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A brief assessment by the German Environment Agency

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Regulatory Framework for the Certification of Carbon Removals – Remarks on the EU Commission’s Roadmap

A brief assessment by the German Environment Agency

by

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Executive Summary

In its climate protection law, the EU has anchored the goal of being greenhouse gas neutral by 2050 at the latest. All GHG emissions must be ambitiously and rapidly avoided or reduced to achieve this goal. GHG emissions that are unavoidable according to the current state of knowledge (residual emissions) must be balanced by negative emissions (carbon removals). In its Communication "Sustainable Carbon Cycles" of 15/12/2021, the EU Commission (EU COM) announced its plans for a 'Regulatory Framework for the Certification of Carbon Removals'. The EU COM has announced to propose an EU regulatory framework for the accounting and certification of carbon removals by the end of 2022. So far, many key issues are left unanswered by the EU COM, which need to be addressed according to the German Environment Agency.

Key Messages

The German Environment Agency holds the view that a certification framework for carbon removals can contribute to sustainable and ambitious climate protection within the EU if

- ▶ mandatory consistent standards for the carbon removal process as well as for the monitoring of carbon removals are established and can be enforced,
- ▶ ambitious and sustainable requirements for environmental integrity, permanence and security of carbon removals are set,
- ▶ its use is embedded in the architecture of EU climate protection targets and its interactions with existing environmental and climate protection instruments and strategies are designed in a synergetic manner,
- ▶ existing standards on the voluntary market and on international compliance markets are not simply adopted, but merely taken as starting points to raise ambition by elevating the standards employed,
- ▶ carbon removals via CCU processes cannot be certified to be accounted towards a climate target or sold for respective purposes because no long-term and permanent carbon removals can be generated in these processes.

1 Purpose of the Certification Framework

The certification framework can have an ambitious climate protection effect under the following preconditions. Firstly, as a political instrument, its specific purpose and steering effects need to be pinpointed clearly and concisely. Secondly, it needs to be fitted in and integrated into existing policies and the architecture of climate protection targets. The EU COM communication leaves both largely open.

In the view of the German Environment Agency, firstly, accounting of avoidable emissions and certification of technical carbon removals must be separated within the EU COM's legislative proposal. Natural carbon removals are accounted for in the LULUCF sector. They are offset against the sector's emissions and count towards the LULUCF sector-specific target. Regulations for the accounting of technical carbon removals are missing so far. It must be excluded that technical carbon removals can be offset against avoidable emissions of the respective sectors. This would dilute the sectoral emission reduction targets. For this reason, any future development pathways for technical carbon removals should be formulated separately from the GHG reduction targets and LULUCF targets and reported in separate ways.¹ This should already be laid out in the certification framework.

Secondly, the legislative proposal must take precautions against greenwashing with climate protection certificates on the basis of the certification framework: the EU COM must position itself on what purpose the certification is to serve. The German Environment Agency sees two possibilities: on the one hand, certification can function as a label. The label can be used to identify carbon removals or respective processes that meet specified standards. Regulatory provisions or economic incentives can refer to this label, e.g. as a requirement in the context of an operating licence and as a prerequisite for a subsidy or tax relief.

In addition to this label function, credits (certificates) can also be issued for certified carbon removals, which show a quantified amount of removed carbon in t CO₂ equivalents and can be traded more or less freely. If such credits are issued, the content and possible use of the credit must be clearly specified. For example, it must be clarified whether a company or a public authority may count a credit towards its own greenhouse gas neutrality target.

Both options can contribute to environmental and climate protection if they are designed in an ambitious way and uphold environmental integrity. The EU COM has so far left open whether the certification framework is aimed at a label or goes beyond it. Even if the EU COM does not plan to issue state-regulated tradable credits within the certification framework itself, the voluntary market standards will take up an EU label for carbon removals and use it as the basis for their own credits. When designing the certification framework, the EU COM must therefore take into account the use of certified carbon removals in a scarcely regulated market. In order to prevent greenwashing, the EU Commission must therefore also take a position on the content and possible uses of credits even if it does not initially issue any credits itself. From the German Environment Agency's point of view, the points made in this paper are essential in this regard.

¹ Cf. [UBA \(2022\)](#).

2 Carbon Removal Process

According to the EU COM proposal, the certification system is supposed to cover both **technical and natural carbon removal processes**. However, the process types have different characteristics, especially with regard to the effects on other environmental media and environmental protection goals, which fundamentally call into question a joint certification. Even if both processes are placed under the common umbrella of a uniform certification framework, the special features of the respective processes must be taken into account when designing the requirements for the processes and the methods for describing and calculating removal successes.

