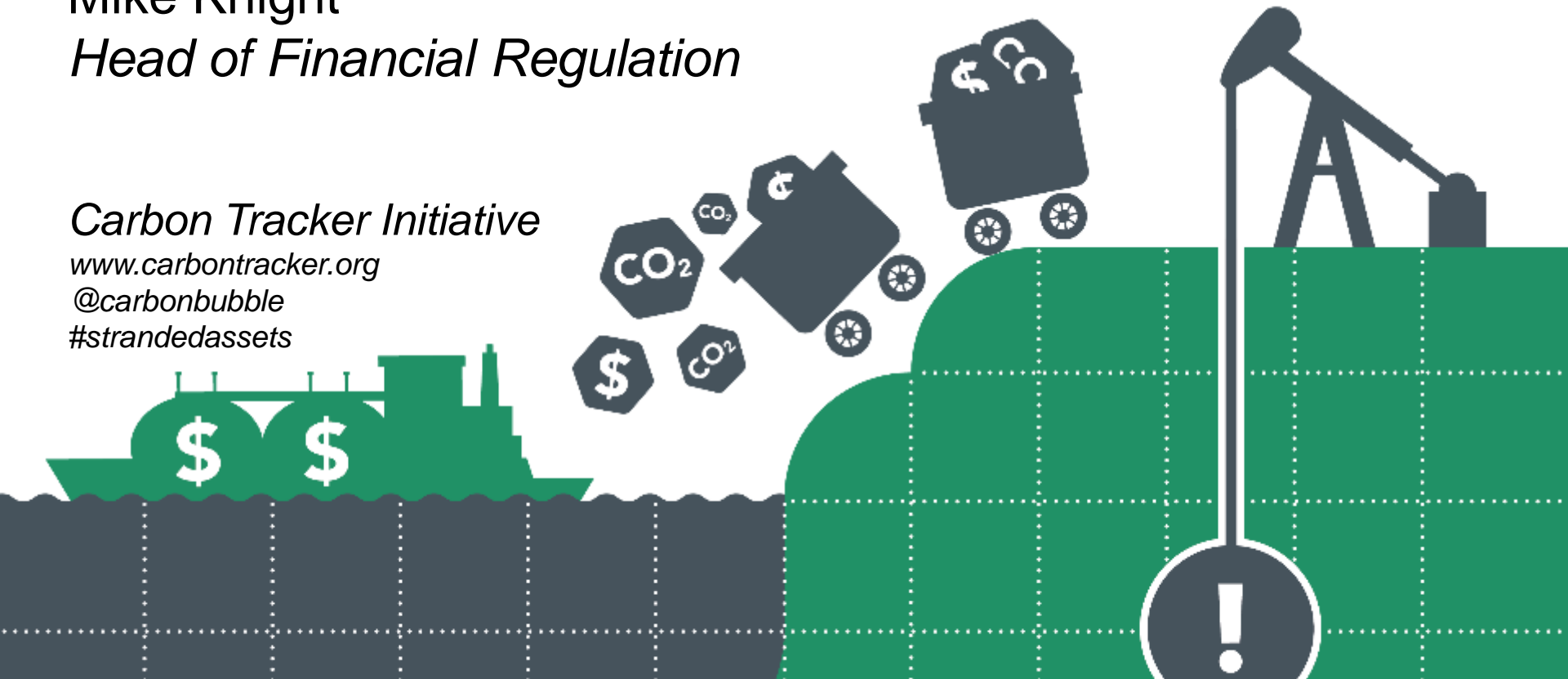
Head of Financial Regulation

Carbon Tracker Initiative

www.carbontracker.org

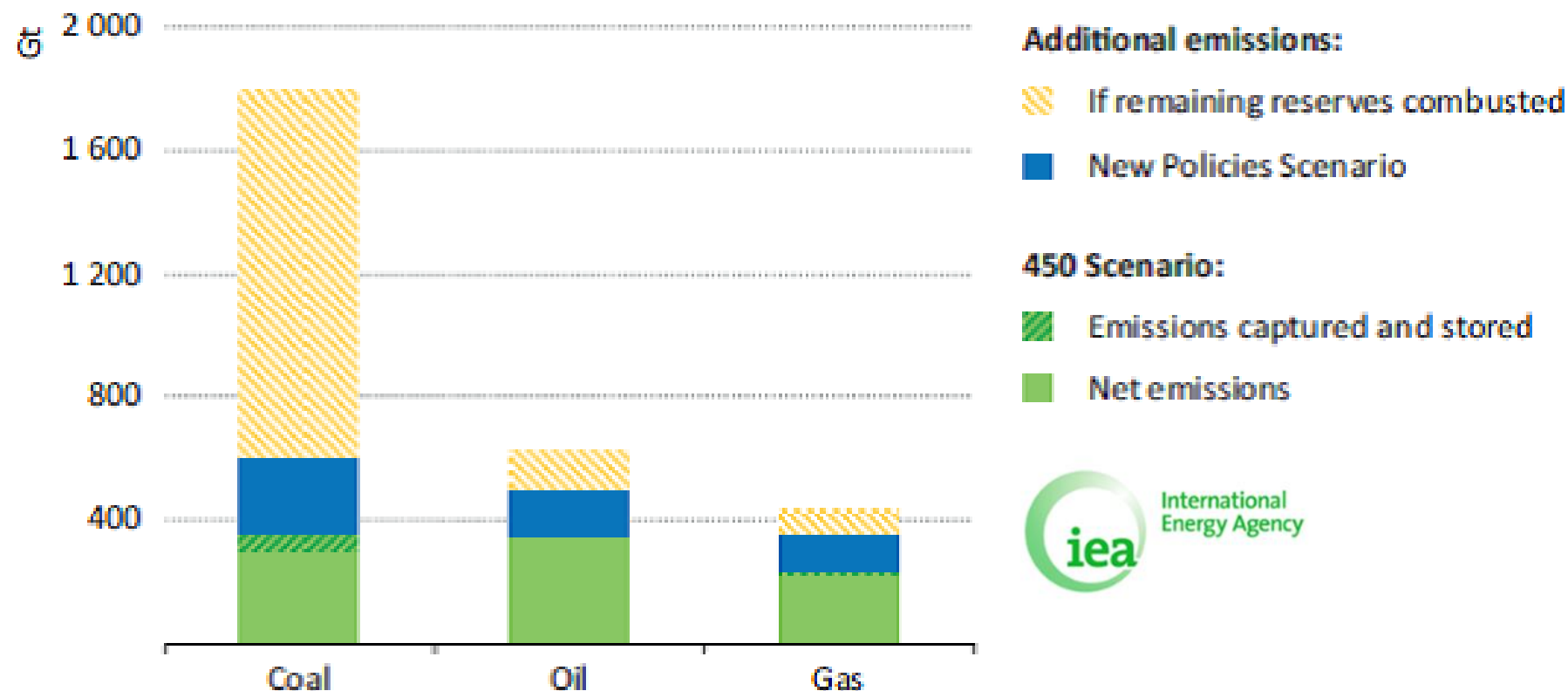
@carbonbubble

#strandedassets



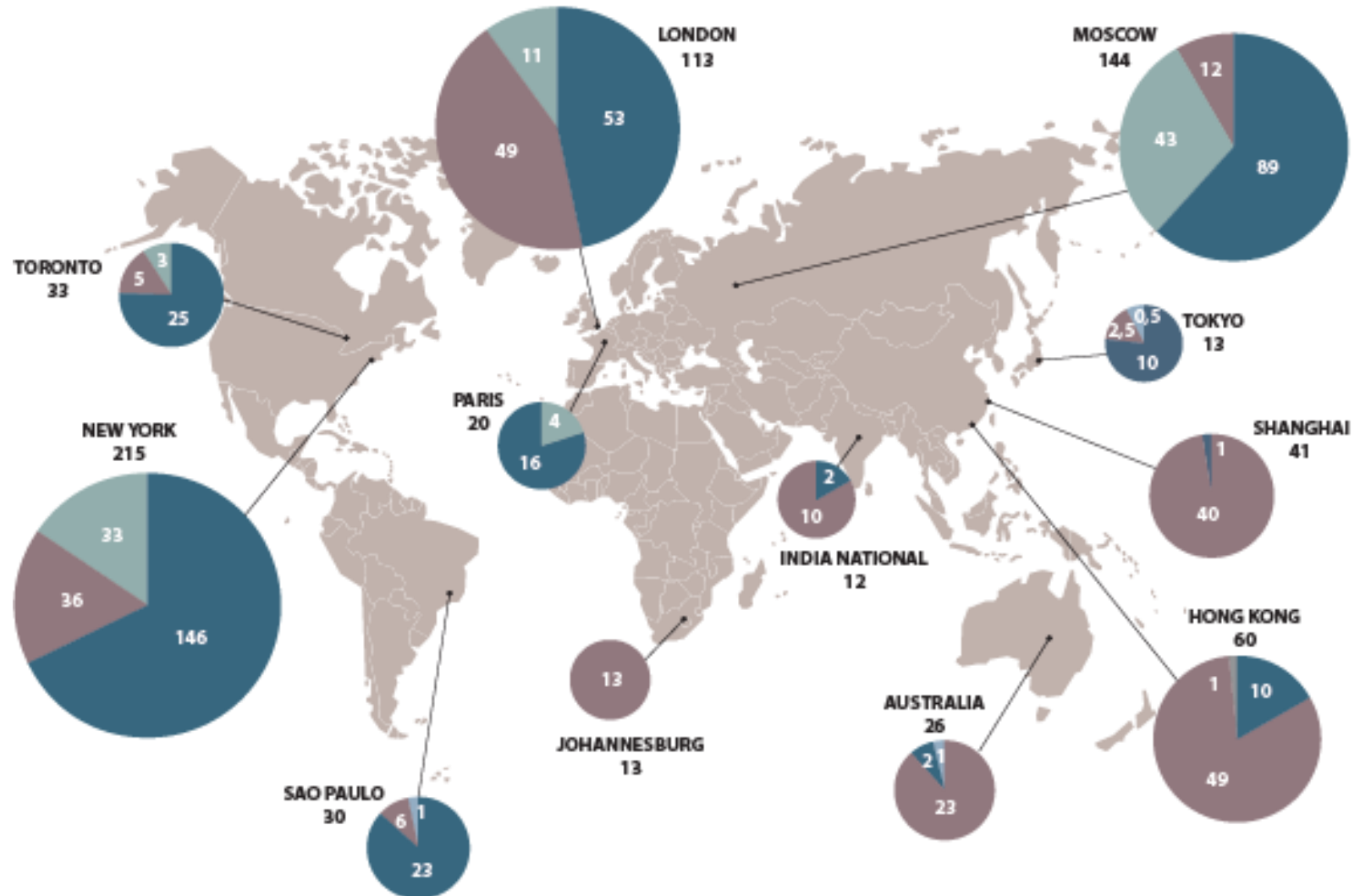
Carbon budget – clear overhang above level giving a 50% chance of limiting warming to 2°C

