International Association of Oil & Gas Producers

POSITION STATEMENT | APRIL 2025

IOGP Europe views on the methodologies for the certification of carbon dioxide removal

Executive summary

To achieve the European Union's target of climate neutrality by 2050, carbon dioxide removals (CDR), which encompass natural and technological solutions to extract CO_2 from the atmosphere and store it long-term, must complement emissions reduction efforts. Scaling these solutions while maintaining environmental integrity and aligning with existing climate policies is essential. Robust certification methodologies will play a pivotal role in ensuring high-quality carbon removals.

While progress has been made with frameworks such as the Carbon Removals and Carbon Farming (CRCF) Regulation, challenges persist. IOGP Europe, as a member of the European Commission's expert group on carbon removals, would like to contribute to the debate by providing views on the proposed methodology.

Certification methodologies for industrial carbon dioxide removals

According to Article 8 of the Carbon Removals and Carbon Farming (CRCF) Regulation (EU/2024/3012), the Commission should establish detailed certification methodologies for permanent carbon removal activities.

As part of this work, in October 2024, the European Commission presented to the Carbon Removal Expert Group a draft methodology[1] for the European Union's Carbon Removal Certification Framework through DACCS/BioCCS, to which IOGP Europe provided initial feedback[2]. An updated version of this methodology was presented at the March meeting of this Expert Group. IOGP Europe welcomes this opportunity to comment and acknowledges the significant improvements made compared to the initial draft. While the updated version represents a clear step forward in terms of clarity and structure, IOGP Europe would like to reiterate and suggest further refinements to ensure these methodologies are comprehensive, effective, and fit for purpose. At the same time, it is important to recognise that few projects are operational as today, making it crucial for the framework to remain flexible and for provisions to evolve as progress is made. In this context, we would like to point out the following aspects:

- The current definitions and text within the ICF methodology restrict BioCCS to "oxidative processes," inadvertently excluding several important forms of carbon capture and storage (CCS) that utilize biogenic CO_2, such as from biomethane oxidation or biomethane production by anaerobic digestion. This exclusion risks undermining the potential of diverse BioCCS technologies that contribute to achieving the EU's climate goals by removing carbon dioxide from the atmosphere. We call for a need to revise the ICF methodology to ensure a more inclusive definition of BioCCS. Moreover, considering the updated wording on the definitions of BioCSS and biogenic CO_2, we call for an alignment of both definitions to ensure that neither is more inclusive than the other.

[1] Support to the development of methodologies for the certification of industrial carbon removals with permanent storage - Draft technical specifications for the certification of permanent carbon removals through DACCS/BioCCS, ICF 1 October 2024.

[2] https://iogpeurope.org/resource/iogp-europe-views-on-the-methodologies-for-the-certification-of-carbon-dioxide-removals/

