



EUROPEAN  
COMMISSION

Brussels, XXX  
[...] (2025) XXX draft

**COMMISSION DELEGATED REGULATION (EU) .../...**

**of XXX**

**supplementing Regulation (EU) 2024/3012 of the European Parliament and of the  
Council by establishing the certification methodologies for permanent carbon removals  
activities**

## **EXPLANATORY MEMORANDUM**

### **1. CONTEXT OF THE DELEGATED ACT**

The European Union has committed to reaching climate neutrality by 2050 through, first and foremost, urgent, ambitious and sustained reduction of greenhouse gas (GHG) emissions, supplemented by carbon removals to address residual emissions. Regulation (EU) 2024/3012 of the European Parliament and of the Council of 27 November 2024 establishing a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products<sup>1</sup> created a union-wide voluntary framework for certifying the above-mentioned activities. By setting the Union quality criteria, and establishing monitoring and reporting processes, the Regulation aims to streamline certification processes. This will facilitate investments in both innovative carbon removal technologies and sustainable carbon farming solutions, while addressing greenwashing, thus contributing to the Union climate neutrality objective.

To implement Regulation (EU) 2024/3012 and operationalise the Union quality criteria, tailored certification methodologies for a wide array of carbon removal activities need to be set out. This delegated act introduces the methodologies for carbon removal activities through Direct Air Capture with Carbon Storage (DACCS), Biogenic Emissions Capture with Carbon storage (BioCCS) and Biochar Carbon Removal (BCR).

### **2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT**

In accordance with Article 16(4) of Regulation (EU) 2024/3012 and paragraph 4 of the Common Understanding on Delegated Acts annexed to the Interinstitutional Agreement on Better Law Making between the European Parliament, the Council and the European Commission<sup>2</sup>, appropriate consultations were carried out in the course of preparation of this delegated act. The experts of the Commission Expert Group on Carbon Removals were consulted in the meetings held on 25 October 2023, 17 April 2024, 21 October 2024, 26 March 2025, and 10 July 2025. Following the presentation of the drafts of the delegated act, the experts also had the opportunity to submit written comments on the text, which were duly taken into account.

[The documents relevant to the meetings have been transmitted simultaneously to the European Parliament and the Council, as foreseen in the Common Understanding on Delegated Acts.] The observations expressed by the expert group were taken into account when preparing the delegated act.

[The draft delegated act was published on the Better Regulation portal for a four-week feedback period ... until ... 2025.]

### **3. LEGAL ELEMENTS OF THE DELEGATED ACT**

Article 8(2) of Regulation (EU) 2024/3012 empowers the Commission to adopt delegated acts in order to supplement the Regulation by establishing certification methodologies for different carbon removal activities.

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<sup>1</sup> (OJ L, 2024/3012, 6.12.2024, ELI: <http://data.europa.eu/eli/reg/2024/3012/oj>).

<sup>2</sup> Interinstitutional Agreement Between the European Parliament, the Council of the European Union and the European Commission of 13 April 2016 on Better Law-Making (OJ L 123, 12.5.2016, p.1 ).

In particular, the following points of Annex I of Regulation (EU) 2024/3012, need to be reflected in the present certification methodologies:

- (a) the type of activity and a description of the practices and processes covered, including the activity period and monitoring period;
- (b) rules for identifying all carbon removal sinks and greenhouse gas emission sources within the meaning of Article 4(1);
- (c) rules for calculating the baseline referred to in Article 4(1), point (a);
- (d) rules for calculating the total carbon removals referred to in Article 4(1), point (b);
- (e) rules for calculating GHG associated emissions referred to in Article 4(1), point (c);
- (f) rules for updating the standardised baseline referred to in Article 4(9);
- (g) rules to account for uncertainties in a conservative manner in the quantification of permanent carbon removals referred to in Article 4(12);
- (h) monitoring rules and rules on the mitigation of any identified risks of reversal of the stored carbon referred to in Article 6(2), point (a);
- (i) rules on appropriate liability mechanisms referred to in Article 6(2), point (b), and Article 6(4), including rules on the risk of failure of the relevant liability mechanism;
- (j) rules for implementing the requirement referred to in Article 6(5);
- (k) rules on the minimum sustainability requirements referred to in Article 7(3).

