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The Bioenergy Association of Finland's feedback on CRCF technical specifications on DACCS, BECCS/BioCCS & biochar

The Bioenergy Association represents the interests of bioenergy and biochar sectors in Finland. We welcome the release of the technical specifications for DACCS, BECCS/BioCCS, and biochar methodologies. Getting these methodologies right is essential for establishing a robust, standardised approach to large-scale industrial carbon removals and achieving climate targets. We appreciate the opportunity to provide feedback on the draft methodologies.

The goal of the Carbon Removal Certification Framework (CRCF) is to encourage European stakeholders to undertake projects that remove CO2 from the atmosphere while ensuring the permanence and quality of certified removals. Based on these draft methodologies, the Commission will prepare delegated regulations on measurement and accounting methods for carbon removals and emissions reductions by 2025.

For permanent carbon removals, the key solutions include BECCS/Bio-CCS, DACCS, and biochar. The published draft specifications directly state that the development costs and implementation of these projects are unlikely to become economically viable without the incentive provided by certification. Alongside financial incentives, certification requirements significantly impact the attractiveness of investments. Additionally, policy coherence and alignment with the existing legislation are crucial to ensure a consistent climate policy. Without this coherence, there is a risk of poor integration with other pillars of climate policy, rendering the framework ineffective.

The Bioenergy Association of Finland believes that the current draft methodologies present a risk that projects will not progress on the desired schedule and/or scale. The current situation already involves risks in scaling up value chains, and in establishing entirely new business models. Investment and operational costs are likely significant, and there is simultaneously uncertainty regarding the future regulatory landscape.

Additional sustainability criteria for carbon removal projects that differ from the EU's recently established common sustainability criteria under the RED3 directive do not encourage cost-effective projects for permanent carbon removals using biomass. Additionally, the timelines proposed in the draft specifications do not meet the long-term predictability required for these investments. Large-scale capture, transportation, and storage infrastructure projects require a multi-decade investment horizon. The certification periods, activity periods, and baseline updates proposed in the draft

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methodologies do not provide sufficient long-term security for investments. The extent of lifecycle emissions calculation and reporting required from projects imposes an overly burdensome administrative load and cost burden on some projects.

It is clear that all climate change mitigation projects must be carried out sustainably within the EU, and the carbon removal units produced must be appropriately and regularly verified. However, it is questionable to impose stricter requirements on carbon removal projects than on other climate projects. Carbon removal projects provide significant and critical climate benefits if realized, and – as the impact assessment[1] of the Commission Communication in February 2024 shows - the EU cannot afford to create a system that fails in its target to promote permanent carbon removals. Projects related to the permanent storage of biogenic CO2 (BECCS/Bio-CCS and biochar) play a critical role in achieving the EU's climate targets. They are currently the most cost-effective projects in the EU for permanent carbon removals, with significant scaling potential. By 2040, the EU should achieve permanent carbon removals of at least around 80 Mt per year. Achieving this target cost-effectively is impossible without projects based on the permanent storage of biogenic CO2.

Regarding project financing, it should be clarified that carbon credits enabled by certification can be complemented with other financing mechanisms. Carbon credits alone, although essential, are not sufficient for large-scale investments. A clear policy on financing options (national funding, funding from other EU instruments, carbon credits/private funding) would provide security for investors and create better conditions for attracting additional necessary financing.

The methodologies under development must align with existing legislation, ensure long-term predictability for operations, minimize additional administrative burdens from certification, and emphasize cost-effectiveness without compromising agreed sustainability criteria.

Detailed comments and proposed changes:

BECCS & DACCS -draft methodology:

The 25% limit on additional biomass use should be removed. This limit is based on energy consumption, whereas the CRCF regulation takes a capacity-based approach. The

[1] 2040 climate target - European Commission

regulation should be followed to ensure consistency with EU legislation and to reduce arbitrary treatment of different companies.

- The draft specification says: *"In order to ensure the avoidance of unsustainable demand of biomass raw material, where the activity involves CO2 capture from a bioenergy facility producing heat and/or electricity that was already operational on [date of adoption of the CRCF], the activity operator shall demonstrate that the quantity of biomass annually consumed at the facility has not increased by more than [25%] compared to the average annual biomass consumption in the three year period prior to the implementation of the carbon removal activity, excluding from the averaging any period during which the plant was not operational or was operating at less than 30% of its normal output capacity."*
- The CRCF text states, *"in order to avoid unsustainable demand of biomass raw material, the financial benefits related to the certification should not lead to an increase of the capacity of a bioenergy plant beyond what is necessary for the operation of the carbon capture and storage."*
- The capacity-based approach should be maintained. It improves consistency within EU legislation, reduces arbitrary treatment of companies, provides investment certainty, and supports more facilities in adopting sustainable practices without diminishing incentives for carbon capture implementation. The specific needs of different types of facilities should also be considered in this approach.

Double penalisation for CO2 leakage must be resolved, and the responsible party clearly defined.

- "*Where CO2 is stored in geological formations, the CO2 shall be permanently stored in storage site for which a storage permit has been granted in compliance with the requirements of Directive 2009/31/EC. The storage site operator is subject to the liability provisions laid down by Directive 2003/87/EC and Directive 2009/31/EC of the European Parliament and of the Council."*
- *" The operator applying for the certification is required to take on the responsibility for the entire carbon removal value chain, either by providing all the required services (operation of a carbon capture plant, transportation and storage) themself or by engaging with partners or subcontractors*."
- According to the CCS Directive, the storage operator is obligated to surrender emission allowances in the event of a CO2 leak. Under the CRCF regulation, however, the operator responsible for certification is accountable

for the entire carbon removal value chain, including capture, transport, and storage. If a CO2 leak occurs within this value chain, the operator must surrender removal credits. This results in double-counting losses within the carbon removal value chain. In the case of a CO2 leak, it is essential to clearly define the responsible party, and any CO2 losses should be appropriately compensated. However, it is unreasonable for the burden of responsibility and loss to be imposed on projects twice. If the storage operator bears responsibility for the storage component of the value chain under the CCS Directive, then under CRCF implementation, this responsibility should lie with the storage operator. For other segments of the value chain, a moderate buffer requirement could be applied as part of risk management for disruptions.

