

Greenhouse Gas Sustainability Developments

GHG Protocol releases LSRS - the Land Sector and Removals Standard



What you need to know

- On 30 January, the GHG-Protocol released the Land Sector and Removals Standard.
- It contains accounting requirements for land sector emissions and removals.
- In comparison to the draft version of the Land Sector and Removals Guidance several new items attract attention.
- Most notably, requirements for agricultural leakage and a new type of direct land use change accounting are presented.
- No consensus was found on forest carbon accounting. The Standard will not be applicable to forestry.

Introduction

On 30 January, the Greenhouse Gas Protocol issued the Land Sector and Removals Standard (the LSR Standard or the Standard) to account for land sector (often biogenic) emissions and removals. The Standard is effective as of 1 January 2027 and aims to support companies that own or control land, purchase or sell products produced on agricultural lands, or have other relevant land-based activities in their value chain in accounting and reporting their GHG emissions and removals.

The Standard will be complemented by the Land Sector and Removals Guidance, which was released as a draft in 2022 and is expected to be released in Q2 2026. During public consultation and pilot testing, the GHG Protocol Secretariat received over 4,000 individual comments.

One of the key areas of focus of the Standard is the clarification on reporting of agricultural leakage. Companies will need to use the carbon opportunity cost metric to include indirect emissions on land outside a company's boundaries.

Other noteworthy requirements compared to the draft Guidance, have been made in the following topics: Traceability, Land Use Change, Land Use and Leakage, Removals, Product Carbon Storage. The Standard does not provide a consensus on forest carbon accounting. Therefore, this version of the Standard will not be applicable to forestry.



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Background

The Sixth Assessment Report of the IPCC set a prominent focus on CO₂ emissions from Land Use, Land Use Change, and Forestry (LULUCF). Based on scientific evidence, climate targets for effective climate mitigation should not include only fossil emissions, but also biogenic emissions. To support companies in addressing these emissions, the GHG Protocol issued carbon accounting rules for the Land Sector, including specific rules for removals.

Fossil emissions are the largest portion of direct anthropogenic emissions and have been included in carbon accounting frameworks for many years. This is not the case for biogenic emissions. The differentiation between direct (company activities) and indirect (e.g., climate change) anthropogenic emissions and natural effects (natural dynamics in carbon cycle) depends on establishing appropriate baselines and boundaries.

Who will be affected by the LSR Standard

The requirement to apply the LSR Standard is restricted to the application of the GHG Protocol. When a company prepares its GHG emissions in accordance with, for example, ESRS or ISSB Standards, it is not required to apply the LSR Standard given that these frameworks do not reference it. However, the Standard may be a useful source of guidance to address a sustainability-related impact, risk or opportunity identified by the company.

When calculating their Corporate Carbon Footprint, the GHG Protocol requires that companies with “significant land-sector activities in their operations or value chain must apply the LSR Standard to conform with GHG Protocol’s voluntary framework”. This pertains, but is not exclusive, to the forestry, timber, pulp and paper, food production (agricultural and animal source), food and beverage processing, food and staples retailing and tobacco sectors.

Also, companies that currently apply voluntary target-setting standards, such as the Science Based Targets initiative’s Forest, Land and Agriculture guidance, may need to align their accounting with the requirements of the Land Sector and Removals Standard and Guidance if they wish to report in accordance with the GHG Protocol as well.

Key focus items

Agricultural leakage: Agricultural leakage addresses the risk that a company’s activity leads to reduced emissions or increased removals for the company, but at the same time, to higher emissions on other land outside the company’s boundaries.

Traceability: Proximate, adjacent and integrated non-productive land may be included in the scope 3 spatial boundary. This supports the accounting for agricultural management practices such as hedges, hedgerows, agroforestry, shade trees.

