EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

Reasons for and objectives of the proposal

Limiting the global average temperature increase to below 1.5° Celsius (C) will require deep cuts in global greenhouse gas (GHG) emissions throughout the forthcoming decades. To achieve this, first we need to improve the efficiency of our buildings, transport modes and industries, to move to a circular economy, and to massively scale up renewable energy. Second, we need to recycle carbon from waste streams, from sustainable sources of biomass or directly from the atmosphere, to use it in place of fossil carbon in the sectors of the economy that will inevitably remain carbon dependent, for instance thorough carbon capture and use (CCU) and sustainable synthetic fuels. In parallel, increasing amounts of carbon dioxide (CO2) will have to be captured and removed each year from the atmosphere by carbon farming and industrial removal activities or projects to compensate hard-to-abate emissions from sectors like agriculture, cement, steel, aviation or maritime transport, with the view to reach climate neutrality.

At a global scale, the latest report[1] by the International Panel on Climate Change (IPCC) point towards a decreasing likelihood of limiting global warming to 1.5°C unless rapid GHG emission reductions occur. The IPCC report clearly states that "the deployment of carbon dioxide removal to counterbalance hard-to-abate residual emissions is unavoidable if net zero CO2 or GHG emissions are to be achieved". This will mean the large-scale deployment of sustainable activities for capturing CO2 from the atmosphere and durably storing it in geological reservoirs, terrestrial and marine ecosystems, or products.

The European Climate Law[2] provides for the EU to become climate neutral by 2050. This requires that GHG emissions have to be significantly reduced, and the unavoidable emissions and removals should be balanced within the European Union at the latest by 2050, with the aim to achieve negative emissions thereafter. To achieve this objective, both natural ecosystems and industrial activities should contribute to removing several hundred million tonnes of CO_2 per year from the atmosphere. Today and with current policies, the EU is not on track to deliver these quantities: carbon removals in natural ecosystems have been decreasing in recent years, and no significant industrial carbon removals are currently taking place in the Union.

In line with the scenarios assessed by the IPCC, the European Commission has announced in the Circular Economy Action Plan[3] from March 2020 that it will develop an effective regulatory framework for the certification of carbon removals to incentivise the uptake of

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1 IPCC Working Group III (2022), Technical Summary. In: Climate Change 2022: Mitigation of Climate Change. Sixth Assessment Report.

2 Regulation (EU) 2021/1119, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1119

3 COM(2020) 98 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN

carbon removal and to increase circularity of carbon, in full respect of the biodiversity and the zero-pollution objectives.

The main objectives of this initiative are: (i) to ensure the high quality of carbon removals in the EU, and (ii) to establish an EU governance system to correctly apply and enforce the EU quality framework in a reliable and harmonised way across the Union. These actions are necessary to trigger action and to build any future policy in this area, in view of the need to remove hundreds of million tonnes of CO2 per year. This will support the achievement of the 2050 climate neutrality objective set in the European Climate Law, as well as the environmental objectives of the European Green Deal Communication[4].

Consistency with existing policy provisions in the policy area

Under the proposal for amending the Regulation on Land Use, Land Use Change, and Forestry (LULUCF)[5], the European Commission proposed – for the first time – a separate land-based CO_2 removals target of -310 million tonnes of CO_2-equivalent by 2030. The EU-wide target is to be implemented through binding national targets for the LULUCF sector, requiring Member States to step up ambition for their land use policies. The Commission has also proposed to increase the size of the Innovation Fund[6], which is financed by the revenues from the EU Emissions Trading System (EU ETS)[7], thereby helping businesses invest in innovative clean technologies, including those generating carbon removals.

The Commission's Communication on Sustainable Carbon Cycles[8] stresses the importance of enabling a business model that rewards land managers for carbon sequestration in full respect of ecological principles (i.e. 'carbon farming'), and of creating an EU internal market for capture, use, storage and transport of CO_2 through innovative technologies. The communication also defines an action plan to achieve the following aspirational goals for carbon removals: by 2028, all land managers should have access to verified emission and removal data to measure carbon farming practices, and all CO_2 captured, transported, used and stored through industrial activities should be reported and accounted; by 2030, carbon farming approaches should contribute to reaching the LULUCF target of -310 Mt CO_2eq net removals; and industrial technologies should remove annually at least 5 Mt CO_2eq by 2030.