# COMMISSION DELEGATED REGULATION (EU) .../...

of **XXX**

**supplementing Regulation (EU) 2024/3012 of the European Parliament and of the Council by establishing the certification methodologies for permanent carbon removals activities**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2024/3012 of the European Parliament and of the Council of 27 November 2024 establishing a Union certification framework for permanent carbon removals, carbon farming and carbon storage in products<sup>1</sup>, and in particular Article 8(2) thereof,

Whereas:

- (1) Regulation (EU) 2024/3012 establishes a voluntary Union framework for the certification for permanent carbon removals, carbon farming and carbon storage in products in order to support the achievement of the Union objectives under the Paris Agreement adopted under the United Nations Framework Convention on Climate Change<sup>2</sup>, in particular the collective achievement of the climate neutrality objective, at the latest by 2050, as laid down in Regulation (EU) 2021/1119 of the European Parliament and of the Council<sup>3</sup>. To that end, Regulation (EU) 2024/3012 lays down quality criteria for carbon removal activities with regard to quantification, additionality, storage, liability, and sustainability. It is necessary to set out the certification methodologies under which operators of permanent carbon removal activities taking place in the Union can demonstrate compliance of the activities with those quality criteria, and the carbon removals generated by such activities can be eligible for certification under the Union framework.
- (2) The review carried out by the Commission of existing methodologies for the certification of permanent carbon removals and the ensuing work conducted by the Expert Group on Carbon Removals have identified three types of permanent carbon removal activities for which the scientific knowledge and technological maturity allow for the development of certification methodologies for the purpose of Regulation (EU) 2024/3012 that ensure the robust and transparent quantification of the net carbon removal benefit, namely direct air capture with carbon storage ('DACCS'), biogenic

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<sup>1</sup> OJ L, 2024/3012, 6.12.2024, ELI: <http://data.europa.eu/eli/reg/2024/3012/oj>.

<sup>2</sup> Agreement adopted under the United Nations Framework Convention on Climate Change, which was approved by means of Council Decision (EU) 2016/1841 of 5 October 2016 on the conclusion, on behalf of the European Union, of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (OJ L 282, 19.10.2016, p. 1, ELI: <http://data.europa.eu/eli/dec/2016/1841/oj>).

<sup>3</sup> Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) No 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1, ELI: <http://data.europa.eu/eli/reg/2021/1119/oj>).

emissions capture with carbon storage ('BioCCS'), and biochar carbon removal ('BCR').

- (3) In order to take into account the experience in the implementation of this Regulation and relevant developments concerning Union legislation, as well as technological and scientific progress, in particular improvements in monitoring, reporting, and verification, with regard to DACCS, BioCCS and BCR activities and to other permanent carbon removal activities, it is appropriate to periodically review this Regulation.
- (4) Currently DACCS, BioCCS and BCR activities are affected by a market failure that is to say that they provide benefits on climate change mitigation that are mostly associated with costs but do not generate revenues for their operators, translating into a funding gap<sup>4</sup>. Operators capturing and storing biogenic or atmospheric CO<sub>2</sub> are unable to receive allowances or reductions in their obligations under Directive 2003/87/EC of the European Parliament and of the Council<sup>5</sup>. Therefore, operators of DACCS, BioCCS and BCR activities currently lack economic reasons to invest. This funding gap can be overcome through public support under State aid and revenues generated through the selling of certified units or a possible combination of the two funding mechanisms<sup>6</sup>. For those activities it is therefore appropriate to set a standardised baseline of zero CO<sub>2</sub> equivalent as this is highly representative of the current standard performance of comparable practices and processes in similar social, economic, environmental, technological and regulatory circumstances. Therefore, in line with the rules on additionality in case of use of a standardised baseline set out in Regulation (EU) 2024/3012, such activities are considered additional.
- (5) To ensure the permanence of the CO<sub>2</sub> storage, DACCS and BioCCS activities should store CO<sub>2</sub> in geological storage sites permitted under Directive 2009/31/EC of the European Parliament and of the Council<sup>7</sup> that provide the liability framework for any leakage of CO<sub>2</sub>. It should be possible for DACCS and BioCCS activities to use a shared transport infrastructure and to dispatch CO<sub>2</sub> to several storage sites that store CO<sub>2</sub> from multiple sources.
- (6) BCR activities produce a quantifiable fraction of stable biochar with negligible risk of reversal that can generate permanent carbon removal units. The use of biochar should be monitored up to one year after the point it is applied to soils or incorporated in products for the uses permitted under the BCR methodology. Considering the low risk of reversal of the fraction of biochar that has been identified as stable, no further monitoring should be required beyond one year after the biochar is demonstrated to have been applied to the land or incorporated into a product.

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<sup>4</sup> See Commission Decision of 2 July 2024 on State Aid SA.107009 (2024/N) – Sweden, Swedish biogenic CCS auction, C(2024) 4582 final, points 29 ff.

<sup>5</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32, ELI: <http://data.europa.eu/eli/dir/2003/87/oj>).