Figure 3.5 ▶ Potential CO₂ emissions from fossil-fuel reserves and cumulative emissions by scenario to 2050



Stock exchange exposure to future emissions

BAU scenario to 2050



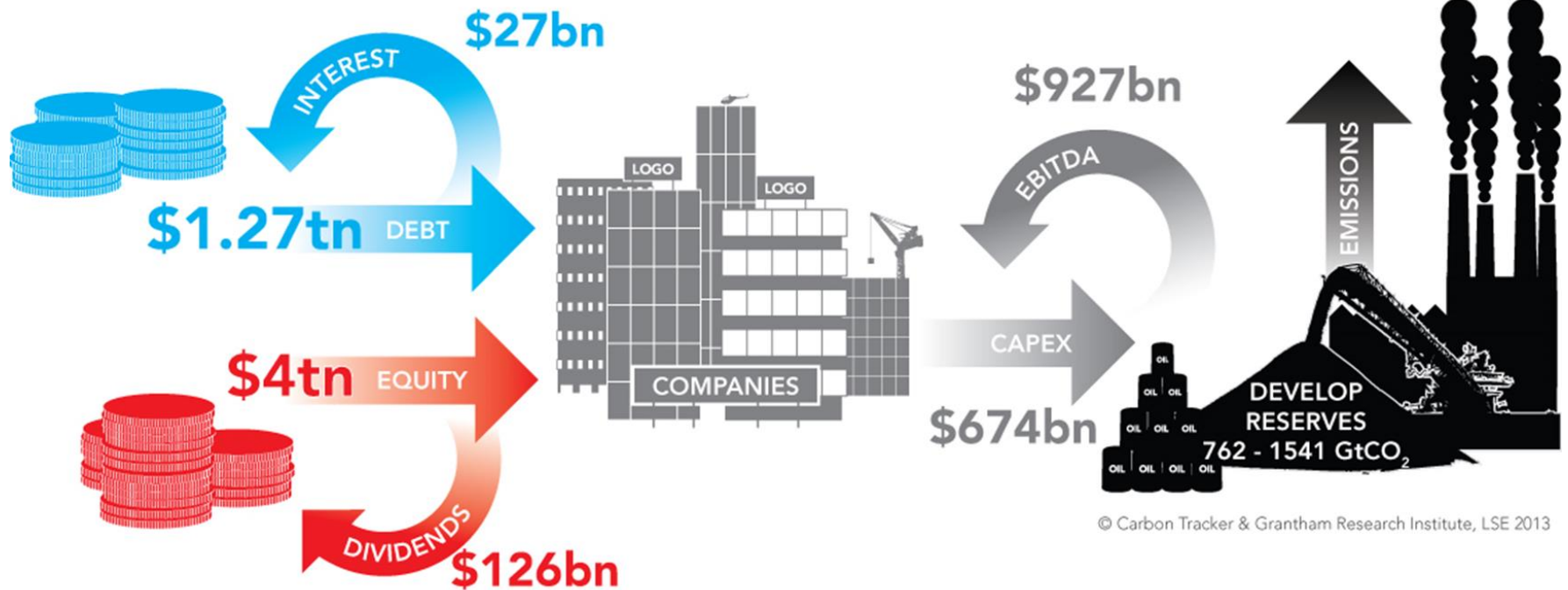
Listed entities could use up most of the carbon budget if production continues at same rate