The certification framework described in this proposal is designed to build on the following existing climate change legislation:

- The directive on the geological storage of CO_2, the CCS Directive[9], establishes the overall legal framework for the environmentally safe geological storage of CO_2. Activities storing CO_2 from an ETS installation in a storage site permitted under the CCS Directive are explicitly included in the EU ETS Directive and EU ETS allowances must be surrendered in the event of CO_2 leakages. The proposed certification framework will ensure that the quantification of carbon removals for

4 COM(2019) 640 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1576150542719&uri=COM%3A2019%3A640%3AFIN
5 COM(2021) 554 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0554&qid=1626940138360
6 C(2019) 1492 final, https://climate.ec.europa.eu/system/files/2019-02/c_2019_1492_en.pdf
7 Directive (EU) 2018/410, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02003L0087-20210101
8 COM(2021) 800 final, https://climate.ec.europa.eu/system/files/2021-12/com_2021_800_en_0.pdf
9 Directive 2009/31/EC https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0031

industrial activities such as bioenergy-based CCS (BECCS)[10] and Direct Air Carbon Capture and Storage (DACCS) is in line with the rules set out in the Commission Implementing Regulation (EU) 2018/2066[11] on the monitoring and reporting of GHG emissions under the ETS and the detailed EU methodologies developed by the Commission[12] for the quantification of GHG emission avoidance of BECCS and DACCS projects under the Innovation Fund[13].

- For carbon farming and carbon storage products, the LULUCF Regulation[14] provides a blueprint for accurate monitoring and reporting of carbon removals in line with IPCC guidelines, and in synergy with biodiversity, renewable energy and adaptation policies. The rules laid down under the LULUCF Regulation encourage monitoring land use in a geographically-explicit way, at low cost and in a timely fashion, for example through digital databases (GIS) and remote sensing, including the Copernicus Sentinel satellites or commercially available services.

Consistency with other Union policies

The EU certification framework on carbon removals will either build on or play an important role to enable the following Union policies:

- The proposed Nature Restoration Law[15] sets out the goal that 20% of the EU's land and sea should be covered by restoration measures by 2030 and that all ecosystems in need of restoration should be covered by restoration measures by 2050. There are many synergies among carbon removal activities, particularly carbon farming, and nature restoration measures. The carbon removal certification framework will contribute to achieving restoration targets and fulfilling obligations set out in the Nature Restoration Law, such as the obligation to ensure an increasing trend at national level of the stock of organic carbon in cropland mineral soils in agricultural ecosystems and of the stock of organic carbon in forest ecosystems or the obligation to put in place restoration measures for organic soils in agricultural use constituting drained peatlands, by incentivising farming activities that enhance carbon storage and also provide co-benefits for biodiversity.
- The Common Agricultural Policy[16] provides for support to farmers who commit to undertake specific environmental and climate practices or investments, and include some environmental and climate conditions (called Good Agricultural and Environmental Conditions, GAECs) to be respected by farmers who apply to receive

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10 For BECCS deployment, safeguards are necessary to take into account the limits and availability of sustainable biomass in order to avoid excessive demand of biomass for energy with negative effects on carbon sinks and stocks, biodiversity, air quality and bioeconomy.

11 Commission Implementing Regulation (EU) 2018/2066, https://eur-lex.europa.eu/eli/reg_impl/2018/2066/oj

12 Call for proposals Annex C: Methodology for calculation of GHG emission avoidance https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/innovfund/wp-call/call-annex_c_innovfund-lsc-2020-two-stage_en.pdf

13 Innovation Fund, https://climate.ec.europa.eu/eu-action/funding-climate-action/innovation-fund_en

14 Regulation (EU) 2018/841, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.156.01.0001.01.ENG

15 COM(2022) 304 final, https://environment.ec.europa.eu/system/files/2022-06/Proposal%20for%20a%20Regulation%20on%20nature%20restoration.pdf

16 Regulation (EU) 2021/2116, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2021.435.01.0187.01.ENG

income support. These conditions can form the basis for establishing that carbon removals from carbon farming activities go beyond legal requirements. In addition, national governments could use the carbon removal certification framework as a tool to incentivise carbon farming activities through eco-schemes or agro-environment-climate commitments under their CAP Strategic Plan.