- Several BECCS (Bioenergy with Carbon Capture and Storage) projects, such as those announced by Ørsted and Stockholm Exergi, are underway in Europe, with additional projects currently under development. These projects, set to commence after 2026, intend to issue carbon credits through independent carbon standards like Verra Verified Carbon Standard (VCS). We welcome the fact that it was clarified that these projects will be eligible under the CRCF certification framework. Still, we reiterate the encouragement to the European Commission's Carbon Removal Expert Group to leverage the work of the CCS+ Initiative[3] 2, a multi-stakeholder alliance developing robust carbon accounting methodologies for CCS. Its unique modular approach promotes high environmental integrity and facilitates implementation through collaborative CCS hubs and shared infrastructure, enabling the efficient and scalable deployment of multiple CCS technologies.
- We welcome the update made on the quantification of associated GHG for the installations capturing CO_2 from point sources of biogenic emissions, by considering in the proposed calculation methodology both a mix of fossil and biogenic CO_2 in the GHG emissions associated with the capture process.
- We welcome the stronger alignment with the EU ETS framework, especially in the context of the transport of CO_2. This would leverage the time-lag in reporting quantified removals as a practical solution for ensuring accurate and timely reporting.
- Under the section on the quantification of fugitive, vented, and leaked emissions of captured CO_2 for storage of CO_2, we reiterate our message that there is no sound rationale to exclude the consideration of quantified carbon removals during hours in which there was any type of "leakage event" or "significant irregularity" that is not well defined and subjective. Any leakage of CO_2 needs to be reported according to Article 17(2) form the CCS Directive and would need to be covered by EU ETS allowances. It is already a strong incentive for the operator to repair any potential leak or even to hold injection operations in case of a critical potential issue. Net carbon removal benefit can still be demonstrated, and the CCS Directive requires absence of leakage prior to transfer of responsibility to the state. As in the inclusion of storage sites under the EU ETS Directive, leakages (and surrender of emission allowances) are quantified and managed within the year that they occur. The formula as it stands now could potentially lead to significant revenue losses, even when leaks are minor or unconfirmed. Furthermore, the current formula for quantification of storage losses implies that any leakage from the storage site is counted twice. For these reasons, we propose removing the term $CO_{2irregularity,S}$ in the formula for CO_2 storage losses, as well as the corresponding mention in the introductory chapter's section on CO_2 storage. Moreover, we would like to draw attention to the updated formula [33]. As currently presented, the inclusion of CO_2total,S may lead to a duplication of CO_2_injected,S and could misrepresent storage dynamics. We, hence, suggest reverting to the previous version of the formula to ensure clarity and accuracy.
- We would also appreciate further clarification about the rationale for the inclusion of $GHG_{bio-storage}$ in section 4.3.1. (formula [16]). In particular, considering that it is likely that methane emissions from the handling of biomass feedstocks would also be present in the baseline where an existing bioenergy facility was in operation, in the production of biomass-derived energy products (i.e., - pellets), and in the alternative fate of biomass that was not collected and left in-situ to decompose. It seems counterintuitive to ignore the avoidance of that methane release in the baseline, while accounting for methane release in the project scenario. Further, there is the possibility of double counting these methane emissions if the emission factors for biomass feedstocks will also be considered methane generation.
- We call for the elaboration of an equation map that illustrates the connections and dependencies between the parameters to ensure fulsome accounting of emissions and avoid unintended interactions. This would be particularly relevant, for example, considering that the parameters of $CO_{2,fossil\ stored}$ and $CO_{2,captured,other}$ seem to cover the same fossil-derived emissions at different stages in the calculations.
- We welcome closer alignment with the sustainability criteria present in Article 29 of the Renewables Energy Directive[4] on biofuels, bioliquids and biomass.

[3] More information available here: https://ccsplus.org/ and work published on Verra website **VM0049 Carbon Capture and Storage, v1.0**, with the modules VMD0056 CO2 Capture from Air (Direct Air Capture), VMD0057 CO2 Transport for CCS Projects, VMD0058 CO2 Storage in Saline Aquifers and Depleted Hydrocarbon Reservoirs and the ones to be issued on April 22, 2025 : CO_2 Capture from Bioenergy Combustion (BECCS), Differentiating Reductions and Removals in CCS Projects.

