6th Carbon Removal Expert Group Meeting

on permanent removals and carbon storage in buildings

26 March 2025

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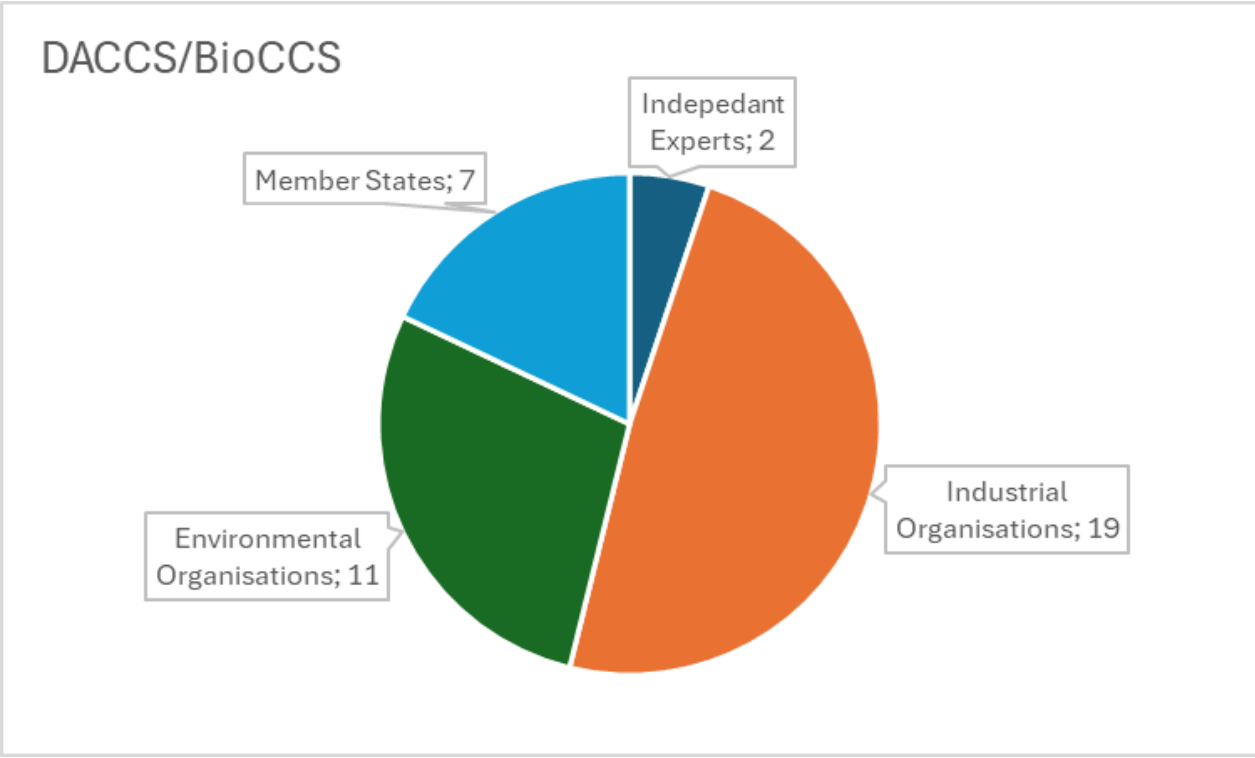
European Commission, DG CLIMA, Unit C3