- The proposed Corporate Sustainability Reporting Directive[17] introduces detailed requirements for companies to use mandatory EU sustainability reporting standards (ESRS). ESRS will specify the information that companies are required to disclose about measures on climate change mitigation, including carbon removals, and climate change adaptation. The proposed EU carbon removal framework will support this disclosure by providing certification methodologies for carbon removals.
- The proposed Green Claims Initiative[18] aims to make environmental claims reliable, comparable and verifiable across the EU. In this context, the proposed EU carbon removal framework can enable a transparent and harmonised methodology to support climate-related green claims.
- The Renewable Energy Directive[19] includes a set of sustainability criteria for bioenergy, which are implemented by either national competent authorities or private certification schemes recognized by the Commission. These schemes could be potentially used also to certify the compliance of carbon removal activities with the EU quality criteria.

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

- **Legal basis**

The proposal is based on Article 192(1) of the Treaty on the Functioning of the European Union (TFEU), which gives the Union the right to act in order to achieve objectives of its policy on the environment. The objectives of the Union policy on the environment as defined in Article 191(1) of the TFEU include, inter alia, preserving, protecting and improving the quality of the environment; a prudent and rational utilisation of natural resources and promoting measures at international level to deal with regional or worldwide environmental problems, in particular combating climate change.

- **Subsidiarity**

Climate change is a trans-boundary problem. Its effects are global, irrespective of the location of the sources of greenhouse gas emissions. Therefore, these challenges cannot be solved by national or local action alone as this is unlikely to lead to optimal outcomes. Coordination at the European level enhances climate action and can supplement and reinforce national and local action effectively; EU action is justified on grounds of subsidiarity, in line with Article 191 of the Treaty on the Functioning of the European Union.

A European framework would be more appropriate than national initiatives in addressing the difficulty to assess the quality of carbon removals. Such framework would create a level-

17 COM(2021) 189 final, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0189
18 Final title to be inserted once available
19 Directive 2018/2001/EU, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC

playing field and a fair internal market for the certification of carbon removals, enhancing comparability and trust. A patchwork of national initiatives in this area would only exacerbate the problem rather than solving it.

- **Proportionality**

This proposal complies with the proportionality principle because it does not go beyond what is necessary in order to achieve the objectives of establishing a Union regulatory framework for certification of quality carbon removals. It provides for quality criteria for carbon removals, the necessary rules and procedures for certifying and verifying carbon removals and a framework for recognition of private and public certification schemes.

- **Choice of the instrument**

The objectives of the present proposal can best be pursued through a Regulation. This will ensure direct and uniform applicability of the provisions in the Union at the same time. Requirements are placed on operators of voluntary certification schemes, on Member States in view of recognition of public certification schemes and on the Commission regarding reporting and review.

3. RESULTS OF STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

In line with the Better Regulation guidelines, a number of consultation activities took place:

- An online conference on Sustainable Carbon Cycles which took place on 31st of January 2022;
- A call for evidence running from 7 February until 2 May 2022, which received 231 responses;
- An open public consultation running from 7 February until 2 May 2022, which received 396 responses.

Overall, the public consultation activities demonstrated strong general support for a regulatory initiative covering the creation of a certification framework for carbon removals. Most stakeholders advocated for the initiative to cover a wide range of carbon removals options and to take into account aspects such as: ensuring precise, accurate and timely measurement for removals; ensuring that strong action to reduce emissions is not undermined by shifting focus on carbon removals; providing sufficient guarantees for the duration of carbon storage and the prevention of reversals.

The main criteria that stakeholders considered important for carbon removals included the robustness of monitoring, reporting and verification aspects, the potential for deployment at large scale, technical readiness and economic feasibility, and the potential for environmental co-benefits. The majority of respondents agreed that establishing a robust and credible certification system for carbon removals was the first essential stepping stone towards achieving a net contribution from carbon removals in line with the EU climate-neutrality objective.

Respondents indicated that the key objectives for the certification of carbon removals should be: allowing comparability and competition between different carbon removals activities; increasing the transparency and levelling the playing field of voluntary carbon markets; and,

providing better public incentives for nature-based and industrial carbon removals within EU and national funding programmes.