4

- In defining associated GHG emissions, it is important to clarify the scope of the term "entire lifecycle" as it may be misinterpreted to include capital emissions. To ensure clarity, we propose that the associated GHG emissions are clearly defined as the direct and indirect emissions related to the operation of the capture, transport and storage activity. Moreover, we would like to understand if the text is applicable to direct air capture, and if so, what is the role of waste in that case.
- We propose the inclusion of fugitive emissions in the CR_{total} under the formula [1]. As defined in the draft methodology, CR_{total} represents the amount of atmospheric or biogenic CO_2 captured and permanently stored, excluding losses from fugitive emissions, leakage, or venting. CRtotal is calculated based on $CO_{2injected,S}$, which means that any fugitive emissions occurring upstream are already reflected in the lower volume of CO_2 injected. Given that fugitive emissions are, by definition, irregular, diffuse, and too small to be measured individually, they are not directly monitored. As such, the use of $CO_{2injected,S}$ as the basis for CR_{total} inherently accounts for these losses. We therefore recommend explicitly acknowledging that fugitive emissions are captured within CR_{total} through this approach to improve clarity and ensure alignment.
- The proposed draft refers to the emission factors that should be considered for the purpose of these methodologies. We believe that centralizing lifecycle emission factors into a unified reference point could contribute to ensure consistent and transparent assessments across sectors, promoting uniformity in carbon removal calculations.
- Another important aspect to consider is the interaction of the EU methodology and the existing methodologies at a global level. The divergence of certification methodologies across the EU and globally risks market fragmentation, hindering cross-border projects and slowing the adoption of innovative solutions. In this context, ensuring alignment with international frameworks, such as the mechanism under Article 6 of the Paris Agreement, can help facilitate the global carbon market and enhance the credibility and interoperability of certification schemes.
- Finally, we believe that de-risking and adequately funding carbon removal technologies is essential to achieving the EU's climate goals and addressing residual emissions in hard-to-abate sectors. While we welcome existing EU funding mechanisms, they remain insufficient and often place excessive administrative and financial burdens on applicants, making access unnecessarily complex. Many of these mechanisms also fail to provide adequate early stage support, creating a funding gap that could hinder the development and deployment of critical carbon removal technologies.

A key issue is the persistent lack of clarity on what Carbon Dioxide Removal (CDR) truly entails and how it differs from other mitigation approaches, such as Carbon Capture and Storage (CCS). This conceptual ambiguity affects decision making, particularly when allocating financial support, and risks misdirecting funds intended for removals towards emission reduction projects instead. A clearer and more consistent definition of CDR, along with better guidance on its role within the EU's climate strategy, is crucial to ensuring that funding is properly allocated and that emerging carbon removal solutions receive the long-term investment certainty they require to scale effectively.

Therefore, we call for a more ambitious and accessible funding framework that prioritizes investment in carbon removal technologies while streamlining access to support. At the same time, we urge the European Commission to establish clearer distinctions between removal and reduction technologies to ensure that funding mechanisms are fit for purpose. In this context, while not the sole mechanism, integrating carbon removals into the EU ETS could serve as a demand incentive in supporting these efforts.

Summary of key recommendations:

1) Revise the methodology to include broader BioCCS technologies to maximize the potential of diverse BioCCs technologies.
2) In leakage accounting, remove the constraint that carbon dioxide removals can only be accounted during hours which the storage site was operating without leakage events or significant irregularities. The accounting for leakage or irregularities during storage site must be harmonized with the CCS Directive to ensure the losses are not counted twice leading to underestimation of the net removal benefit.
3) Revert to the previous version of quantification of fugitive, vented and leaked emissions of captured CO_2 (formula [33]) to avoid duplication of injected CO_2 volumes and ensure an accurate representation of storage dynamics.
4) Provide clarification on the rationale behind the inclusion of GHGbio-storage under the emissions from the capture facility section.
5) Call for an equation map to clarify parameters linkages, ensure comprehensive emissions accounting, and prevent unintended interactions.
6) Clarify the scope of "entire lifecycle" under the GHG associated emissions definition.
7) Include fugitive emissions under the quantification of permanent carbon removal benefit.
8) Centralize lifecycle emissions factors into a unified reference point to ensure consistency and transparent assessment.
9) Ensure interoperability between EU and international methodologies to avoid market fragmentation and ensure investor confidence.
10) Enhance and streamline EU funding mechanisms to better support the development and deployment of carbon dioxide removals technologies, addressing accessibility challenges and early-stage funding gaps.

IOGP Europe

Avenue de Tervueren 188A, B-1150 Brussels, Belgium
T: +32 2 882 16 53
E. reception-europe@iogp.org

IOGP Headquarters

T. +44 20 4570 6879
E: reception@iogp.org