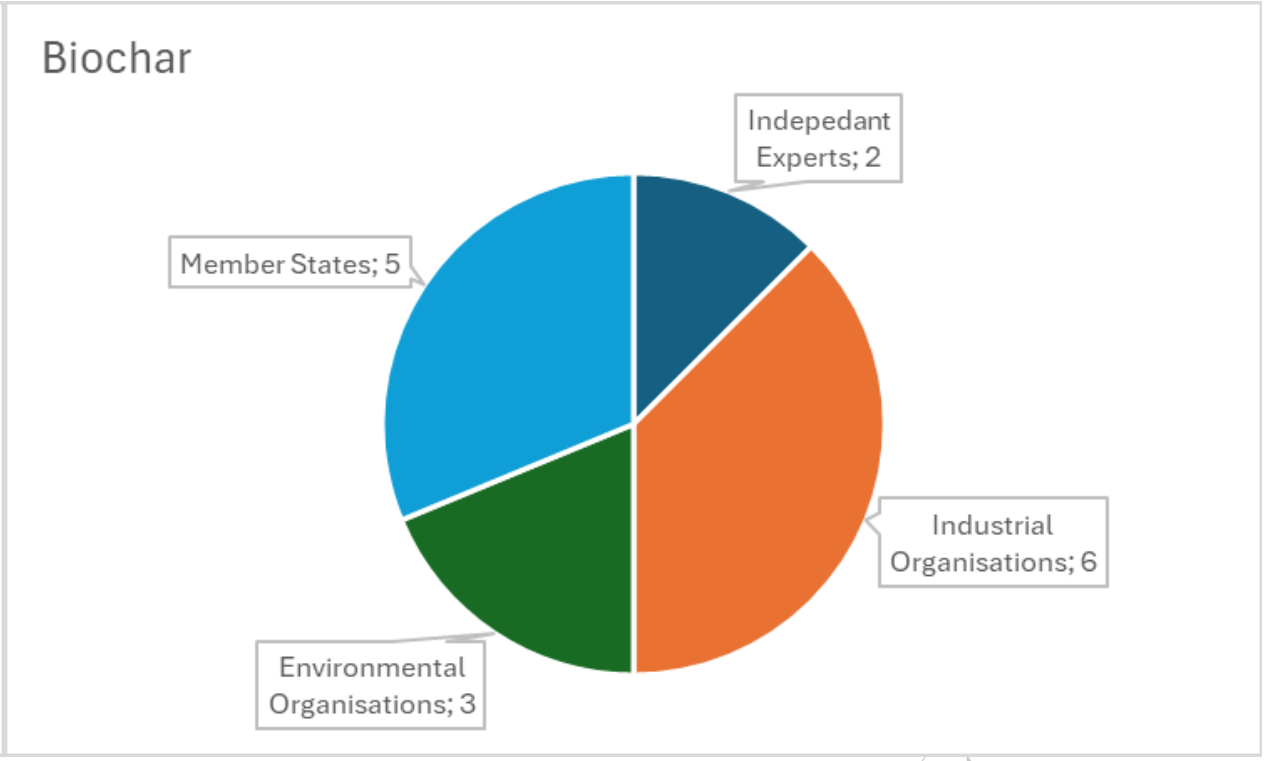
Agenda

Permanent carbon removals & carbon storage in buildings	
10:15	**Welcome and objectives of the meeting** Update on policy developments & objectives of the meeting, Christian Holzleitner, Head of Unit, DG CLIMA
10:30	**Carbon Storage in Buildings** Update on long-term biogenic carbon storage in buildings, Sevim Aktas, DG CLIMA
11:00	**DACCS and BioCCS** Short presentation of draft EU certification methodology, Chris Malins, Cerulogy Focus on proposed changes Open discussion
13:00	**Lunch break**
14:00	**Biochar** Short presentation of draft EU certification methodology, Chris Malins, Cerulogy Focus on proposed changes Open discussion
16:00	End of the Expert Group meeting

Feedback from Expert Group on draft methodologies

- 57 feedback received: 39 for DACCS/BIOCCS and 16 for Biochar





European Commission

Next steps for DACCS, BioCCS and BCR

Presentation of the Delegated Act for permanent carbon removals to the expert group – June 2025

Public consultation on the Delegated Act for permanent carbon removals – Summer 2025

Commission adoption of Delegated Act for permanent carbon removals – Q4 2025 to start 2-months scrutiny period for EP and Council

European Commission

Further work on permanent removals in 2025

- Assess of feasibility for CRCF methodologies
  - Carbon removals through CO2 mineralization into products
  - Enhanced rock weathering
  - Marine carbon removals
- Technical scoping papers including a review of existing methodologies
- Two technical expert workshops

