

Oil & Carbon Revisited: value at risk from 'unburnable' reserves
HSBC Global Research, January 2013
Report Summary – Divest and Invest Campaign (www.divestUM.org)

The report investigates the exposure major oil and gas companies have to potential stranded assets (unburnable or unusable carbon). It estimates the effect these assets, along with falling oil and gas prices, have on each company's market capitalization. It only examines the major oil and gas companies in the **European sector**. Coal companies are analyzed in a separate report.

Unburnable Carbon

Global demand for energy would need to be 37% lower than BAU. Needs to move from 81% fossil reliance to 43% by 2050. Oil would fall from 32% to 13%, gas would fall from 21% to 16%.

They use the 50% probability scenario developed by Meinhausen et al. (2009) of remaining below 2C: "The 450 scenario" where 1440 GtC can be emitted 2000-2050. Already emitted 400 GtC up until 2013. So ~1000 GtC remain.

Under the 450 scenario, oil demand will start declining in 2020, and decline by 12% total through 2035; gas would continue to grow, but end up 30% below the BAU scenario; coal would fall 30%.

Note on Oil: 90% is in the hands of governments worldwide. So the activities of the major oil companies is marginal in terms of global carbon emissions. The behavior of government and state oil companies will be far more relevant. However, the threat to the majors still exists in two places: 1) future projects being deferred or cancelled due to lack of demand (unburnable). 2) loss of value from their portfolios because of lower prices.

European stocks

This analysis assumes lower demand and slower future growth for oil and gas. It analyzes planned projects to see which are at risk of cancellation. Each of the major European fossil fuel companies face different exposure to oil and gas reserves (35-50%). Oil is assumed to be the riskiest because oil demand is expected to fall, while gas will still climb but more slowly than BAU. Threshold prices for both oil and gas are chosen (\$50/b and \$75-80/b, respectively)

Oil:

They find that heavy oil (including tar sands) projects are most at risk with almost 30% of projects at risk of not being developed. Almost 20% of deepwater, and 10% of traditional projects would be at risk. The potential lost value of these are quite low because most of the projects are future developments and therefore have very little presently sunk costs. The majors face between 1% and 17% loss of market value because of these risky projects.

However, falling oil prices have a far greater impact on each company's market capitalization. Even for the assets that will be commercially viable (the ones above not at risk of being stranded), their value could fall substantially: between 29% and 44% of their market value.

Combining both the unburnable assets and the loss of value of commercial assets means the major European companies face between a 34% and 52% reduction in market capitalization.

Gas:

The threshold price for gas is higher than oil in this scenario and therefore leads to less of a potential loss of value for the companies. Only BP would face any significant loss of reserves (15%), while other companies' exposure to unburnable reserves is limited to 1% or less. The effect of gas prices also leads to little asset value loss (0-1% for all companies). The combined effect is a 6-9% decline in market capitalization.

Combined effect:

Overall these companies face a loss of value equivalent to 40-60% of their market capitalization. The majority of this is from declining oil prices, rather than value lost to stranded (unburnable) reserves.