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Carbon removals vs avoidance. *

What buyers need to know.

Achieving Net-Zero emissions has become a major objective for many companies, starting with efforts to reduce greenhouse gas emissions as much as possible across their operations and value chains. However, because some residual emissions cannot yet be fully eliminated, carbon offsets play an important complementary role. For this reason, understanding the different categories of carbon credits is essential for making informed decisions and supporting credible Net-Zero strategies.

Carbon projects are generally divided into two main categories: projects that avoid or reduce emissions, such as renewable energy, methane capture, cookstoves, and REDD+ projects, and projects that remove carbon dioxide from the atmosphere, including ARR/reforestation, biochar, Direct Air Carbon Capture and Storage (DACCS), and Bioenergy with Carbon Capture and Storage (BECCS).

According to Singapore's National Climate Change Secretariat guidance for the Voluntary Carbon Market, companies should first prioritize all feasible emission reductions within their value chains before using carbon credits to address residual emissions. In this context, carbon credits are intended to complement, rather than replace, direct decarbonization efforts. Avoidance and reduction credits are mainly associated with broader climate mitigation efforts, as they help finance projects that reduce future greenhouse gas emissions. In contrast, removal credits play an increasingly important role in neutralizing residual emissions because they involve the actual removal and storage of CO_2 from the atmosphere.

The category of carbon credit used also influences the type of environmental claims that companies can make. Avoidance credits are generally linked to contribution claims, since they support global emission reductions and climate finance at scale. In practice, these credits are often prioritized by companies with limited climate budgets or rapid climate finance objectives, particularly when the focus is on supporting broader mitigation efforts rather than making absolute carbon neutrality claims. To maintain credibility, companies using avoidance credits should ensure strong project quality screening, transparency, and rigorous disclosure practices, avoiding the communication of neutralization claims.

Removal credits, on the other hand, can support compensation or neutralization claims because they are associated with carbon sequestration and long-term storage. High-quality and durable removals may further support Net-Zero neutralization claims under frameworks such as the Science Based Targets initiative, the Oxford Principles for Net Zero Aligned Carbon Offsetting and the Core Carbon Principles developed by the Integrity Council for the Voluntary Carbon Market (ICVCM). Companies may therefore prioritize removals when pursuing long-term Net-Zero targets, managing hard-to-abate residual emissions, or communicating more ambitious neutralization strategies.

Therefore, companies should carefully align the type of carbon credits they purchase with the climate claims and communication strategies they intend to use, such as contribution versus offsetting, or mitigation versus neutralization.

In recent years, the Voluntary Carbon Market has increasingly shifted toward carbon removal projects, as these are considered essential for addressing the long-term impacts of climate change through the removal and storage of greenhouse gases over extended periods. As a result, removal credits are typically more expensive, often exceeding $100/tCO2e. These higher prices reflect not only the cost of removing carbon, but also the expenses associated with monitoring, long-term storage, and managing permanence and reversal risks, particularly in nature-based removal projects. Consequently, the market is often divided between lower-cost credits, mainly from avoidance or reduction projects, and premium-priced credits, usually associated with durable carbon removals.

Nevertheless, although carbon removals are considered essential for long-term climate neutralization and Net-Zero strategies, they do not always provide greater immediate climate benefits than all avoidance or reduction activities. Reductions and avoidance projects remain essential for minimizing ongoing emissions and delivering immediate mitigation outcomes, while removals are increasingly needed to neutralize residual emissions that cannot be fully eliminated. Some emission reduction projects, such as methane destruction or fossil fuel emission reduction projects, can generate high-quality carbon credits at relatively low prices, often below $10/tCO2e. These projects are generally easier to measure and verify, demonstrate strong additionality, and involve lower permanence risks. However, compared to durable carbon removals, their climate benefits are often considered less long-lasting because they avoid future emissions rather than permanently removing CO_2 already present in the atmosphere.

Overall, both avoidance/reduction and removal projects are important for tackling climate change and supporting Net-Zero goals. Avoidance and reduction projects help reduce ongoing emissions and can deliver fast and cost-effective climate benefits, while removal projects are becoming increasingly important for addressing residual emissions that cannot be fully eliminated. Therefore, the two approaches should be seen as complementary rather than competing solutions. The effectiveness of carbon offsetting ultimately depends on selecting high-quality credits and using them appropriately within a company's broader decarbonization strategy and climate claims.

Carbon Avoidance vs. Carbon Removal

Aspect	Carbon Avoidance	Carbon Removal
Main objective	Prevents or reduces future emissions	Removes existing CO_2 from the atmosphere
Climate impact	Prevents additional CO_2 from accumulating in the atmosphere	Directly lowers atmospheric CO_2 levels
Storage duration	Often provides shorter-term benefits	Typically associated with long-term carbon storage (10–100+ years)
Permanence	Usually lower permanence requirements	May face reversal risks (e.g. fires, land-use change)
Role in Net Zero	Supports contribution claims	Can support compensation and net-zero neutralization claims
Typical projects	Renewable energy, methane capture, energy efficiency	ARR/reforestation, biochar, DACCS
Key challenge	Baseline uncertainty	Permanence and reversal risks, which are mainly associated with nature-based removals

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4. Klimate - Avoidance vs removal: what's the difference?
5. National Climate Change Secretariat (NCCS) - Voluntary Carbon Market Guidance

6. CarbonMeld - Avoidance vs Removal Carbon Credits: Price, Reliability and Claims.

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