Upcoming events on carbon farming and verification rules

31 **08 May**	Online	EG Meeting on CRCF carbon farming methodologies (09:30-12:30)
31 **13 May**	Online	EG Meeting on CRCF carbon farming methodologies (09:30-12:30)
31 **15 May**	Online	EG Meeting on CRCF carbon farming methodologies (09:30-12:30)
31 **June**	Online	Public consultation on implementing act for verification rules
31 **Sept/ Oct 2025**	Online & in-person	EG Meeting on Delegated Act for Carbon Farming

Upcoming workshops on financing

31 **20 May**	Online & in-person	Workshop **Carbon Farming** Perspectives on Purchasing Programmes for CRCF Credits
31 **21 May**	Online & in-person	Workshop **Permanent Carbon Removals** Perspectives on Purchasing Programmes for CRCF Credits

More information:

- DG CLIMA website on Carbon Removals and Carbon Farming
- CRCF Regulation: Regulation - EU - 2024/3012 - EN - EUR-Lex (europa.eu)
- FAQ
- EU carbon removals newsletter

OVERVIEW

Carbon storage in buildings

1. **Update on policy developments**
2. **Next steps**
3. **FAQ**

European Commission

Policy development

New European Bauhaus focuses on "innovation, bio-based materials and circularity, housing and the built environment“ (mission letter for Jessika Roswall)

European Strategy for Housing Construction focusing on measures to enhance the environmental performance of construction, as part of the European Affordable Housing Plan (mission letter for Jorganson)

Bioeconomy Strategy

EPBD

National Building & Renovation Plans -> considerations of carbon storage in buildings

100 climate neutral cities Missions

city level approach to carbon removals and carbon storage in cities

Milestones for 2025

Work will be continued with Viegand Maagoe

Core objectives in the further development

Alignment with Relevant Regulations

Ensure consistency with fellow regulations.

Credible methodology for carbon storage

CRCF building methodology as credible methodology for calculating carbon storage in buildings.

Seamless integration with WLC calculations

CRCF carbon storage methodology as add-on methodology that seamlessly integrated with building-level WLC calculation.

Optimal balance between credibility & administrative redundancies

Incentivising long-term use of bio-based materials

Clarification

European Commission

FAQ

Is the minimum required storage period always 35 years?

No. The storage period of **35 years set by the CRCF Regulation is not an upper limit**. The specific methodologies can specify longer storage periods if desired, thus exceeding the 35-year minimum.

FAQ

What is the connection between the CRCF carbon storage in products category and the national-level carbon accounting for Harvested Wood Products (HWP)?

Article 17 of the Land Use, Land Use Change and Forestry Regulation asks the Commission to **assess the potential inclusion of sustainably sourced long-lived carbon storage products in the scope of the LULUCF Regulation**.

FAQ

Does the methodology exclude the end-of-life (EOL) impacts of building materials?

The carbon storage in buildings methodology, specifically biogenic carbon storage in the used construction materials, is considered **temporary** because the stored carbon is expected to be released back into the atmosphere at some point in the future**, unless the certificate period is renewed or permanent storage is demonstrated** (Article 6, CRCF). **This stipulates that the emissions at the end-of-life stage do not need to be included in the calculation of carbon removal benefits.**

FAQ

Does the methodology exclude the end-of-life (EOL) impacts of building materials?

However, **the Technical Assessment Paper encourages to include circularity and EOL considerations through minimum sustainability requirements and co-benefits.** It recommends to leverage existing frameworks like the EU Taxonomy, Construction Product Regulation, and Level(s), which promote material reuse and recycling.

- EU taxonomy for sustainable activities - European Commission (europa.eu)
- Construction Products Regulation (CPR) - European Commission (europa.eu)
- European Framework for sustainable buildings Level(s) - European Commission (europa.eu)

FAQ

How will the methodology ensure that the carbon stored remains in buildings?

Certification bodies shall carry out re-certification audits **at least every five years**, or more frequently as specified in the applicable certification methodology based on the activity's characteristics. These audits reconfirm the activity's compliance with the quality criteria and verify the net carbon removal is achieved (Article 9, CRCF Regulation).