According to the majority of respondents, the role of the EU should be to establish comprehensive quality requirements for carbon removals, ensuring correct quantification of carbon removal benefits, additionality, long-term storage and environmental sustainability. A summary of the findings from the stakeholder consultations are presented in Annex 2 of the Impact Assessment to this Regulation.

Collection and use of expertise

An external consortium of experts was tasked to carry out a technical assistance study to inform the preparation of the proposed Regulation on carbon removals and the related impact assessment. The study delivered a review of existing mechanisms and schemes for the certification of carbon removals and a synoptic assessment of the various carbon removal activities, including permanent removal, carbon storage products and carbon farming. On behalf of the Commission, the external consortium organised a number of outreach events, including the Conference on Sustainable Carbon Cycles, and helped assessing the replies to the stakeholder consultation. Finally, the technical assistance study provided part of the data underpinning the analysis of the policy options set out in the impact assessment.

Impact assessment

The Impact Assessment accompanying this proposal assessed different policy options to address three main problems impacting the future development of carbon removals.

The first problem is the difficulty to assess and compare the quality of carbon removals, which creates significant search costs for potential financiers of carbon removals. This is a typical 'market failure', which creates a risk that financial support goes to carbon removal activities that cannot be relied upon as effective mitigation actions. This problem has two drivers:

1. The certification of carbon removals is much less common than that of emission reductions, and it involves several methodological challenges. Different certification schemes propose different methodologies to quantify total and additional carbon removals, to incentivize the long-term storage of carbon, and to encompass broader sustainability aspects such as the environmental impacts (e.g. biodiversity loss, pollution etc.) of the carbon removal activity.
2. Carbon removal activities (i.e. permanent removal, carbon storage products and carbon farming) are very heterogeneous in terms of their maturity, cost-effectiveness and related monitoring costs, and pose different challenges for certification.

To address this problem, this initiative aims to guarantee the quality of all carbon removals certified in the EU through certification methodologies that are tailored to the specific circumstances of different carbon removal activities.

To this end, this initiative proposes an EU certification framework for carbon removals based on four quality criteria (so-called QU.A.L.ITY), indicating how to ensure QUantification, Additionality and baselines, Long-term storage and sustainabilITY. The Impact Assessment identifies a number of best practices for each of those QU.A.L.ITY criteria, while recognising that the certification approach for each criteria will differ across carbon removal activities.

In a second step, detailed certification methodologies to implement the QU.A.L.ITY criteria across the different carbon removal activities will have to be developed. In this step, specific rules will be tailored to the characteristics of the different types of carbon removal activities: for instance, the rules will recognise the strong guarantees for permanence offered by

solutions storing carbon in geological formations, while clarifying minimum sustainability requirements for carbon farming activities. In this respect, the Impact Assessment compares two Quality options:

- Option Q1: certification schemes develop methodologies in line with the QU.A.L.ITY criteria and submit them for recognition to the responsible public authority;
- Option Q2: the Commission develops the methodologies in close consultation with an expert group.

The analysis concludes that option Q2 has the largest potential to guarantee the quality of carbon removals and to ensure their comparability, while minimising the administrative costs of developing or approving detailed certification methodologies.

The second problem is that many stakeholders do not trust carbon removal certificates because certificates may be generated through non transparent and unreliable certification processes which certify activities that are not delivering true climate and sustainability benefits. To tackle this problem, certification schemes should put in place transparent and robust rules and procedures to mitigate the risks that the certification process is not able to detect low-quality removals, that the carbon removal activities are not actually delivering the removals as planned, and that the same activity is certified twice, or that the same certificate is used twice.

The third problem is that the providers of carbon removals face barriers to access finance. This problem is driven by the fact that there is a wide variety of ways to use carbon removal certificates (e.g. for voluntary carbon markets, public funding, corporate sustainability reporting, voluntary eco-labels etc.). This diversity creates transaction costs for those that want to have their carbon removal activity certified, such as search costs (the time and effort spent to understand the quality of the certification procedures of a given scheme) and switching costs (the cost of trying to raise other complementary or alternative types of funding, which is likely to require changing their operations and providing a different set of evidence and information).

