Is ‘carbon neutral’ still relevant in a Net Zero world?

Offset projects hold environmental and social benefits, but climate change targets increasingly necessitate a net zero carbon management approach

Executive summary:

- ‘Carbon neutral’ theoretically neutralises emissions primarily through offset purchases. Offsets operate as a voluntary carbon tax. ‘Carbon zero’ actively reduces emissions at source and can result in cost savings
- Carbon neutral offset projects have significant potential to fail
- Carbon neutral carries significant business risk in terms of expense, carbon taxation, greenwashing, and reputational damage
- The wider environmental and social benefits conferred to businesses from successful offset projects should be emphasised for customer buy-in more so than the carbon emissions offset, and may already align with corporate responsibility initiatives
- Extensive due diligence is necessary if investing in offset projects to avoid business risks
- The carbon neutral approach will ultimately fail to meet climate targets; consequences of global temperature rise may severely impact business operations, staffing, and profits

Understanding carbon terms

The terminology used in describing carbon impact is both confusing and evolving. Understanding the key terms is useful in assessing the continued relevance of the term “Carbon Neutral”. Firstly, carbon neutral refers to a carbon management approach which results in no net release of carbon from a business’ practices. This is primarily achieved through the purchase of carbon offsets or credits, equal in part or full to the carbon emissions produced by the business. This theoretically balances, or neutralises, these emissions overall.

Offsets are available as a variety of different projects, from the expansion of energy production facilities and technologies that are less carbon intensive, to projects that help to capture and store carbon through technology or nature-based solutions. Offset purchasing is typically employed to facilitate a ‘business as usual’ approach, whereby businesses do not reduce the emissions that their business activities produce, at source. With no incentive to reduce direct emissions whilst offsets are considered a viable alternative, there is no reduction in emissions generation over time.

This critically differs from the net zero approach, which instead prioritises practical, first-hand emissions reduction, and uses offsetting only as a last resort. Carbon positive goes a step beyond net zero, to additionally remove carbon from the atmosphere once net zero has been achieved, in order to create a net positive impact for the planet. This term is used interchangeably with carbon negative, which shares the same meaning.

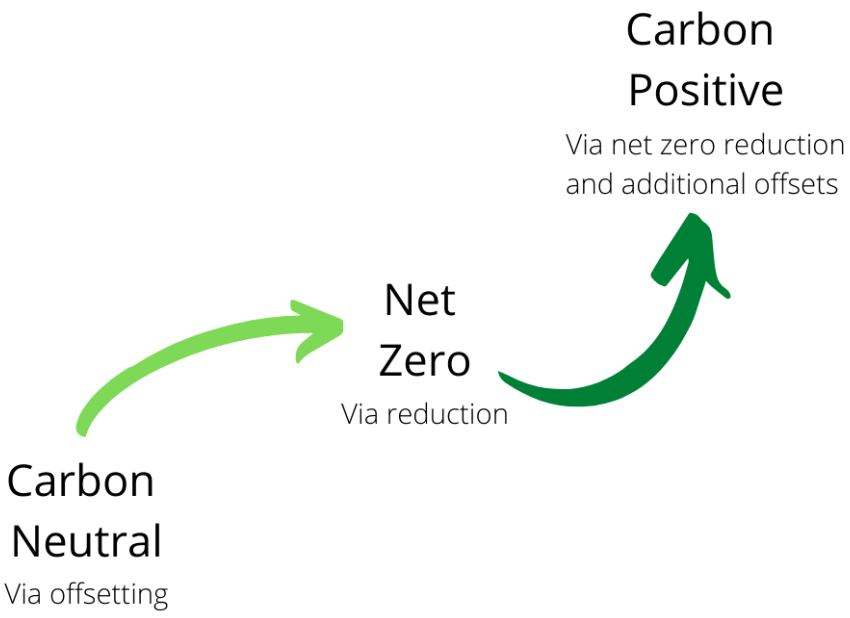

Image: Stepwise carbon management.

Wider benefits of using a carbon neutral approach

Carbon management, through either carbon neutral, or net zero approaches, is increasingly expected as a standard business practice by customers. Therefore, your business may harness increased brand value through selecting a portfolio of offset projects which confer additional environmental and societal benefits on your brand, beyond carbon management. These frequently support UN Sustainable Development Goals, and should be explored with respect to new or existing wider corporate responsibility initiatives which drive consumer buy-in.