Furthermore, the Technical Assessment Paper recommends to prioritise **certifying carbon storage in durable elements like structural components and insulation**, which are less likely to be replaced or removed during a building's lifespan.

Support to the development of methodologies for the certification of industrial carbon removals with permanent storage – draft technical specifications DACCS, BioCCS, BCR

Expert group on carbon removals, 26 March 2025

ICF in collaboration with Cerulogy and Ecodiversity

Cerulogy

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Permanent carbon removals – status

- Thank you to everyone who provided feedback after the previous versions were shared last October
- Two revised draft technical specification documents shared prior to the meeting
  - DACCS & BioCCS
  - Biochar
  - Plus a ‘note on amendments’ document
- Written feedback requested by 9 April 2025
- This meeting:
  - We will present the specifications, with a focus on points that have been changed since last October, and noting some issues that were noted without amending the specifications (these are italicised)
  - We’ll leave as much time as possible for reactions and discussion from the group
  - Note that some points apply to both sets of specifications but we’ll try not to discuss them twice
  - We are not intending to undertake another major revision of the document before the specifications become the basis for a proposed Delegated Act, but remain open to feedback and suggestions

DACCS and BioCCS

Scope and certification period

- The specifications have been generalised to accommodate both cases of the capture of mixed CO_2 streams and cases of captured CO_2 having mixed used (i.e. only partly used to generate carbon removal units)
  - Storage and utilisation
  - Storage for CRCF and non-CRCF (e.g. CORSIA)
  - Still accommodates multiple storage sites
- *Some respondents raised a concern about supporting 'past mitigation actions'. The specifications, however, do not restrict the eligibility of projects that came into operation before being certified.*
- Certification period made more flexible to allow operators to be re-certified more quickly and therefore have units issued more quickly
- *Some respondents asked for the activity period to be increased to 15 year. We continue to feel that 10 years provides an acceptable balance between maintaining flexibility and offering market confidence.*

Calculating $CR_{total,}$ $CR_{baseline}$

- In the case of CO_2 transport and storage that is fully segregated from capture to injection, an accommodation is introduced to calculate CR_{total} based on directly measuring the amount of CO2 injected (i.e. handling any CO_2 leakage in transit implicitly)
- *Some respondents raised concerns about the use of standardised baselines and the associated automatic confirmation of additionality, but the treatment has not bee significantly revised.*

Heat, electricity and transport

- The rules have been revised to allow heat and electricity consumption to be assessed on a net basis to accommodate cases where energy is recovered after carbon capture
- An explicit calculation has been added based on RED to assess additional biomass consumption for carbon capture, based on measured net heat and electricity use
- The temporal matching requirement for the RFNBO methodology is relaxed to annual instead of monthly for the period to the end of 2029
- *Some respondents felt that the RFNBO methodology for identifying the GHG intensity of consumed electricity should not be applied in the CRCF, but we continue to feel that it is an appropriate approach given the CRCF requirement to consider 'indirect' emissions*
- Transport emissions accounting has been switched from primarily based on specified defaults to an actual emissions reporting requirement with accommodation for certification schemes to add defaults for hybrid reporting
- *Several stakeholders expressed a concern that preventing the award of CR units for CO_2 leaked in transit represents a form of double counting if ETS allowances must also be cancelled for that CO_2. We do not believe it would be consistent with the CRCF requirements to award units in this case, however.*

Biomass

- *We received further feedback in relation to biogenic carbon accounting, and how biomass emissions could/should be allocated between bioenergy production and carbon removal generation, but the basic framing of storage of biogenic CO_2 as a removal and link to with RED accounting rules has not been changed*
- RED Article 3 – saw logs, veneer logs, industrial grade roundwood, stumps and roots
  - The earlier draft had proposed to restrict the use of these materials, drawing on the Article 3 restriction on direct financial support for use of these materials
  - Several respondents noted that this went beyond the limitations imposed in the RED
  - The text has been revised to directly echo the RED specification that these restrictions apply only to facilities receiving direct financial support
- A reporting requirement has been added to identify the fraction of consumed biomass that is: saw logs; veneer logs; industrial grade roundwood, stumps and roots.
  - There is also an option to report that temporary removal units have been cancelled in relation to the use of saw logs or veneer logs.
- We have clarified how the RED Article 29 rules should be applied to facilities not regulated by the RED
- We received comments on the application of cascading use principles. The specifications now require the operator to comply with national measures on cascading use under RED Article 3, where relevant.