<sup>6</sup> Ibidem, point 179.

<sup>7</sup> Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (OJ L 140, 5.6.2009, p. 114, ELI: <http://data.europa.eu/eli/dir/2009/31/oj>).

- (7) In order not to disincentivise the capture of CO<sub>2</sub>, the sustainability requirements for biomass applied in respect of BioCCS activities should not go beyond those applied to biomass applied to bioenergy installations that do not capture CO<sub>2</sub>.
- (8) To preserve ecosystems, biodiversity and natural carbon sinks, the BioCCS and BCR activities should not create unsustainable demand for biomass raw material and should be conducted in accordance with the principle of the cascading use of biomass and should provide a transparent reporting of the type of biomass consumed by the activity.
- (9) BioCCS activities with the primary purpose of producing heat or electricity from biomass combustion should demonstrate that the biomass consumption capacity of the facility has not increased by more than the amount necessary to supply energy for the capture of biogenic CO<sub>2</sub> emissions.
- (10) BCR activities in which biochar is the primary product of the activity, accounting for 50 % or more of the total energy outputs of the co-products, can only use feedstocks coming from waste or residue as defined in Article 2, points (23) and (43), respectively, of Directive (EU) 2018/2001 of the European Parliament and of the Council<sup>8</sup> for the production of biochar.
- (11) Where the increase in biomass consumption required to provide on-site heat or electricity used for DACCS or BioCCS activities, or for the production of biochar in BCR activities, is limited to waste and residual biomass or is consistent with the principle of cascading use of biomass and does not result in displacement of existing biomass uses or increased pressure on land, such increase is not expected to be associated with significant indirect land use changes ('ILUC') emissions. Currently on-site heat or electricity is not supplied in any significant amounts by consumption of food and feed-crop based biofuels, bioliquids or biomass fuels and it is considered unlikely this will change following the incentive effect of Regulation (EU) 2024/3012. Therefore, no ILUC associated emissions are expected to significantly affect the quantification of the net carbon removal benefit for DACCS, BioCCS and BCR activities.
- (12) In order to enhance transparency and to recognise best practices in the sourcing of biomass feedstocks, operators of DACCS, BioCCS and BCR activities should report on the biomass feedstocks consumed by their activities. This information should feed into the assessment of how permanent carbon removal activities could affect ecosystems, the availability of feedstocks for other sectors, and the risk that feedstocks are sourced beyond local availability in the context of the review of the certification methodologies and for the purposes of their potential amendments.
- (13) In order to preserve soil health, it is important to recall that biochar produced through BCR activities is to comply with Regulation (EC) No 1907/2006 of the European Parliament and of the Council<sup>9</sup>, Directive 2008/98/EC of the European Parliament and

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<sup>8</sup> Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (OJ L 328, 21.12.2018, p. 82, ELI: <http://data.europa.eu/eli/dir/2018/2001/oj>).

<sup>9</sup> Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council

of the Council<sup>10</sup>, Regulation (EC) No 1069/2009 of the European Parliament and of the Council<sup>11</sup>, and Regulation (EU) 2019/1021 of the European Parliament and of the Council<sup>12</sup>, HAS ADOPTED THIS REGULATION:

## *Article 1*

### **Definitions**

For the purposes of this Regulation, the following definitions shall apply:

- (1) ‘atmospheric CO<sub>2</sub>’ means CO<sub>2</sub> well mixed in the free atmosphere at ambient air temperature, where the concentration of CO<sub>2</sub> is not affected by local point sources but may vary because of regional anthropogenic and natural emission sources;
- (2) ‘biochar’ means a carbonaceous material that is produced by thermal treatment of biomass;
- (3) ‘biochar carbon removal activity’ or ‘BCR activity’ means an activity resulting in the production and permanent storage of biochar by its application to soils or by its incorporation into materials;
- (4) ‘biogenic emissions capture with carbon storage activity’ or ‘BioCCS activity’ means an activity resulting in a process of capturing biogenic CO<sub>2</sub>, followed by transport and permanent storage of that biogenic CO<sub>2</sub> by injection at a geological storage site for which a valid permit exists in accordance with Article 8 of Directive 2009/31/EC;
- (5) ‘biogenic CO<sub>2</sub>’ means CO<sub>2</sub> produced from a source of biomass by a chemical process acting on the carbon atoms in the biomass;
- (6) ‘direct air capture with carbon storage activity or ‘DACCS activity’ means an activity resulting in a process that captures atmospheric CO<sub>2</sub> from ambient air, followed by transport and permanent storage of that atmospheric CO<sub>2</sub> by injection at a geological storage site for which a valid permit exists in accordance with Article 8 of Directive 2009/31/EC ;

## *Article 2*

### **Certification methodology for permanent carbon removals generated by direct air capture with carbon storage activities**

1. A DACCS activity shall comply with the following requirements:
  - (a) the eligibility criteria laid down in Section 1.1.1 of the Annex;

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<sup>10</sup> Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396 30.12.2006, p. 1, ELI: <http://data.europa.eu/eli/reg/2006/1907/oj>).

