

Bulk carbon offsetting by fossil fuels companies may look appealing, say **Quintin Rayer** and **Pete Walton**, but investors should be aware that it cannot solve global warming

Investors are aware of the climate risks associated with extracting and burning carbon, and can see that fossil fuel companies are a major source of emissions. So far, shareholder engagement and divestment have been the primary responses, but pressures to halt carbon-based fuel extraction are intensifying.

Policy and technology changes could cause extraction firms to lose US\$34trn of revenue, according to Barclays' 2015 report *Climate Change: Warming up for COP21*. Combined with changing investment policies, extraction firms may be unable to realise the value of their fossil reserves, making current market valuations misjudged. Some argue that fossil fuel assets will become uncompetitive as the price of renewable energy drops – their market share fell from 29% of the S&P index in 1980 to 5.3% by 2019, according to the Institute for Energy Economics and Financial Analysis's 2019 report *Fossil Fuel Investments: Looking Backwards May Prove Costly to Investors in Today's Market*.

One response from fossil fuel firms has been to invest in carbon-offsetting measures. Royal Dutch Shell, for example, plans to spend US\$300m on reforestation. This sounds impressive, but climate-aware investors are cautious. Is this a real attempt to address problems, or is it about retaining societal legitimacy so that Shell can continue its activities?

What is carbon offsetting?

Carbon offsetting schemes absorb atmospheric CO₂ or reduce existing emissions. A firm may be unable to avoid emitting some CO₂, and offsetting can 'neutralise' this problem. However, schemes vary in quality, and it can be hard to estimate how much CO₂ is really removed. High quality projects avoid double counting offset volumes, and include verification and registration. Other issues include the permanence of storage for removed carbon, how benefits are counted, and the potential for a scheme to cause emissions elsewhere ('leakage').

Shell's investment forms part of its plans to reduce its net carbon footprint by 2%-3% over three years – which still leaves a huge amount of emissions to be tackled. There is also concern over whether it covers all scopes of emissions within Shell's activities. Scope 1 emissions are from sources directly owned and controlled by an organisation, such as fuel used by company vehicles. Scope 2 emissions are those that come from energy use, and Scope 3 covers all other indirect emissions,

including customers' use of oil and gas. It thus makes no sense to extract oil and gas in a carbon-neutral manner. There is also little mention of whether the schemes are certified or meet minimum standards for being additional and permanent, and for avoiding double counting.

Half measures



US\$34trn

Policy and technology changes could cause extraction firms to lose **US\$34trn** of revenue



5.3%

Fossil fuel assets fell to **5.3%** of the S&P index by 2019

Problems with offsetting

Many climate scientists are wary of over-relying on offsetting. Tree planting may seem promising, but it can be challenging to estimate the amount of carbon absorbed. In addition, carbon capture must be permanent on a geological timescale, and the repository must be protected so that the carbon is not released. Leakage can also be a problem: for example, a project that avoids emissions caused by forest clearance might simply shift timber production and deforestation elsewhere.

Reforestation schemes also risk creating monocultures. The carbon stored in forests with low biodiversity is vulnerable to fire, diseases or pests. It is unlikely that humans can recreate the rich diversity of ancient forest ecosystems in just a few decades – it is far better to leave existing ecosystems in place.

As mentioned, double counting must also be avoided. The problem is that a project's carbon value could be counted towards purchased commercial offsets and as part of national Paris Agreement pledges.

Other gases, such as methane and nitrous oxide, must also be considered, but estimating the equivalent amount of climate warming is not straightforward. Given these difficulties, the risk is that offsetting may prove insufficient, even if carried out in good faith. For example, the altitude of CO₂ emissions plays an important role: for air travel, at least twice the emissions should be offset in order to compensate for the full climate impact.

If high volumes of carbon offsetting are required, capacity may be insufficient to meet demand. Consequences could include a shortfall, or the creation of substandard schemes. Bulk offsetting might also create the impression that everything is under control and businesses can carry on as usual. Widespread offsetting by fossil fuel companies would result in carbon being shifted from secure underground reserves, via the atmosphere, into vulnerable above-ground stores such as forests – significantly increasing climate risk.

These concerns indicate that it is wiser to adopt the precautionary principle and avoid emissions in the first place. Prevention is better than cure – particularly with the significant uncertainties involved and the appalling consequences of failure.

Offsetting guidelines

Given the challenges of reliable offsetting and the dangers of unchecked emissions, some guidelines emerge:

- First, reduce emissions as much as possible
- Thereafter, use offsetting to absorb residual emissions.

Other requirements include:

- Ensuring offsets are additional, and avoiding double-counting
- Offsetting by more than the estimated emissions (for air travel, offset at least double the emissions)
- Ensuring carbon removal is permanent (well above hundreds of years).

Offsetting may also be used as a practical measure to mitigate the worst effects of emissions while developing and implementing strategies to adopt lower-carbon technologies.

How should investors react?

Fossil fuel firms' attempts to offset carbon emissions are better than nothing, but fall short of climate requirements. Offsets do not 'solve' global warming, and fossil firms may only really be addressing stigma. Offsetting should only be used while firms act to reduce their emissions, and may help if used as a

temporary mitigating measure while society decarbonises.

Carbon offsetting should be seen as helpful, but no substitute for genuine moves towards low-carbon technologies. Ethical and sustainable investors should adopt robust policies to ensure fossil fuel companies understand this. By taking early action, ethical investors can show leadership and accrue client reputation. Advisors and fund selectors can identify proactive managers and guide clients accordingly.

The science is clear: to prevent dangerous climate change, we need rapid and decisive steps to reduce emissions. Media commentary shows that much of the public understands this message, even if the finance sector has been slower to adjust. Perhaps fund managers should listen – early movement could reap reputational benefits.

What do you think about offsetting programmes – are they a valuable tool in helping us reduce emissions, or a distraction from more effective methods? ●

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