Natural Procedures

- ▶ Interventions in the agriculture and LULUCF sectors can not only serve climate change mitigation, but also protect, conserve or restore ecosystems as a whole, promote biodiversity and have synergies with regard to climate adaptation, provided they are designed as nature-based solutions.² Such a positive impact that goes beyond climate impact can and should be a prerequisite for climate impact certification.
- ▶ Carbon cannot be removed indefinitely, but only up to a saturation level in biomass and in environmental media. Insofar as only new carbon removals are certified, no incentives can be set for the conservation of the carbon already removed. The EU COM proposal should be integrated in and accompanied by incentive and regulatory systems that also incentivise and stipulate nature-based solutions to maintain a climate-friendly status quo.
- ▶ Interventions in the agriculture and LULUCF sectors can serve the goal of emission reductions (especially peatland rewetting measures). These are not subject to the certification framework but should nevertheless be ambitiously pursued.

Technical Procedures

- ▶ The technical processes of carbon capture and storage (CCS), bioenergy with carbon capture and storage (BECCS) and direct air carbon capture and storage (DACCS) considered by the Commission have not yet reached market maturity. All options are further limited by economic costs, potentially high energy inputs, physical requirements (e.g. in terms of geological storage) and potentially adverse impacts on other environmental systems.³ In order to exclude environmental risks and the endangerment of other environmental goals, e.g. biodiversity protection, a robust and transparent reporting and monitoring system should be a prerequisite for certification. Furthermore, especially area-related technical processes such as the geological storage of carbon dioxide should only be implemented if any competing uses are weighed up and they are supported by a social consensus.
- ▶ In addition, the EU COM includes carbon capture and use (CCU) among the technical processes covered by the certification framework. Depending on the carbon source (atmospheric or sustainable biogenic), CCU only results in a temporal and local shift of

² Cf. [Reise et al. \(2022\)](#).

³ Cf. [Luderer et al. \(2021\)](#).

emissions even under optimal conditions (such as the use of 100% renewable energy). In the case of fossil carbon sources, there are always emissions, i.e. a negative climate impact. Thus, the CCU process does not lead to a removal, in the sense of negative emissions, of already emitted GHG gases.⁴ For this reason, the German Environment Agency does not consider carbon capture and use (CCU) to meet the requirements for certification in terms of a climate protection contribution.

⁴S. UBA 2021.

3 Certification Requirements

As a matter of principle, only long-term removals that uphold environmental integrity should be the subject of certification. Environmental Integrity of the certification means that overall a positive sustainable climate protection contribution is achieved without impairing other environmental media. Environmental integrity in particular includes

- ▶ the **timing of certification** (based on projected or actual removal successes) is made transparent and is aligned with utilisation options.
- ▶ **carbon leakage** is taken into account that creates emissions precisely because the certified measure is implemented.
- ▶ **benchmarks and baselines** used as a basis for certifications are science-based and chosen conservatively as well as ambitiously and are periodically reviewed and adjusted.
- ▶ the **impacts on and threats to biodiversity and other environmental media** (e.g. nutrient displacement) are taken into account. This applies both in the case of successful long-term carbon removals and in the case that long-term removals fail or large amounts of removed carbon are released.
- ▶ the available **land is used and managed in a climate-efficient and resource-conserving manner** and that any conflicts of use and management that arise are minimised.
- ▶ Certification schemes and opportunities should be provided for a limited time to allow for periodic follow-up and to ensure that only the carbon removal approaches that are best at balancing trade-offs are pursued.

The German Environment Agency also considers the following aspects to be essential, especially if tradable credits are issued from carbon removals:

Permanence

Carbon removals are not permanent. Carbon removed by both natural and technical processes can be released again in the form of CO₂ – by natural disturbances (e.g. pest, weather extremes), by deliberate human intervention (improper or climate-damaging management measures, stopping further inputs of organic matter or destroying a reservoir) or by unconscious misconduct (forest fire, monitoring errors).

In order to ensure that carbon removals uphold environmental integrity in the long term, it is necessary that not only the measure with all relevant process steps and its immediate success are monitored. Rather, it must also be monitored that the carbon removals are maintained in the long term. The type, geographical scope and duration of monitoring should already be addressed in the certification.

When certifying removal successes, it is therefore essential to address the risks of “non-permanence” events and to address and transparently communicate them both through standards in the implementation of the measure and in the certification of carbon removals.

Avoidance of double counting

All GHG emissions and removals on the national territory are included in the national GHG inventories. Even if the success of individual measures cannot currently be mapped 1:1 in the GHG inventory, they are included in the form of aggregated data and are counted towards the national and European GHG reduction target according to the respective accounting rules. If commitment effects are counted towards another (also voluntary) target at the same time, there is double counting of the same achievement. The EU COM has not yet taken a position on how it will exclude double counting in the certification and use of certificates. The exclusion of double counting can be achieved by

- ▶ a certificate that only displays a contribution towards the common climate protection targets which is therefore unsuitable for justifying the greenhouse gas neutrality of its user (**contribution claim**) or
- ▶ certain climate protection successes not being counted towards the national climate targets (**corresponding adjustment, set-aside**).