To address the second and the third problems, the certification schemes should comply with three transparency requirements:

1. Scheme management: certification schemes should be operated on the basis of reliable and transparent procedures (e.g. internal management and monitoring, complaints and appeal management, stakeholder consultation, transparency and publication of information, etc.);

2. Independent verification: the compliance of the carbon removals with the QU.A.L.ITY criteria should be verified by third-party auditors; and,

3. Full disclosure: all information on the certified carbon removals should be publicly available and traceable through public registries.

In line with these transparency criteria, a process to recognize certification schemes is set out and only recognised certification schemes can be used by operators (i.e. owners of carbon removal activities) to demonstrate compliance with the QU.A.L.ITY criteria and the relevant certification methodologies.

In this context, the Impact Assessment compares two Governance options as to who would be responsible for recognising certification schemes: the Member States (option G1) or the Commission (option G2). The analysis concludes that option G2 performs best in terms of

guaranteeing a level-playing field and creating an internal market for carbon removal certification, while minimising the administrative costs for public authorities.

In conclusion, the preferred policy option is one where the Commission: (i) develops certification methodologies, in consultation with experts and stakeholders; and (ii) ensures the correct implementation of the certification framework and the QU.A.L.ITY criteria through recognised certification schemes.

In the Impact Assessment, the Commission also assessed the consistency of the proposal with the objectives set out in the European Climate Law, as provided for in Article 6(4) of the European Climate Law. The Commission found that carbon farming approaches can help achieving the separate 2030 target proposed for the LULUCF sector with the Fit-for-55 legislative package (-310 MtCO2eq), therefore exceeding the contribution of LULUCF carbon removals to the -55% economy-wide target established in the European Climate Law (capped at -225 MtCO2eq). The European Climate Law also includes a target for the Union to become climate-neutral by 2050 and to achieve negative emissions thereafter, but the Union needs to increase the uptake of carbon removal activities to achieve this objective; the Impact Assessment analyses policy options to address the barriers that undermine the uptake of effective carbon removal activities, that should not deter action to reduce greenhouse gas emissions.

Regulatory fitness and simplification

4. BUDGETARY IMPLICATIONS

Major budgetary implications for the Union concern the preparation of the non-legislative acts and operation of the Expert Group on Carbon Removals.

The proposal provides for a number of delegated and implementing acts to be prepared in parallel following the entering into force of the proposed Regulation. Most importantly, it will be necessary to adopt delegated acts setting out the certification methodologies for different carbon removal activities (e.g. for permanent removal, carbon farming and carbon storage products).

For the preparation of these highly technical non-legislative acts, the Commission will be assisted by an Expert Group on Carbon Removals. The Group will have approximately 70 members and could involve several sub-groups, including additional expertise. It will be operated by the Commission with a help of an external contractor.

In addition, budgetary implications for Commission are associated to the recognition process of public or private certification schemes that would be responsible to implement the certification framework in one or more Member States. Budgetary implications are also foreseen for those Member States that intend to establish and operate a national certification scheme, including the supervision of independent certification bodies and the establishment and operation of a national registry.

The financial statement included in this proposal shows the detailed budgetary implications and the human and administrative resources required.

5. OTHER ELEMENTS

• Implementation plans and monitoring, evaluation and reporting arrangements

In accordance with the Better Regulation guidelines published in November 2021 and in particular tool 38, the Commission will draw up an implementation strategy after the legislative proposal has been adopted by the co-legislators. It will present the different compliance promotion tools to be used and will include aspects related to digital implementation.

• Detailed explanation of the specific provisions of the proposal

The provisions and structure of the proposed Regulation corresponds to the objective of the initiative to create a transparent and credible certification framework for carbon removals with high climate and environmental integrity, in order to support physical and legal persons that are willing to make the extra effort, beyond reducing as much as possible their GHG emission, and bring their activities to the level of sustainability, within the context of the increased climate ambition stated in the European Green Deal and the objective of the 2050 climate neutrality set out in the European Climate Law.