Listed fossil fuel potential production to 2050



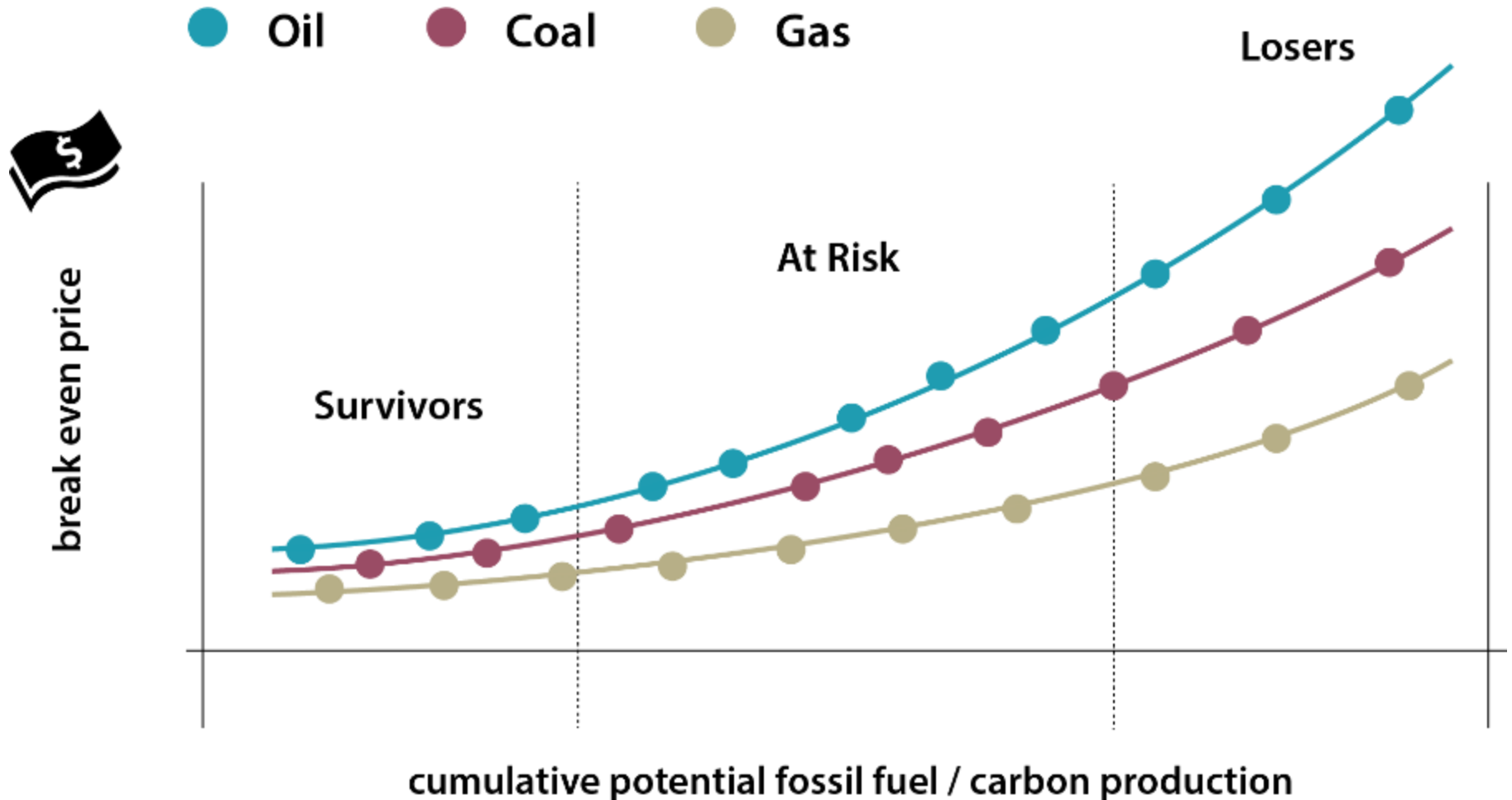
But there is also the state owned production which would at least double that, exceeding the carbon budget to 2050 of c. 900 GtCO₂