- The current wording also seems to be in contradiction with the requirement in the CRCF Regulation to avoid double regulation: "In order to avoid double regulation, liability mechanisms in respect of geological storage and CO2 leakage, and relevant corrective measures laid down by Directive 2003/87/EC and Directive 2009/31/EC of the European Parliament and of the Council should apply."
- It should also be noted that the operator applying for the certification might act as the operator for some or all functions of the value chain. However, the operator may also transfer the responsibility of these operations to external operators/third parties by contractual agreements. In such cases the operator applying for the certification cannot be solely responsible for the operation of the entire value chain.

Project's Activity Period should be extended to at least 15 years.

- Investments in CCUS technology and agreements in transportation and storage operations extend well beyond 10 years. Discussions within the carbon removals expert group have already raised the potential objective of modifying the current rules for projects as operations and the market evolve in the coming years. This could mean that, after the first activity period, the rules for projects may have already changed, potentially resulting in a situation where a project initially accepted under the system no longer meets the modified criteria and requirements 10 years later. Given this risk, the activity period should be at least 15 years. Furthermore, a minimum

operational period of 15 years aligns with the standards set by the UNFCCC, promoting consistency with established international frameworks. By adhering to UNFCCC requirements in CRCF methodologies, the CRCF not only enhances its credibility but also promotes global harmonisation in carbon removal standards.

The baseline update every 5 years requires clear limitations.

- "The standardised baseline will be reviewed, and if necessary, updated at least every five years in light of evolving regulatory circumstances and of the latest available scientific evidence (e.g. if Union or national statutory requirements are introduced that would require the performance of the activity or would count the benefit of the activity towards other Union targets)."
- Updating the baseline introduces an element of uncertainty in the upfront assessment of projects, especially if this uncertainty is not limited in some way. A five-year update interval is an unreasonably short period from an investment perspective if uncertainty is not controlled. Adequate investment security must be guaranteed for projects certified for approval, and the baseline should not be modified in an unreasonable or entirely unpredictable manner during the activity period.

The requirements for emission calculation and reporting are somewhat excessive and, in some cases, unclear.

- The requirement for detailed emission calculations brings with it an excessive administrative burden and costs, while also increasing uncertainty. For example, in the case of shared CO2 infrastructure, the allocation of calculation methods across different segments and projects complicates accurate assessments. These uncertainties can significantly impact investment decisions and also hinder the development of CO2 infrastructure.
- In the section 'Transport of CO2', there shall be clear definitions about the attribution of emissions between eligible carbon sources (biogenic CO2) and non-eligible carbon sources (fossil CO2). This is important for cases where a) CO2 infrastructure is not only used for CCS activities alone and b) for cases where captured and transported CO2 consists of both biogenic and fossil CO2. This also applies to other parts of the CCS value chain and its

emissions, for cases where the CO2 stream contains both biogenic and fossil CO2. The attribution of emissions shall be clearly specified.
- It should also be noted that not all CO2 is captured for storage, but it will still go through the liquefaction and intermediate storage at the capture site. E.g. captured CO2 may be used and vented to clear pipes, liquefaction and intermediate storage from any impurities. In the case of biogenic or atmospheric CO2, these CO2 flows should be excluded from the net quantification in the CRCF.

The scope should include biogenic emissions from waste treatment facilities and other facilities, where the CO2 stream contains both biogenic and fossil CO2.

- "Biogenic emission capture with permanent carbon storage activity (also referred to BioCCS hereafter) defined as a carbon removal activity resulting from the capture and permanent storage of biogenic CO2 generated by the oxidation of carbon from a source of biomass, either by combustion or by another oxidation process, followed by permanent storage of that biogenic CO2 by injection at a geological storage site permitted under Directive 2009/31/EC."
- The scope of the CRCF should also include biogenic emissions from waste treatment and similar facilities, where the CO2 stream contains both biogenic and fossil CO2. Further clarity is needed when defining methodologies covering these kinds of cases.

Biochar draft methodology

- **We strongly support that the monitoring obligation for biochar ends at the stage where the CO2 is in a stable form.** Based on the feedstock of the biochar and laboratory results, this can be reliably determined using the methods presented in the methodology.

- **It is important that the methodology includes all relevant applications of biochar.** It is essential to ensure that biochar can be used in e.g. greenhouse cultivation.

- **The 25% limit on additional biomass use should be removed as for the BECCS-**projects.

- **The additional biochar-specific restriction on biomass use should be removed**: *"Limit feedstocks to wastes and residues for facilities that are primarily focused on biochar production (i.e. not a secondary co-product to electricity/heat/syngas/pyrolysis oil etc.)"*

    - The properties of biochar are influenced by both the raw materials used and the production process. Limiting the permitted raw materials solely to the "wastes and residues" category would unjustifiably exclude certain biochar projects from carbon removal certification, even though these projects are able to provide carbon removals and, in many cases, fulfilling additional functions, such as immobilizing pollutants in environmental remediation. For biochar, sustainability criteria should also align with those of the RED, and there is no basis for technology-specific additional restrictions. This restriction potentially poses a major challenge for availability of biomass for biochar projects, putting biochar production at risk of being marginalised.

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