

Briefing Paper: What is Carbon Offsetting?

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What is it?

Carbon offsetting is an action or activity that compensates for the emission of carbon dioxide or other greenhouse gases to the atmosphere. Tree planting is a commonly used example but it actually makes up a minority of offset projects (details below). Offsets come in two main categories: first, removal of emissions, for example wind turbines replacing fossil fuel power stations to reduce produced emissions; and, second, removal enhancement, for example planting more trees to increase CO₂ sequestration and absorb more CO_{2e} (CO₂ or equivalent Greenhouse Gas) from the atmosphere.

Offsets can be further split and usually marked "ex post" or "ex ante". Ex post means that the offset has already been achieved, for example you are buying forestry that has already been grown and has sequestered carbon. Ex ante means you are buying in at the start of the project, e.g. paying for a forest to be planted. The same requirements apply to both in terms of long-term monitoring, carbon buffers, independent validation and verification. Often ex ante is used to launch new projects, particularly in developing countries where investment is lower.

Offsets vary in cost depending on the type of project and the provider. Currently, a typical price is between £6 and £15 per tonne of CO_{2e}. Often prices are only on request as it will depend on the exact project you are becoming involved with rather than one price for the provider.

Offsets have standards and accreditations which cover how often they are inspected, what projects they cover and verify the accuracy of the emissions claims. A list of standards can be found [here](#). Offset standards are split by "compliance standards" and "voluntary standards". Compliance standards are for those who are required to manage emissions and offsets, for example the EU Emissions Trading Scheme. Voluntary standards are the ones you can purchase to offset your projects or flights voluntarily (applicable to the FHE sector).

There is also the concept of insetting which is sometimes confused with offsetting. There is a full guide on insetting [here](#) but a basic difference is that for offsetting, emissions and reductions are independent and there is only a financial transaction between the parties. With insetting, there is partnership between stakeholders to identify emission reduction opportunities. For example, a coffee company supporting its growers with sustainable agriculture techniques or renewable energy to reduce deforestation would be insetting.

It is important to note that these projects only "offset" the impact of emissions, they never cancel them out entirely and thus **no offset has equivalence with mitigation**. Reduction of emissions should always take priority over offsets as referenced in the [Energy Hierarchy](#).

Examples of offsets

There are many types of project that could count as offsetting if they are managed correctly. For example: tree planting and forestry management, renewable energy projects, methane capture, carbon capture and storage, sustainable agriculture and many more.

What should you look for?

Legitimacy: It is only relatively recently that offset schemes have been looked into thoroughly and been given [standards and certifications](#). Quality offsets need verified and checked every few years at minimum and should have a reliable audit trail that demonstrates what they are achieving.

Quality: Some offsets are poorly thought out or flawed. Even seemingly simple ones like tree planting can go wrong if the group plants vast monocultures of trees, non-native species, have poor fire control or a general lack of forest management. Good offsets will have a [risk buffer](#), a secondary project accounting for 10-50% of your offset, happening away from the main one as a backup in case of failure. Failures could be from unavoidable things such as wildfires, tsunamis or hurricanes, and the loss will be covered from this reserve.

Scientific Accuracy: How much CO₂ was absorbed by the tree you had planted? Or the carbon equivalent in methane capture? It can be very difficult to measure the effects and calculate the sequestration. It is essential offset providers can prove their claims with accurate, good quality data.

Additionally: Can you prove that the offset project you supported would not have happened without the carbon offsetting finance? If you give money to plant trees for example, would those trees have been planted anyway? If so then that is a charity donation to an ecological project and not a genuine offset.

Carbon Leakage: This is when you cause the problem to move somewhere else. For example: You pay for a forestry offset in the Brazilian rainforest and it stops the forest being cut down. The logging company then asks Venezuela who agree that they can cut down the trees over the border. The global impact on carbon is the same, you've just caused it to move geographically. Good offset providers understand the politics behind the issue.

Ethics: Some offset projects in the developing world have been responsible for displacement of indigenous communities, land use conflicts and breakdown of social systems as developers fail to work with the local people.

This is not an official set of criteria but good offset schemes should be able to explain how they deal with all of these issues. All of the points above should be addressed by standards and accreditations or made clear by the offset provider.

Summary

Offsets can be used alongside reduction measures but should never be relied upon as a standalone measure. Any emissions will have impacts beyond the carbon factor (air pollution, particulates, longevity etc) so even if the numbers do genuinely match up it doesn't ever reduce the impact to nothing. High quality offsets can play a role with good reduction strategies but it is very important to assess the quality of the offset and to stress that offsets should only be used after all forms of reduction have been exhausted.

Further Reading

- [Offsetting FAQ](#)
- [Insetting Guide](#)
- [Offsetting Fact Sheets and Glossary](#)
- [Additionality and Baselines](#)