Relationship between emissions & capital flows



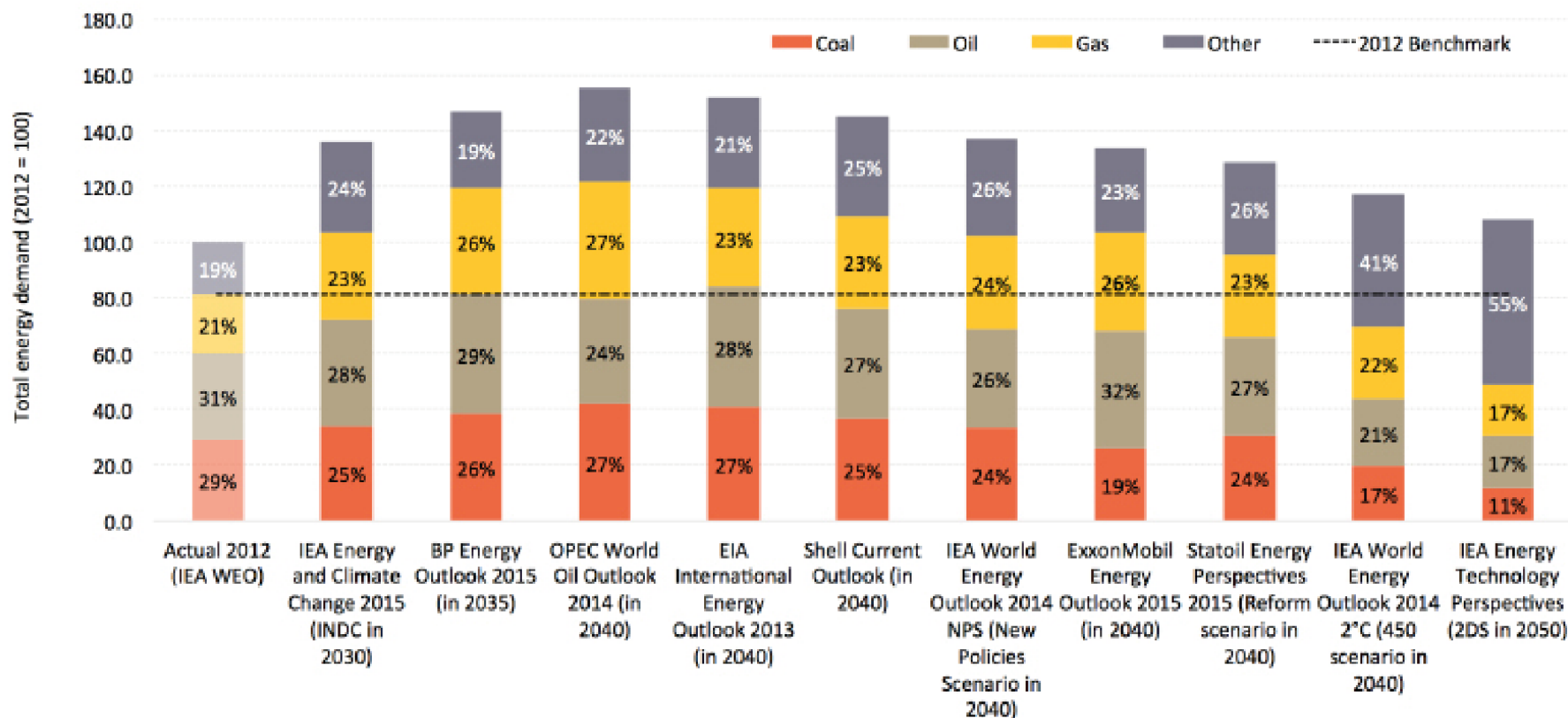
Supply - Carbon Supply Cost Curves

Which are the fossil fuel companies with resources in high cost, high carbon areas at risk of committing too much capex to uneconomic projects?



Demand - Energy forecasting mis-read: fossil fuel industry predicts a high carbon future

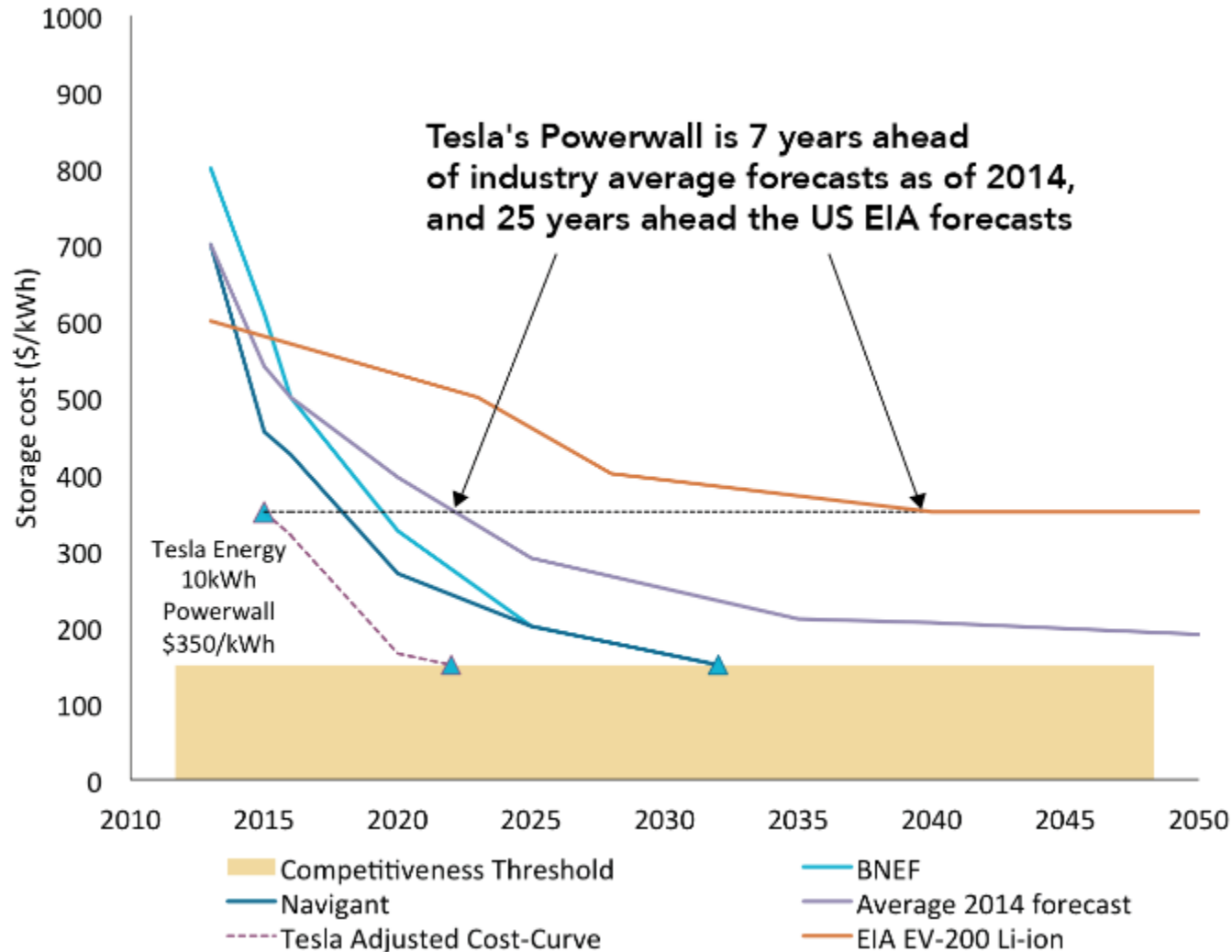
Incumbents are not willing to accept that they have peaked and adjust to a smaller market for their products.