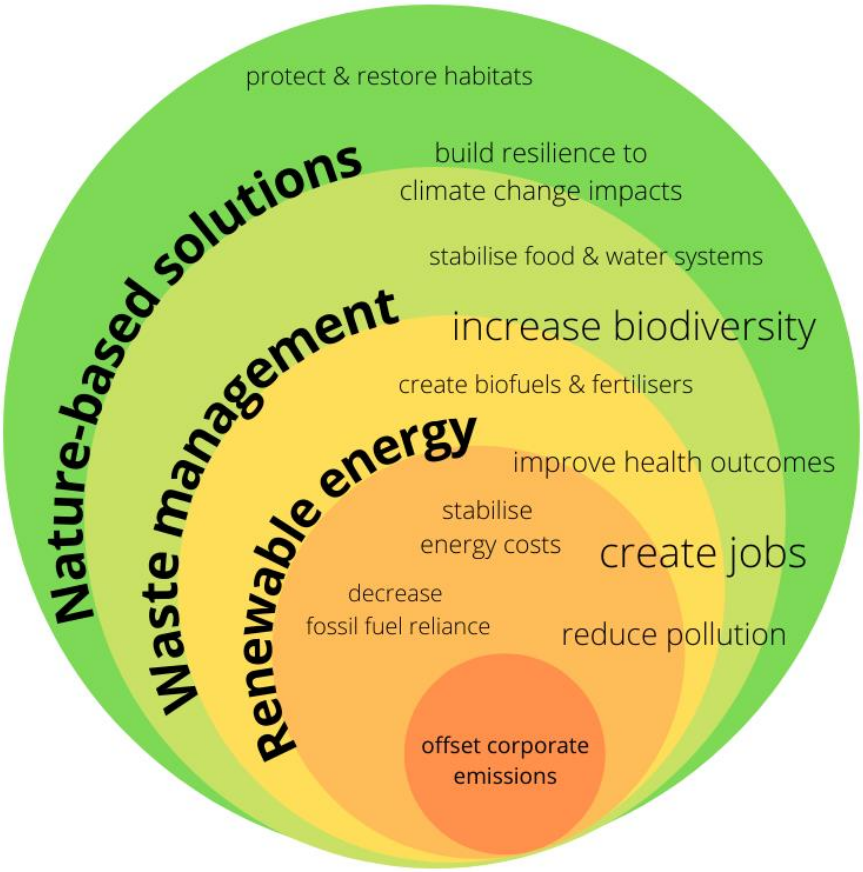

Image: Wider benefits of carbon offset projects.

These solutions are important, valuable and worthwhile, and should be pursued. However, there is a strong argument that to exert enough control over greenhouse gas-driven global warming and biodiversity decline to avoid adverse global impacts, protect food and water systems, and limit natural disasters, such nature-based solutions, renewable energy transitions and management should be occurring *in addition to,* rather than instead of, carbon reduction.

Risks of carbon neutral

Offset projects have a rich history of failure, in which case, no net benefit is achieved at all. Failure can occur even years after the carbon emissions were written off on paper, for example, a forest fire which destroys a reforestation project, can effectively null and void that emissions offset. Carbon neutral therefore carries the risk of wasting money that could be better spent on carbon reduction.

Additionally, if publicising a carbon neutral label dependent on failed or miscalculated offsets, a business additionally carries the risk of greenwashing and subsequent reputational damage, as consumers become savvier about climate and carbon management realities. Even when functioning perfectly, adopting, and publicising such an approach may not communicate the same understanding of the climate crisis, and determination in striving for climate targets, as a net zero approach, however well intentioned. As understanding of climate change and carbon management progresses amongst investors and the wider public, this too may become a reputational and business risk.

In the future, the risk of carbon taxation may also apply, even whilst offsetting, as a business continues to emit greenhouse gases. In combination with the rising cost of electricity and fuel, businesses may pay twice - for both offsets and risk costs; carbon neutral will likely therefore be an expensive strategy in the long-term.

On a global scale, carbon neutral operates on the assumption that sequestering carbon at another place and point in time whilst continuing to emit greenhouse gases into the atmosphere, is a feasible way of achieving a 1.5°c increase (above pre-industrial levels) limit on global warming. This stands in direct contrast to the approach outlined in 1.5°c pathways by the Intergovernmental Panel on Climate Change, which explicitly requires radical and urgent decarbonisation through reduction, in addition to sequestration methods. Without such action, and if greenhouse gas emissions continue at current rates, the 1.5°c threshold will likely be surpassed around the year 2030, and 2°c around the year 2050. The consequences of these global temperature rises may severely impact business operations, staffing, and profit.

Carbon offset projects can fail in many ways:

- Projects may not actually exist, or if planned, not come to fruition.
- The offset calculation is wrong and/or does not account for complicated factors:
    - The amount of carbon calculated to be offset may not be physically possible. For example, of trees planted, depending on several conditions, survival rates may typically be as low as 30%, with expertise and management over several years required to ensure higher rates of survival.
    - Calculations may not account for the time required to sequester a specified amount of carbon - this may be years and even decades. For example, a rowan tree may take 15 years to reach maturity, whilst an oak tree can take 40 years. Using the example of clean energy, it may take several years for a wind turbine or solar panel installation itself to become carbon neutral or positive, leading to specified carbon savings, due to the embedded carbon emissions produced during its manufacturing process.
    - The amount of carbon offset may be temporary, and lifespan not factored into calculations. For example at the end of a tree's lifespan, if burnt or decomposed, carbon sequestered is directly or indirectly returned to the atmosphere. An oak tree may live for up to 1000 years, whilst a rowan may live for around 120 years.
- The project may be branded as an offset retrospectively, or may occur regardless of carbon offset investment and therefore is not attributable as an offset for any specific

carbon emission because it is not 'additional' to business-as-usual projects which are already green-lit or developed. The World Economic Forum has found that as little as 2% of offset projects are certifiably additional.