The key provisions of the proposed Regulation are the following:

The objective and scope of the Regulation is defined in **Article 1**. The scope is limited to the Union and to carbon removals generated through different types of carbon removal activities, i.e. permanent removal that store carbon for several centuries in geological reservoirs or in other media; carbon storage products that store carbon in materials that are used to make long-lasting circular products; and carbon farming activities that sequester carbon from the atmosphere into biogenic carbon pools, or that reduce the release of carbon from biogenic carbon pools to the atmosphere.

The Article also defines the overall structure of the proposed Regulation, which consists of three pillars: the first sets out the four quality criteria, the cumulative compliance of which makes the carbon removals eligible for certification. The second pillar determines the key elements of the certification process. The third pillar provides rules for operation of the certification schemes that are responsible for implementing the quality criteria.

Article 2 provides for the key terminology necessary to complete the provisions of the proposed Regulation, in particular the definitions of carbon removals and carbon removal activity.

Article 3 identifies the requirements for carbon removals to be eligible under the proposed certification framework: to that end, the quality criteria and the rules for the certification of compliance through a certification body need to be complied with.

The first pillar of the proposed Regulation is defined in **Articles 4 to 8**. **Article 4** establishes rules for the quantification of carbon removals, whereas **Articles 5, 6 and 7** set out additionality, long-term storage and sustainability criteria for carbon removal activities to generate eligible carbon removals. **Article 8** provides the empowerment for Commission delegated acts, which will establish detailed certification methodologies for the assessment of compliance with the quality criteria.

Annex I, which is referred to in **Article 4**, sets out guidance **on geographically explicit location approaches** for the certification methodologies on carbon farming to be taken into account when setting out the methodologies, in order to ensure most accurate information on carbon removals and greenhouse gas emissions.

The second pillar of the proposed Regulation regarding the certification of compliance is set out in **Articles 9 and 10**.

Article 9 defines the key elements of the certification process which is composed of two steps. First, in an initial stage an operator submits comprehensive information concerning the carbon removal activity to a certification body. The certification body carries out an audit and issues a certification audit report and – if the prescribed requirements are satisfied – a certificate. In the second stage, the certification body verifies that the carbon removal activity was implemented correctly and issues a re-certification audit reports and an updated certificate. **Annex II** lists the minimum information to be included in the certificate.

Article 10 sets minimum conditions for certification bodies to ensure their competence to carry out the certification audits and their independence and impartiality. It also sets an obligation for the Member States to supervise the operation of the certification bodies.

The third pillar regarding the certification schemes is determined in **Articles 11 to 14.**

Article 11 sets the obligation for operators of carbon removal activities to use certification schemes, recognised by the Commission, to demonstrate compliance with the quality criteria. The article lays down also a number of requirements for the operation of the certification schemes, including measures to ensure the good governance, transparency of the schemes and protection against fraud.

Article 12 imposes on the certification schemes the obligation to set up and maintain public registries for evidence of carbon removal activities and carbon removal units and defines how they should operate. It is of key importance that such registries are interoperable and communicate with each other in order to prevent fraud. The registries need be able to detect if more than one certificate is issued for the same carbon removal activity and/or whether one certificate is used more than one time to claim the same carbon removal activity/unit.

Article 13 provides the legal basis for the recognition of certification schemes by Commission decisions and **Article 14** prescribes reporting requirements on certification schemes.

Article 17 provides for a review of the Regulation: for a first time three years after its entering into force and then in regular intervals after each stocktake laid down in the Paris Agreement.

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

establishing a Union regulatory framework for the certification of carbon removals

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national Parliaments,

Having regard to the opinion of the European Economic and Social Committee[20],

Having regard to the opinion of the Committee of the Regions[21],

Acting in accordance with the ordinary legislative procedure,

Whereas:

(1) The Paris Agreement, adopted in December 2015 under the United Nations Framework Convention on Climate Change (UNFCCC), entered into force in November 2016 ('the Paris Agreement'). Its Parties have agreed to hold the increase in the global average temperature well below 2° Celsius (C) above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5° C above pre-industrial levels.

(2) Addressing climate and environmental challenges and implementing the objectives of the Paris Agreement are at the core of the Communication on 'The European Green Deal'[22]. In Regulation (EU) 2021/1119 of the European Parliament and of the Council[23] ('European Climate Law'), the Union incorporated the objective of economy-wide climate neutrality by 2050 in the legislation. That Regulation also establishes a binding Union commitment to reduce net greenhouse gas emissions by at least 55 % below 1990 levels by 2030.