<sup>11</sup> Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 22.11.2008, p. 3, ELI: <http://data.europa.eu/eli/dir/2008/98/oj>).

<sup>12</sup> Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (OJ L 300 14.11.2009, p. 1, ELI: <http://data.europa.eu/eli/reg/2009/1069/oj>).

<sup>12</sup> Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (recast) (Text with EEA relevance.) PE/61/2019/REV/1 (OJ L 169, 25.6.2019, ELI: <http://data.europa.eu/eli/reg/2019/1021/oj>)

- (b) the activity and monitoring periods laid down in Sections 1.2.1.1 and 1.2.1.2 of the Annex;
  - (c) the rules for identifying the carbon removal sinks and GHG emission sources laid down in Section 2.1.1 of the Annex;
  - (d) the rules for calculating the baseline laid down in Section 2.1.2 of the Annex;
  - (e) the rules for calculating the total carbon removals, laid down in Section 2.1.3 of the Annex;
  - (f) the rules for calculating the greenhouse gas associated, laid down in Section 2.1.4 of the Annex;
  - (g) the rules on long-term storage and liability, laid down in Section 3.1 of the Annex;
  - (h) the rules on the minimum sustainability requirements laid down in Section 4.1 of the Annex;
  - (i) the rules on the monitoring and reporting requirements laid down in Sections 1.3.2 and 1.3.3 of the Annex.
2. The operator of a DACCS activity shall ensure that the facility capturing the CO<sub>2</sub> is located in the Union.

### *Article 3*

#### **Certification methodology for permanent carbon removals generated by biogenic emissions capture with carbon storage activities**

1. A BioCCS activity shall comply with the following requirements:
- (a) the eligibility criteria laid down in Section 1.1.1 of the Annex;
  - (b) the activity and monitoring periods laid down in Section 1.2.1 of the Annex;
  - (c) the rules for identifying the carbon removal sinks and GHG emission sources laid down in Section 2.1.1 of the Annex;
  - (d) the rules for calculating the baseline laid down in Section 2.1.2 of the Annex;
  - (e) the rules for calculating the total carbon removals laid down in Section 2.1.3 of the Annex;
  - (f) the rules for calculating the greenhouse gas associated laid down in Section 2.1.4 of the Annex;
  - (g) the rules on long-term storage and liability laid down in Section 3.1 of the Annex;
  - (h) the rules on the minimum sustainability requirements laid down in Section 4.1 of the Annex;
  - (i) the rules on monitoring and reporting requirements laid down in Sections 1.3.2 and 1.3.3 of the Annex.

2. The biogenic CO<sub>2</sub> captured in a BioCCS activity shall be generated as a by-product of production processes of goods, energy and services and shall not generate biogenic CO<sub>2</sub> from biomass solely for the purpose of capture and storage.
3. The operator of a BioCCS activity shall ensure that the facility capturing the CO<sub>2</sub> is located in the Union.

#### *Article 4*

#### **Certification methodology for permanent carbon removals generated by biochar carbon removal activities**

1. A BCR activity shall comply with the following requirements:
  - (a) the eligibility criteria laid down in Section 1.1.2 of the Annex;
  - (b) the activity and monitoring periods laid down in Section 1.2.1 of the Annex;
  - (c) the rules for identifying the carbon removal sinks and GHG emission sources laid down in Section 2.2.1 of the Annex;
  - (d) the rules for calculating the baseline laid down in Section 2.2.2 of the Annex;
  - (e) the rules for calculating the total carbon removals laid down in Section 2.2.3 of the Annex;
  - (f) the rules for calculating the greenhouse gas associated laid down in Section 2.2.4 of the Annex;
  - (g) the rules on long-term storage and liability laid down in Section 3.2 of the Annex;
  - (h) the rules on the minimum sustainability requirements laid down in Section 4.1 of the Annex;
  - (i) the rules on monitoring and reporting requirements laid down in Sections 1.3.2 and 1.3.3 of the Annex.
2. A BCR activity shall ensure that the biochar production facility and the storage location for the biochar are located in the Union.

#### *Article 5*

#### **Entry into force**

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

*For the Commission*  
*The President*  
*Ursula VON DER LEYEN*