Capacity expansion

- The earlier draft included a restriction on increasing biomass consumption at a certified facility. The revised specifications reframe the limit on capacity expansion in terms of nameplate biomass consumption capacity rather than recorded biomass consumption
- A requirement has been added that where the facility is new (came into operation not more than twelve months prior to the start of the first certification period) it should be demonstrated that the value of CR units was not required to make the facility viable

Uncertainty

- We have reduced the level of detail in the requirements on uncertainty assessment, devolving this more to the certification schemes
- The ‘conservatism factors’ assessed based on the level of uncertainty have been made more conservative

Activity and monitoring plans

- A specification on what is expected of the activity plan has been added
- We have further specified areas in which it is required that the monitoring plan should be consistent with the requirements of the Monitoring and Reporting Regulation
- A requirement has been added that certification schemes should operate random spot testing on the C14 content of CO_2 captured at certified facilities

BCR (biochar carbon removal)

Eligibility

- Several commenters felt that it would be helpful if the links to other relevant EU legislation were made more explicit – we have identified points on which cross compliance is expected
- *Some stakeholders felt that HTC and torrefaction should be explicitly excluded. We believe that the H/C ratio threshold and the permanence assessment adequately address this without adding an explicit requirement.*

Governance of application to soils

- It has been clarified that biochar produced by co-processing of non-biomass feedstock may not be applied to soils
- The scope of eligible soil application activities has been expanded to explicitly include application to landfill and 'hole filling' including mine filling
- Expanded requirements on supply chain monitoring:
  - Segregation from non-certified biochar to the point of application/incorporation.
  - A form of mass balance allowed for certified biochar but only if batches are 'well mixed', with the batch characteristics averaged at the point of mixing
- A requirement is introduced to allow on-site testing within a year of the stated date of application to confirm that biochar was applied (recognising that it is not possible to exactly confirm the quantity)
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Permanence

- *Some respondents expressed concerns about the availability of inertinite testing. It is still our feeling that the market should be able to react to an increase in demand, and that the provision of two pathways to assess permanence means that any temporary shortage of inertinite testing capacity would not entirely prevent projects having units issued.*
- *Further comments were received on the permanence function from Woolf et al. We recognise this as an evolving field and agree that it might be hoped that an improved function will be available in due course. At this time we consider the Woolf et al. function to be appropriate pending the development of consensus on a revised form, in part because it is expected to be conservative over the timeframe considered.*

Sustainability

- Biomass sustainability rules update in line with the DACCS/BioCCS rules
- Threshold values for various contaminants have been put directly into the specifications (instead of referenced to the EBC standard)
- The methane emission monitoring requirement has been adjusted:
  - Treat very low measurements as being 'consistent'
  - Reduced requirement on re-testing for facilities where emissions are shown to be low
  - Requirement for methane reduction plans where emissions are above a 'trace level'
- A requirement has been added to show that when applied to agricultural soils, "the local agricultural context has been considered and that it is reasonable to expect that the application of biochar will have no overall negative effect on agricultural production or soil health"

Other points

- The definition of a production batch has been further specified
- As in DACCS/BioCCS, bulk transport emissions to be based on actual data or on certification-scheme provided defaults
- As in DACCS/BioCCS, extension of requirements for the certificate of compliance and added detail on monitoring and activity plans
- In both specifications, we have added notes identifying points on which certification schemes might offer additional guidance/support to applicants
- *Some people have found the sign convention a bit difficult to get used to – but we will continue to use the sign convention defined in the CRCF Regulation!*

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