- Finally, there may not be the infrastructure and investment to develop, maintain and monitor the offset project to deliver its results well into the future. Under these circumstances, carbon ceases to be offset in the likely scenario that the project fails.

Due diligence on carbon neutral projects

Businesses which cannot reduce emissions or have reached the limit of emissions reduction in their net zero approach, or wish to pursue wider environmental and social strategy, may especially benefit from due diligence prior to investing in offset projects, to protect from offset related business risks. This is because although offsets do not address emissions at source, if successful, they can be used as an interim measure until technological advances can address these remaining emissions at scale.

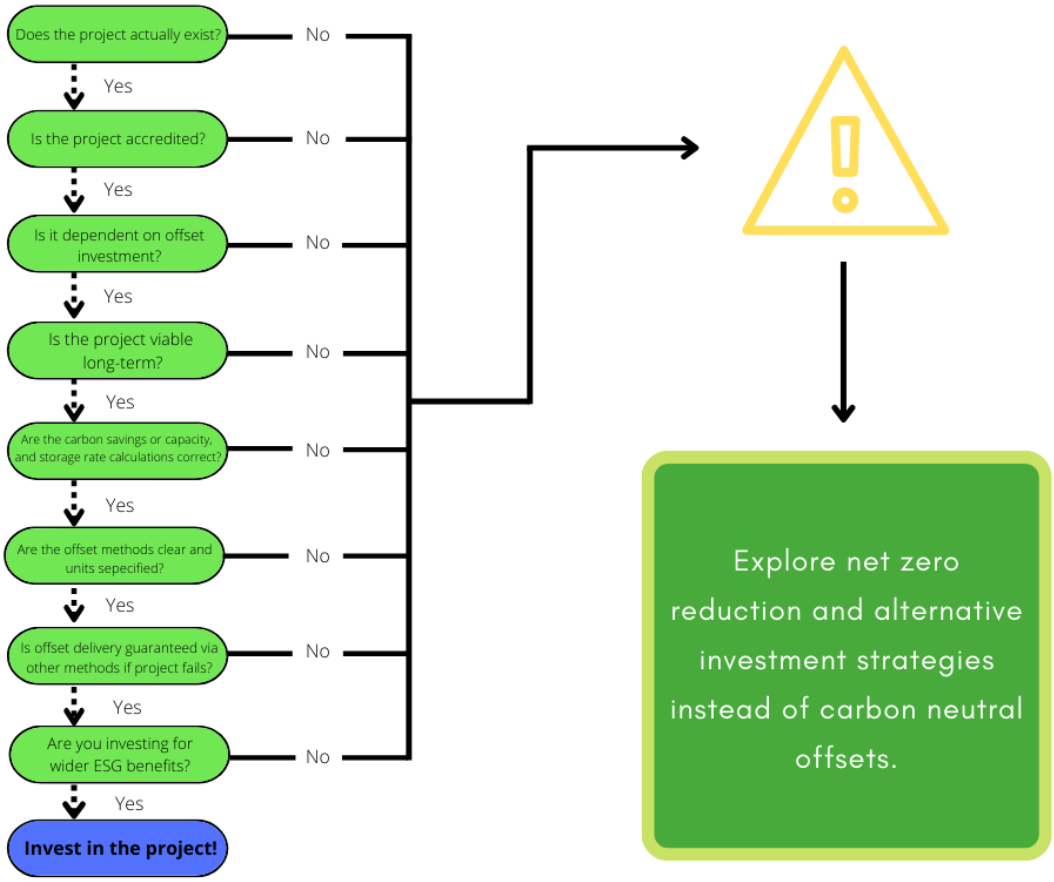

Image: Due diligence steps in carbon offsets.

There are several steps of due diligence to perform on the provider and project before investing. Researching and understanding project status, calculations for carbon capacity or potential carbon savings, calculations for the time to fully reach carbon saving or sequestration potential, additionality status, and limits of project responsibility and monitoring, are important steps.

Additionally, carbon offset accreditation status of projects can help to ensure confidence in projects. Several carbon offset programmes offer accreditation to other programmes, but the recommended is the Gold Standard, an international, voluntary accreditation for carbon offset projects. Unlike other accrediting bodies, the Gold Standard requires that offset projects prove lasting holistic social, environmental and economic benefits to their local communities. There is a shortage of Gold Standard offsets, which makes independent due diligence on any non-accredited projects likely, and critical.

Is carbon neutral still relevant?

Carbon reduction through a net zero approach is currently the most appropriate approach for most businesses and should be the priority when creating decarbonisation strategies. Offsets may be used as a last resort in a net zero strategy, or in addition to a net zero strategy, through carbon positive, or differentiated biodiversity or social Environmental Social and Governance (ESG) strategies.

The scale of the crisis and limited time in which we have to act, simply renders the term ‘carbon neutral’ irrelevant. In other words, a neutral approach to carbon and the climate was once, but is no longer, enough.

Access more resources and learn about the services and tools available to help you build a net zero strategy for your business via the Carbon Responsible website.

Written by Ciara Davies. Date 6th June 2022