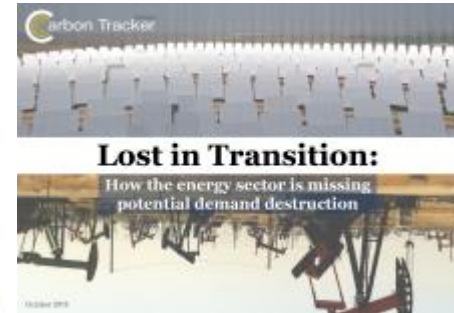
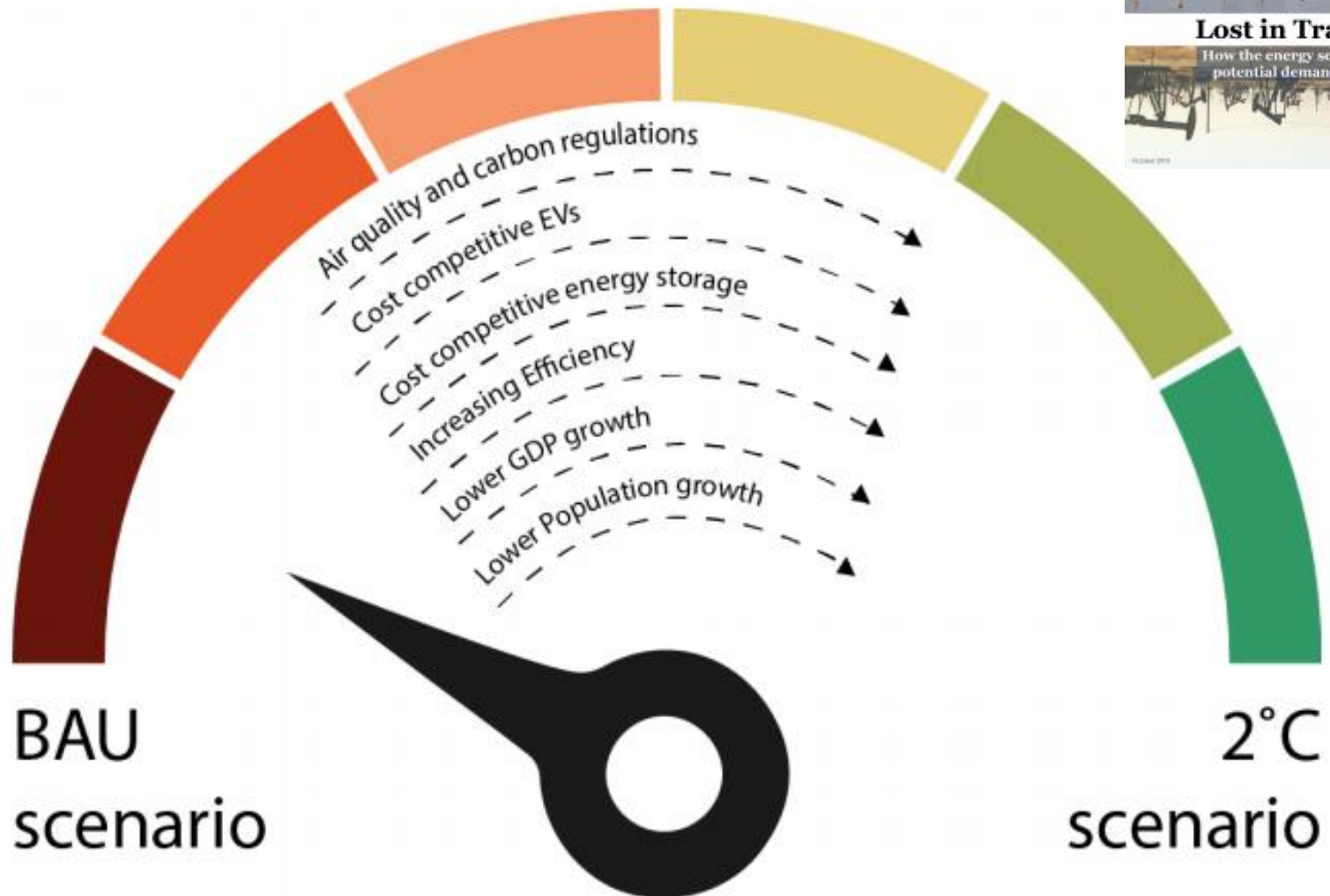
Expectations for the future fuel supply mix