(3) The 6th Assessment Report by the Intergovernmental Panel on Climate Change[24] (IPCC) states that the deployment of carbon dioxide removal to counterbalance hard-to-abate residual emissions is unavoidable if climate neutrality is to be achieved.

(4) The 2021 Commission Communication on Sustainable Carbon Cycles[25] lays down an action plan to upscale carbon removal solutions that capture CO_2 from the atmosphere

20 OJ C [...], [...], p. [...]
21 OJ C [...], [...], p. [...]
22 COM(2019)640 final.
23 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) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).
24 IPCC Working Group III (2022), Technical Summary. In: Climate Change 2022: Mitigation of Climate Change. Sixth Assessment Report (link).
25 COM/2021/800 final.

and store it for the long term, either in ecosystems through carbon farming solutions or in other storage forms through industrial solutions while ensuring no negative impact on biodiversity or ecosystem deterioration in line with the precautionary and Do No Significant Harm principles.

(5) Policies to promote carbon removals need to be put in place swiftly in order for these solutions to reach the necessary scale by mid-century and achieve the Union goal of climate neutrality by 2050. To this end, in the context of the Circular Economy Action Plan[26], the Commission announced the development of a certification framework on the quality of carbon removals by end of 2022.

(6) The Council of the European Union in its conclusions on the Commission Communication on sustainable carbon cycles of 7 April 2022 acknowledged the contribution of agriculture and forestry to the overall effort to reduce emissions and capacity to absorb and store carbon through carbon pools, and expressed its support for carbon farming as a new voluntary green business model, capable of providing an additional source of income for land managers, and recognised its co-benefits, particularly in the form of biodiversity preservation and improved water, soil and air quality. The Council also expressed an overall support for the intention of the Commission to set a robust certification framework based on standardised and validated scientific methods and diagnostic instruments at the European level for monitoring, reporting and verifying the volumes of carbon stored and emitted. The European Economic and Social Committee believes that the development of carbon farming practices requires a clear legal framework that is shared by the Member States.

(7) In order to address the need for an increased level of carbon removals to counter-balance hard-to-abate greenhouse gas emissions and to achieve climate neutrality in the Union, land managers and industrial actors should be incentivised to take up and/or maintain sustainable management practices and technologies to remove carbon from the atmosphere and store it for the long-term. Reliable guarantees about the quality of carbon removals will ensure the effectiveness of these incentives and build trust in carbon removal activities, thus strengthening their competitiveness as well as sustainability. A Union certification framework is needed to provide these guarantees by establishing quality criteria for carbon removals and transparent rules for the certification of those carbon removals. In the case of carbon farming, such certification framework can also enable incentives to carbon removal activities that contribute to achieving the restoration targets set out in the Nature Restoration Law[27], which was proposed by the Commission in 2022.

(8) In order to support operators willing to take additional efforts to increase carbon removals in a sustainable way, the Union certification framework should take into account the different types of carbon removal activities and their specificities. Permanent removal activities store non-fossil carbon for several centuries, either in geological reservoirs (such as bioenergy capture and storage (BECCS) and direct air carbon capture and storage (DACCS)) or in other media. Carbon storage products store non-fossil carbon in materials that are used to make long-lasting circular products. Carbon farming activities sequester carbon from the atmosphere into biogenic carbon pools or reduce the release of carbon from biogenic pools to the

[26] COM/2020/98 final.
[27] COM/2022/304 final.

atmosphere; relevant biogenic pools for carbon farming are soil organic carbon, above- and below-ground biomass, litter and deadwood, as covered by Regulation (EU) 2018/841 of the European Parliament and of the Council[28].

(9) The Union certification framework should support the effective upscale of carbon removals solutions: operators will have easier access to different types of financial incentives, such as public funding, sustainable private finance, contractual arrangements along supply chains, and voluntary carbon markets, whereas potential financiers will be better able to assess and compare the quality of carbon removals and carbon removal activities.

