

Funding climate-friendly soil management – key issues

Additionality¹

1 Background

Definition: Emission reductions, avoided emissions, and removals (hereafter referred to as mitigation) are considered additional if they occur as a result of the incentives created by the funding for climate action, in this context climate-friendly soil management (McDonald et al. 2021). That is, additionality implies causality: without the mechanism, the mitigation would not have occurred (Böttcher et al. 2022).

Importance: Additionality is particularly important if the mitigation results are used to offset emissions in other sectors or locations (Schneider et al. 2014). It is also important for cost-effectiveness reasons, as it ensures that the recipients of funding are not rewarded for actions they would have otherwise taken (McDonald et al. 2021).

Relevance: Additionality is relevant for all kinds of projects, including soil carbon mitigation projects that lead to removals (e.g. increase in soil carbon stocks resulting from improved crop rotation), and emission reductions or avoided emissions (e.g. mitigation from avoiding soil degradation due to reduced compaction). Additionality is crucial for offsetting mechanisms². It is more optional for other results-based financing³, as in these mechanisms non-additional mitigation would not present environmental integrity risks (although it would undermine the effectiveness of climate finance).

2 Key issues

Environmental integrity risks: If non-additional mitigation is used to offset emissions reductions in other sectors or areas, and mitigation in other sectors is lower as a result, then the total amount of GHGs in the atmosphere will be higher (Schneider and La Hoz Theuer 2019). This would occur if a farmer was going to act to decrease erosion (and soil carbon losses) even without the incentives created by a mechanism (i.e. non-additional mitigation), but then receives certificates for doing so, and a corporate actor purchases these certificates instead of reducing its own emissions.

Difficulties of assessing additionality: Proving additionality is inherently challenging, as it requires an understanding of what would have happened without the mechanism, a counterfactual that can never be observed but only be constructed with uncertainty (Böttcher et al. 2022a; Gillenwater 2012; Schneider 2009). Further, it is difficult for third parties to assess the plausibility of this counterfactual, as it often depends on information provided by those carrying out the mitigation, who have incentives to provide favourable information. Finally, the complexity of the land sector – with its multiple private, market, and government drivers -

¹ This factsheet was also published as part of the UBA report “Funding climate-friendly soil management”, available at <http://www.umweltbundesamt.de/publikationen/Funding-climate-friendly-soil-management>.

² Under offsetting approaches, the buyer is using the certificates for mitigation outcomes as a substitute for within value chain abatement or mitigation activities in their own sphere and counts it towards their own (voluntary) climate target.

³ Results-based payment approaches make a payment dependant on the achievement and verification of a mitigation (or other environmental) result.

makes it particularly difficult to isolate causality to just one policy intervention, especially over longer time periods (Böttcher et al. 2022).

Additionality evaluation approaches: Different land-based climate-friendly soil mechanisms evaluate additionality in different ways, with strengths and weaknesses, as set out in the table below.

Table 1: Additionality assessments

Individualised assessments	<p>Baselines: Some mechanisms define any mitigation that goes beyond an activity-specific or standardised baseline as additional (McDonald et al. 2021). Individualised additionality tests: Some mechanisms apply tests that try to identify and exclude non-additional mitigation, including:</p> <ul style="list-style-type: none"> ▶ Financial additionality tests aim to exclude projects or mitigation activities that would have been financially viable without the mechanism incentives, using narrative evidence, simple cost-benefit calculations, or a financial analysis that compares the mitigation action to other options or a financial hurdle rate (McDonald et al. 2021). For projects in the EU’s land sector, these should consider incentives of complementary policies such as the Common Agricultural Policy. ▶ Regulatory additionality tests assess whether mitigation activities go beyond what regulation would have required the actor to do. ▶ Barrier assessments evaluate whether there are barriers that would have prevented an actor from implementing the mitigation activities (meaning they are additional) and how the mechanism helps overcoming such barriers. This may include institutional or technological barriers, or social or local knowledge barriers. 	<p>Advantages: Individualised</p> <p>Disadvantages: Costly for actors Rely on actor-provided information Subjective</p>
Standardised assessments	<p>Some mechanisms establish additionality in a standardised way for a type of mitigation activity, effectively working as eligibility criteria (Böttcher et al. 2022). Examples include:</p> <ul style="list-style-type: none"> ▶ Financial additionality evaluations that assess the typical financial feasibility across different activities (unlike individual projects or actors, as above). ▶ Market penetration evaluations that deem activities as additional if their market penetration is below a threshold value. ▶ Performance benchmarks that only consider mitigation as additional if it goes beyond a certain benchmark, e.g. mitigation rates achieved by the top 20% of farms. 	<p>Advantages: Low participant transaction costs Transparent</p> <p>Disadvantages: Costly to develop Must be updated regularly Risk of adverse selection</p>