Technology is overtaking policy – reference forecasts not useful

Battery costs are coming down faster than expected

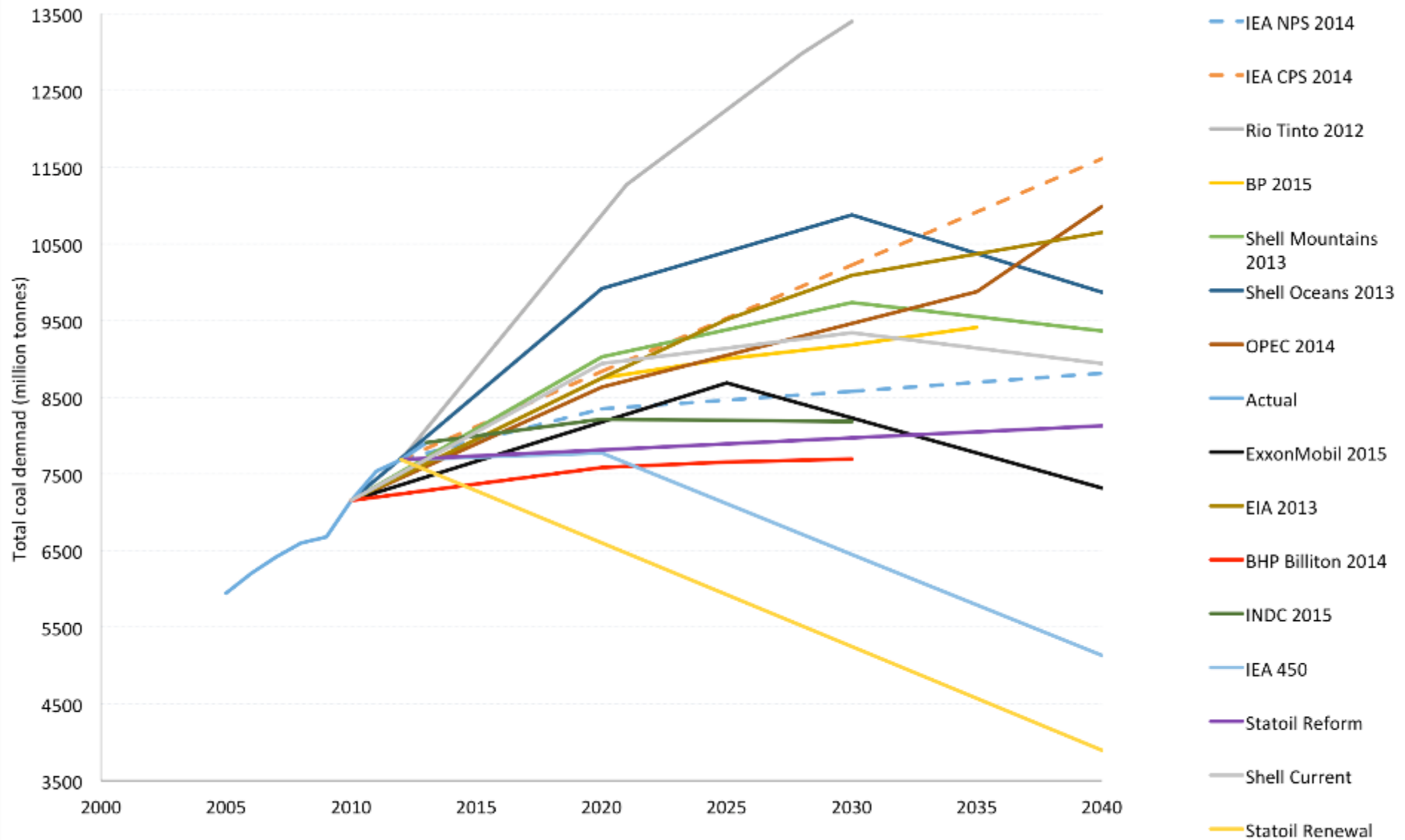


Industry selecting favourable assumptions to validate own business models



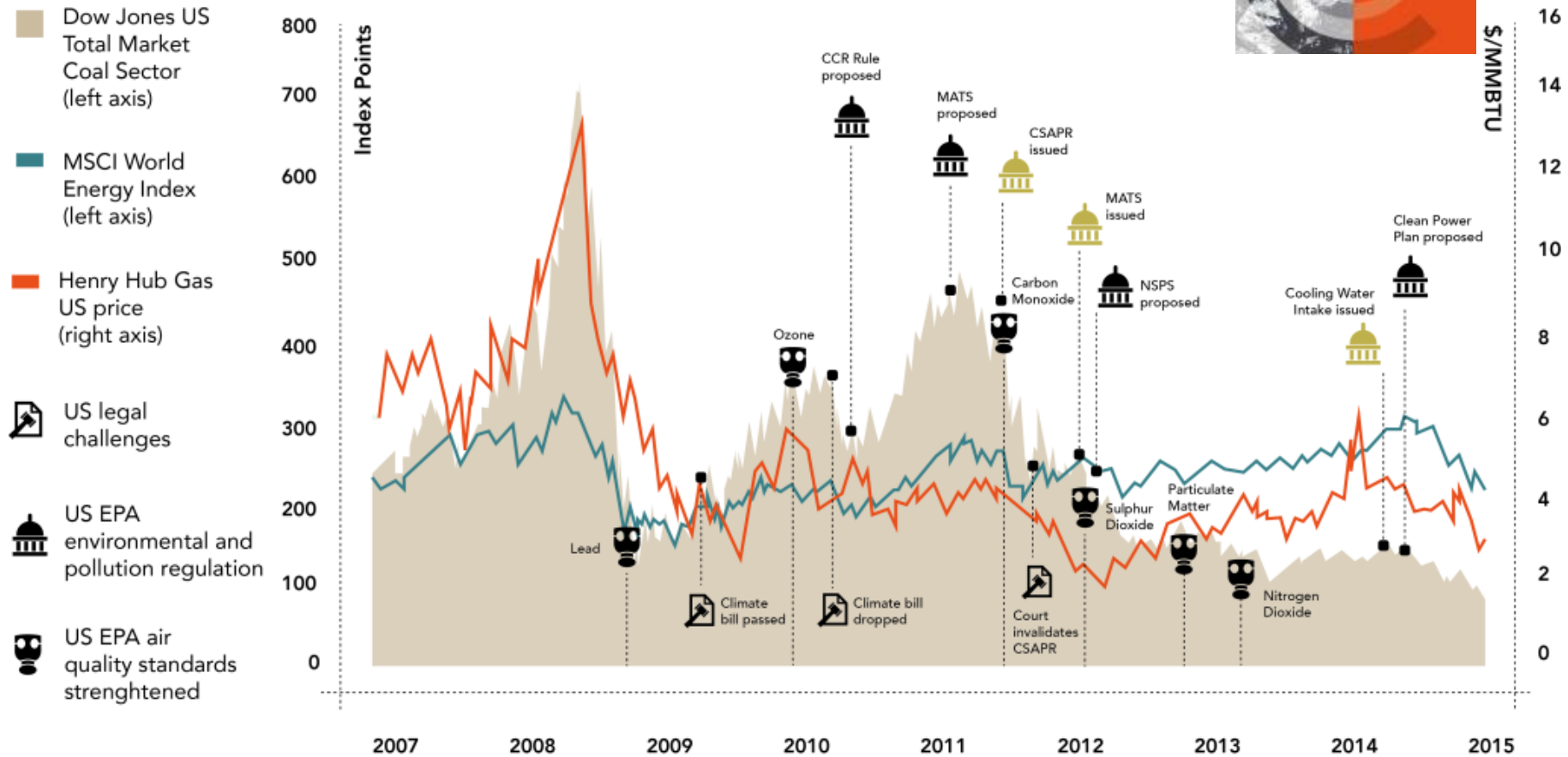
Coal demand dominoes keep falling

Forecasts of total coal demand

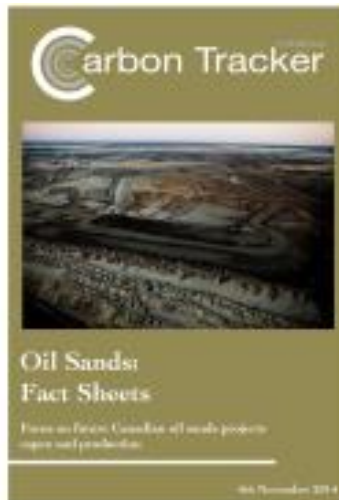


US Coal Crash – Gas prices & EPA

Sierra Club estimate of timeframe over which 180+ proosed coal plants project have been cancelled

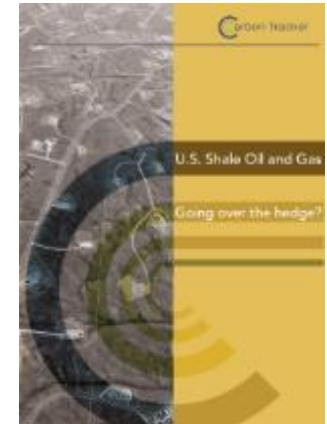


Not all barrels are the same – Canadian oil sands political and infrastructure risk



US shale – hedges expired for 2016

Sustainable business model?