Additionality

Climate protection successes should only be certified with the aim of selling the certificates if the climate protection measure is verifiably additional, i.e. it would not have taken place without the certificate sale. Otherwise, *business as usual* would be financed.

Measures that are already subsidised elsewhere (in the case of natural carbon removals, e.g. through the CAP) or are required by law cannot be considered additional.

The requirement of additionality must be applied dynamically: A climate protection measure that is additional today may correspond to the new state of the art in a year's time. This measure should then be transferred into business as usual and flanked by regulatory provisions. In this way, the measure corresponds to the increased level of ambition and is no longer additional. In order to achieve the goal of greenhouse gas neutrality, the EU must utilize all options of climate-friendly economic activity as far as socially acceptable, establish them as a standard and continuously adapt them.

4 Contact Points for a Certification Framework

The certification of mitigation impacts has already been practised in the market mechanisms under the Kyoto Protocol and the voluntary market so there is extensive knowledge on the design and implementation of certification schemes. Currently, the implementation rules for the new market mechanisms under Article 6 of the Paris Agreement are being developed and implemented, which set the framework for certification schemes within its scope. The following aspects are essential when implementing a certification scheme:

Figure 1: Implementation aspects of a certification scheme

Governance	Verifiers	Methods	Accounting/registry
<ul style="list-style-type: none"> • Specifying, monitoring and further developing standards, methods, test specifications, etc. 	<ul style="list-style-type: none"> • Validation of concepts • Verification of successes 	<ul style="list-style-type: none"> • Specification of measures • Specifications for calculating removal successes 	<ul style="list-style-type: none"> • Unambiguous identifiability of removal successes in certificate issuance and use • Cancellation of used certificates

Source: German Environment Agency’s representation

Solutions for all aspects can be found in systems that have already been implemented, which can serve as an initial orientation aid, but should not be adopted as a standard without being checked. This also applies to the standards ISO 14064-1 to 3⁵ of the International Organisation for Standardisation, which formulates general requirements for the implementation and assessment of climate protection projects but in their depth of assessment and sharpness of requirements fall short of the more specific requirements of the market mechanisms under the Kyoto Protocol and, in the future, the Paris Agreement. Therefore, the ongoing work on ISO 14068 on “Carbon Neutrality” can also be taken into account in the development of the certification framework. However, since the standardisation process of the International Organisation for Standardisation is essentially run by non-governmental – not democratically legitimised – stakeholders who pursue economic interests in particular, the approaches developed there should not determine the work at EU level.

⁵ DIN EN ISO 14064-1, Greenhouse gases – Specification with guidance for the quantitative determination and reporting of greenhouse gas emissions and removals at the organisation level, DIN EN ISO 14064-2, Greenhouse gases – Specification with guidance for the quantitative determination, monitoring and reporting of greenhouse gas emission reductions or greenhouse gas removal increases at the project level, DIN EN ISO 14064-3, Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas declarations.

5 Certification and GHG Reporting/Accounting

Greenhouse gas emissions and removals are reported in the national greenhouse gas inventory. Reporting is done according to established international rules. The 2006 Guidelines for National Greenhouse Gas Inventories (and their refinements) of the Intergovernmental Panel on Climate Change (IPCC) and the UNFCCC Reporting Guidelines for National Greenhouse Gas Inventories (Contracting States' Decision 24/CP.19), which also apply to reporting obligations at EU and national level, apply to reporting in the international context. Based on these data, climate change mitigation successes and failures are counted towards national climate targets according to the respective accounting rules.

According to the IPCC guidelines, carbon removals cannot be included in the greenhouse gas inventory on the basis of a certification. Rather, there are more or less precise specifications for the recording of carbon removals. Natural carbon removals are recorded in the LULUCF sector via aggregated data models from inventories (e.g. Carbon Inventory, Forest Inventory), reports (e.g. National Soil Surveys in Forests and Agricultural Land) and measurements of more than 35 million random sample sites in Germany. The rudimentary specifications for the inclusion of technical carbon removals are currently not applied in Germany.

It is necessary and intended to continuously improve the reporting rules and increase the level of detail of the data collected. The certification of carbon removals can be helpful in this regard. However, certification always stands alongside reporting and cannot replace it. Therefore, it must be clearly and unambiguously regulated and communicated on which basis (certification or reporting) removal successes can be counted towards climate targets. Otherwise, there is a risk of non-transparent overlapping that can lead to double counting and undermine both environmental integrity and the ambition of a certification framework.

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