A mass-balanced approach was added with safeguards as a way to demonstrate physical traceability. This supports commodities where products are commonly mixed at different processing stages and mass-balanced certificates are common practice (e.g., cocoa). However, a mass-balanced approach is prohibited in the following circumstances:

- a. Input/output volumes are unknown or not specified
- b. Non-proportional allocation was used
- c. No reconciliation period was defined
- d. Mixing occurred across multiple countries or sourcing regions

Land Use Change: a jurisdictional direct land use change (dLUC) has been added as a calculation approach. Being able to use this calculation approach helps companies when traceability within the value chain cannot be narrowed down to obtain data on the level of sourcing plots. A change from statistical land use change (sLUC) to jurisdictional dLUC is seen as a methodological change and requires re-baselining. Examples of jurisdictional dLUC are public data on direct LUC specific for cocoa in Ghana and Cote d'Ivoire, or national or regional forest inventory data for timber.

Land Use and Leakage: Companies must quantify and separately disclose land carbon leakage using the carbon opportunity cost metric if high leakage risk activities occur. In practice, leakage can occur in all land use change from agricultural land to forest, or from managed to unmanaged land. Carbon leakage due to changes in agricultural practices must be reported, except where such changes are made to improve the long-term sustainability of food production.

Removals: the Standard defines requirements for addressing uncertainties, including the use of statistical confidence intervals at a defined confidence level. Furthermore, the Standard specifies the allocation requirements for removals to avoid double counting and over-allocation. Spatial boundaries can be land management units or sourcing regions. Removals must be proven by primary data. Sampling of carbon stocks must be repeated at least every five years.

Product Carbon Storage: specific requirements are provided for waste carbon storage accounting. With specific requirements, carbon stored in landfills may be included in a removal plan.

Forest Carbon Accounting

The GHG Protocol has decided more time is required to ensure that science and feasibility both are appropriately met to include Forest Carbon Accounting in the Standard. Until the release of an updated Land Sector and Removals Standard that includes forest carbon accounting, companies choosing to disclose forest carbon impacts need to be transparent about their chosen methodology. In Forest Carbon Accounting, there are several approaches applied in practice. In the discussion on the best approach, a Managed Land Proxy (MLP) used for national carbon inventories was contrasted with an Activity Based Accounting (ABA) approach. Whereas MLP follows a stock-based approach applied to managed land, ABA differentiates the impact of a specific activity against a baseline.

Both approaches have strong advantages, but also suffer substantial drawbacks. The MLP is assessed based on measurements that can be performed in the forest, but it cannot differentiate between direct anthropogenic emissions and other effects. The ABA approach can support such a differentiation on a point of principal, but demands proper baseline scenarios and data.



How we see it

Both the inclusion of mass-balanced sourcing and jurisdictional direct land use change allows for more specific accounting of purchased crops in cases where the traceability of land management units is not possible. Direct traceability of sourcing still remains favorable to display specific emission reductions. If mass-balanced sourcing is applied, we believe companies should have safeguards in place so that all declared masses are registered with a globally applicable certification system.

With respect to forestry, the lack of a decision on forest carbon accounting is a relevant drawback. In the coming weeks, additional information is due to be released by the GHG Protocol. In the meantime, it is important for the affected industries (wood and timber, pulp and paper) to be transparent about the methodologies they use.

The Standard requires that agricultural leakage is measured using carbon opportunity cost, unless changes in production intensity are justified by long-term sustainability of food production, such as increased resilience, (e.g., due to a change in the type and amount of fertilizer used or a change in feeding type). Using carbon opportunity costs does not encourage companies to decarbonize by turning managed land into unmanaged land: any removals from this activity within a company's inventory are balanced against emissions outside the inventory. The decarbonization effect would thereby be counterbalanced, effectively showing no improvement because of the measures taken. Therefore, it is important for companies to consider whether the changes in production intensity can be justified by long-term sustainability of food production, although the Standard and Guidance currently do not offer an indication how this can be justified.

Companies now need to begin preparing for potential adjustments that will be communicated by target-setting standards such as SBTi.

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