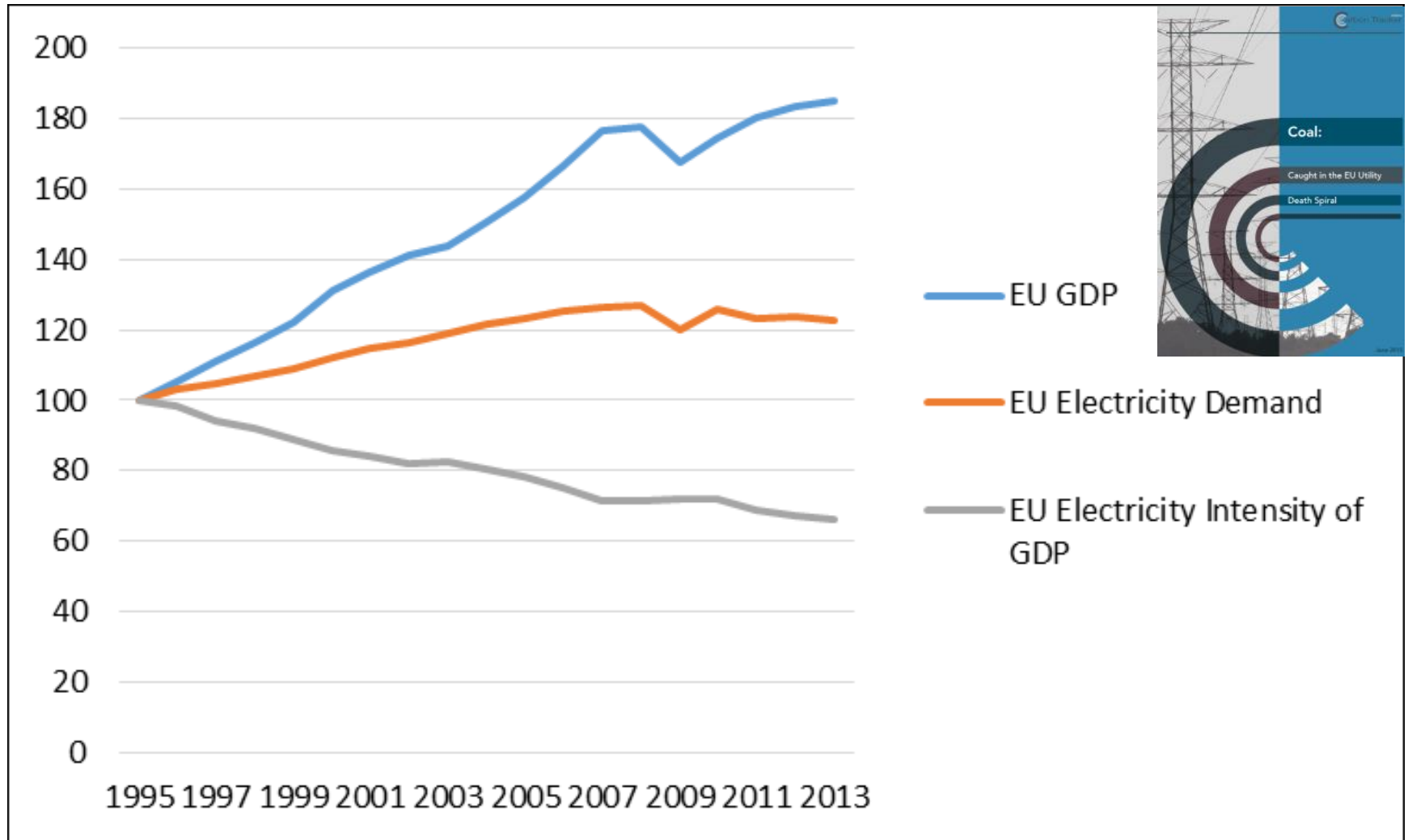


Example of price sensitivity in 2015 for a US shale producer – grey is uneconomic range

TOTAL DEBT/ EBITDAX RATIO – Hypothetical covenant default threshold value of 4.00								
2014 value: N/A		gas price, Henry Hub, \$/mcf						
oil price, Nymex WTI, \$/bbl		2	2.25	2.5	2.75	3	3.25	3.5
	30	8.2	8.1	7.9	7.8	7.6	7.5	7.3
	40	5.3	5.3	5.2	5.1	5.1	5.0	4.9
	50	3.9	3.9	3.9	3.8	3.8	3.8	3.7
	60	3.1	3.1	3.1	3.1	3.0	3.0	3.0
	70	2.6	2.6	2.6	2.5	2.5	2.5	2.5