Source: Own compilation.

Additionality evaluation costs: It can be complex, time-demanding, and expensive to evaluate additionality. When these costs fall on participants, this reduces the net economic benefit of participating in voluntary mechanisms and could be a barrier to uptake. Mechanisms may choose to accept some risk of non-additionality to reduce costs and increase uptake (COWI, Ecologic Institute and IEEP 2021).

3 Examples

Critical external inputs⁴ involve the application of off-farm organic nutrients (e.g. plant biomass or organic waste) as soil amendments that can boost soil carbon storage. Resulting mitigation would be considered additional if critical external inputs had not been applied without the mechanism. This could be tested by assessing whether farmers would have financial incentives to implement them without the mechanism incentives, whether regulation would require their application, and whether critical external inputs are common. However, additionality would also have to consider the source of the external inputs to ensure that leakage did not occur, e.g. if the sourcing of external inputs meant that soil carbon sequestration decreased in the source site, this would have to be balanced against gains achieved at the application site.

Precision farming⁵: Precision farming is a technology-intensive approach that applies appropriate management practice at the place and time where and when it is needed, adjusted to the heterogeneity of the agricultural field at a small scale. Mitigation that arises from precision farming would be considered additional if it had not occurred without the mechanism incentives. Because precision farming has different costs and benefits in different farming contexts, it would be very difficult to assess additionality using standardised assessments. Additionality would likely have to be assessed individually for each project/actor, based on financial additionality tests and barrier tests. However, because precision farming consists of many small actions, which collectively lead to mitigation, additionality is difficult to accurately assess and demonstrate even at the individual level.

4 Relevance for the EU

Common Agricultural Policy (CAP): The Common Agricultural Policy sets many complex incentives and drivers for landowners, which may change at least every seven years, when the CAP is revised. This can make it difficult to identify whether an individual policy measure causes mitigation actions (i.e. additional mitigation), or whether the mitigation action is caused by other CAP measures. In Europe, additionality assessments must consider existing (and potentially future) CAP regulations and incentives to be able to identify whether mitigation is additional.

Voluntary certification mechanisms operating in Europe: Additionality assessments are central to many mechanisms providing voluntary carbon market certificates in Europe, e.g. Label bas Carbone Carbon Farming, Verra Voluntary Carbon Standard, Gold Standard (McDonald et al. 2021).

5 Addressing challenges

It can be difficult to manage the risk of non-additional mitigation being correctly recognised and rewarded for some type of measures. The many different types of additionality assessments (as shown in the table on the previous page), with their varied strengths and weaknesses, provide numerous ways to assess additionality. Some mitigation activities (new, individual actions with few co-benefits) can be simple to identify as additional, while others (e.g. complex suites of actions such as precision farming) can be more difficult.

⁴ See factsheet on critical external inputs, available at www.umweltbundesamt.de/publikationen/Role-of-soils-in-climate-change-mitigation.

⁵ See factsheet on precision farming, available at www.umweltbundesamt.de/publikationen/Role-of-soils-in-climate-change-mitigation.

To avoid the environmental integrity risk of non-additional mitigation, only mitigation with a high probability of additionality should be acceptable for offsetting emissions reductions elsewhere. That is, such mitigation should not be incentivised through offsetting approaches, and instead limited to results-based finance approaches or action-based incentive mechanisms, if permitted at all.

6 Relevant literature

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