Coal – caught in the EU utility death spiral

Decoupling and Decentralisation



The \$2trn stranded assets danger zone: How investor returns are at risk



Demand peak
in 2020,
no need for
continued growth

\$1.4tn excess capex



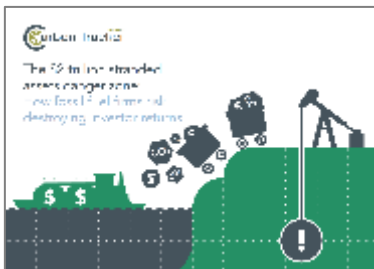
No new coal
mines required

\$220bn excess capex



Growth will
disappoint,
esp. capital
intensive
LNG

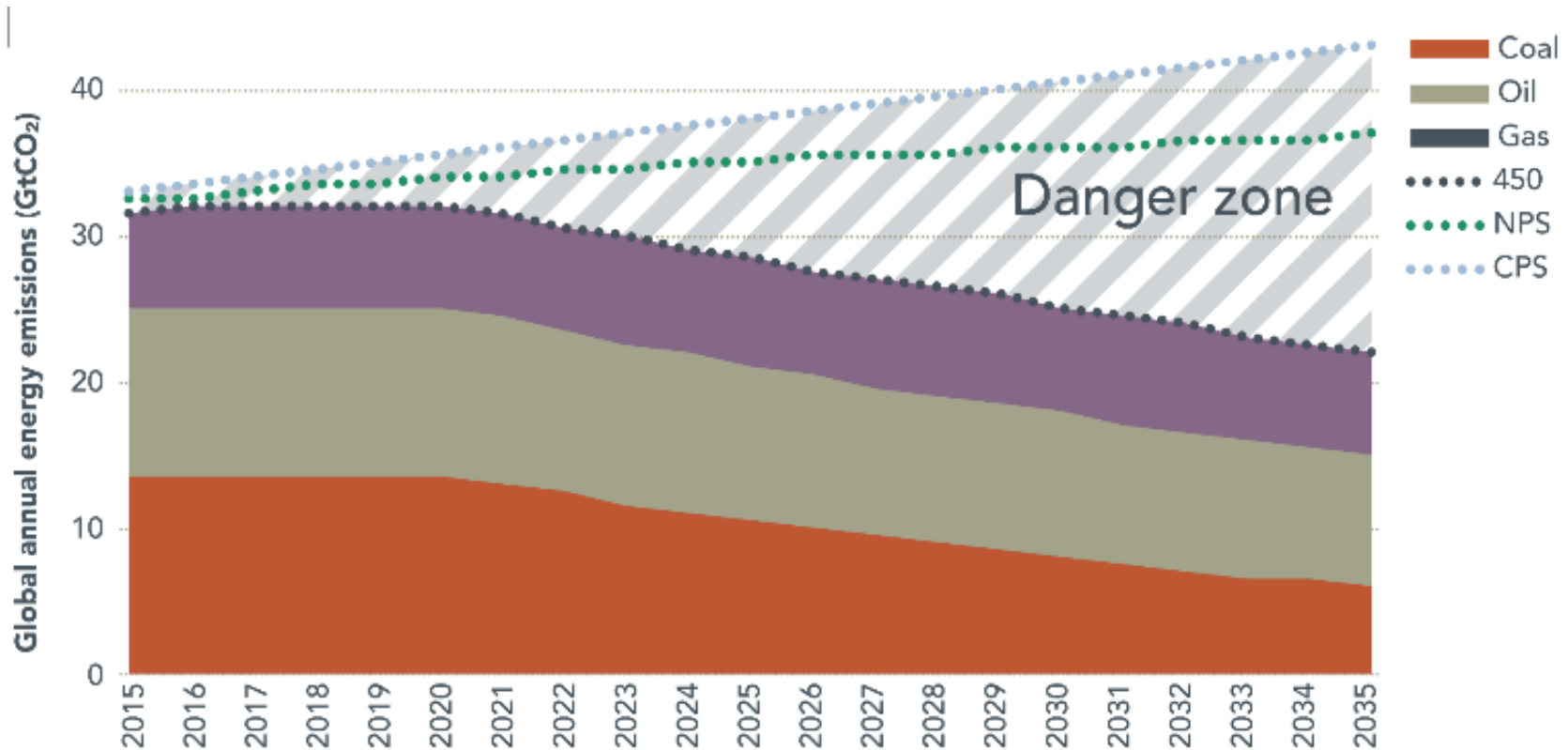
\$520bn excess capex



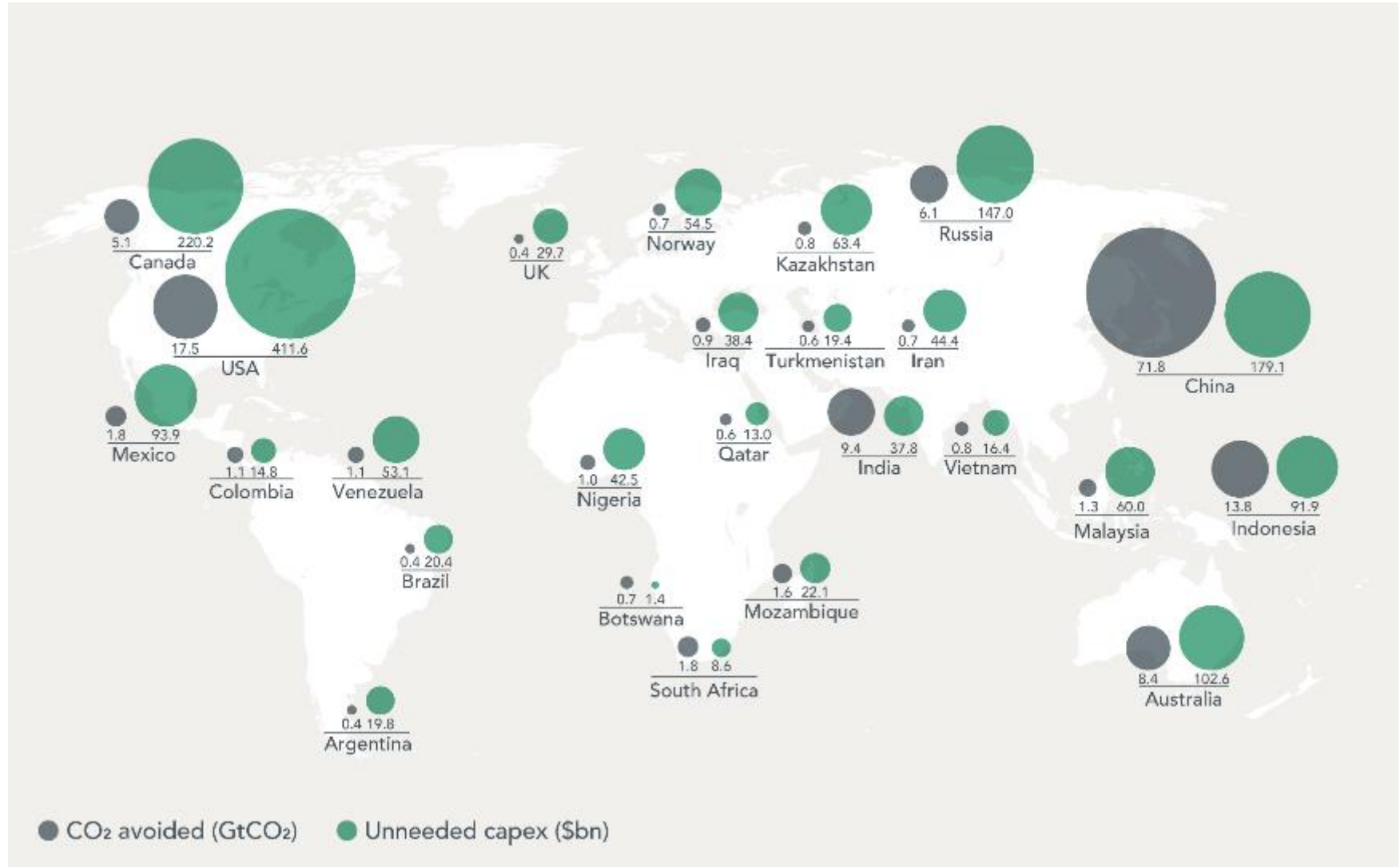
Nov 2015

Download full report at
<http://www.carbontracker.org/report/stranded-assets-danger-zone/>

Over \$2trn of capex needs to not be approved to avoid 156 GtCO₂ of emissions to 2035



Map of unneeded capex to 2025 and related CO₂ to 2035 in the danger zone by location of resources



Company Valuation

- How have climate targets and technological change been incorporated into long-term company demand/price assumptions?
- How have changes in economic growth, energy intensity and carbon intensity been factored in?
- Low commodity prices likely to lead to M&A activity – meaning values have to be placed on assets in a more visible way than annual reporting – a live debate!

Carbon Budget and E&E Costs

- How are Exploration and Evaluation Activities costs disclosed on the balance sheet?
- Do any limits imposed on capitalising E&E reflect the carbon budget?
- How should goodwill be adjusted for changes in demand for key products?
- Does the carbon budget also have implications in other areas, e.g. bringing decommissioning costs forward?

Impairments and Carbon Budget: Auditing or Accounting?

- Do fair value determinations address:
 - Variation in cash flows and mined volumes under low demand scenarios (2°C stress test)?
 - Uncertainty and volatility associated with structural shifts in markets – a “fossil fuel risk premium”?
 - Are the time horizons imposed on forecasts sufficient to incorporate the long-term horizons that the TFCD seeks to explore?

Giving a more complete picture

- Companies did not traditionally have to disclose pension liabilities, until it became clear there were problems – there is an opportunity to get ahead of the curve on climate.
- What links should be made to mineral reporting?
- How do you make narrative reporting and financial data align and not be in denial of structural shifts?
- What else might be required to give a true and fair view – what role do auditors play?



Thank you

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