(10) With a view to ensuring transparency, consistency, and comparability, this Regulation needs to provide clear definitions for the carbon removal activities and the resulting carbon removals, while taking into account the specificities of different types of removal solutions and related environmental impacts. In order to ensure consistency with the accounting rules of Regulation (EU) 2018/841, the greenhouse gas emissions from relevant biogenic carbon pools should be deducted from the carbon removals resulting from carbon farming activities.

(11) Industrial carbon removals activities capture non-fossil carbon directly from the atmosphere or from biogenic carbon pools and store it in long-lasting products, in geological formations or under another form of permanent storage. As a result, the capture with permanent storage or product storage of emissions under Directive 2003/87/EC cannot constitute a carbon removal activity within the meaning of this Regulation, with the exception of emissions from sustainable biomass.

(12) In order to set out the requirements, under which carbon removals may be considered eligible for certification under the Union framework, carbon removals should be quantified in a relevant, accurate, complete, consistent and comparable manner. Furthermore, they should be generated by carbon removal activities that are additional, aim to store carbon for the long-term and contribute to the environmental sustainability objectives.

(13) Only carbon removal activities which overall provide a carbon removal benefit may be recognised under the Union carbon removal framework. In the case of carbon farming, emission reductions from a biogenic pool, which may result e.g. from the rewetting of organic soils, should be considered as a carbon removal benefit because of their potential to turn the biogenic pool into a carbon sink in the future.

(14) To quantify the carbon removal benefit, the total carbon removals should be compared to a baseline; in addition, any increase in greenhouse gas emissions that is due to the implementation of the carbon removal activity should be subtracted. Relevant greenhouse gas emissions to be taken into consideration in this context are direct emissions, such as those resulting from the use of more fertilisers, fuel or energy, or indirect emissions, such as those resulting from land use change and consequent risks for food security (through displacement of agricultural production) and of leakage of related emissions. Any reduction in greenhouse gas emissions resulting from the implementation of the carbon removal activity should not be taken into account to quantify the carbon removal benefit, but rather considered as a co-benefit towards the

[28] Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (OJ L 156, 19.6.2018, p. 1).

sustainability objective of climate change mitigation. A baseline reflecting the standard performance of comparable activities in similar social, economic, environmental and technological circumstances (standardised baseline) is preferred because it offers several advantages: it provides for objectivity, minimises implementation and administrative costs, and positively recognises the action of first-movers who have already engaged in carbon removal activities in the past. In the context of carbon farming, the use of available digital technologies (e.g. electronic databases and geographic information systems, remote sensing, artificial intelligence, machine learning) and of electronic maps needs to be promoted to decrease the costs of establishing baselines and of monitoring carbon removal activities. However, where the setting of such a standardised baseline is not possible, an approach based on the operator's individual performance (project-specific baseline) may also be used. In order to reflect the social, economic, environmental and technological developments and to encourage ambition over time in line with the Paris Agreement, the baseline should be regularly updated.

(15) In order to ensure that the certification framework channels incentives where they are needed to take up or maintain a carbon removal activity, carbon removals should be generated by carbon removal activities that are additional. This means that these activities should go beyond statutory requirements and should take place due to incentive effect of the certification.

(16) A standardised baseline would reflect the statutory and market conditions in which the carbon removal activity takes place, on the grounds that, if a carbon removal activity falls under statutory requirements and/or is financially viable without any incentives, then its performance would be reflected in the baseline. For this reason, a carbon removal activity that generates carbon removals in excess of such a baseline can be presumed to be additional. Hence, the use of a standardised baseline simplifies the demonstration of additionality for operators, while reducing the administrative burden, which is particularly important in the case of small-scale land managers.

(17) Non-fossil carbon that is captured through a given carbon removal activity risks being released back into the atmosphere due to natural or anthropogenic events. Operators should therefore take all relevant measures to mitigate these risks and duly monitor that carbon continues to be stored over a defined period. The length of such monitoring period should vary in accordance with the type of carbon removal activity, to reflect the different risks that are associated to the wide range of carbon removal solutions. Carbon removal activities storing carbon in geological formations can provide enough certainties on the very long-term duration (e.g. several centuries) of the carbon storage, while activities such as carbon farming or carbon storage in products store carbon out of the atmosphere for shorter duration or are more exposed to the risk of natural or anthropogenic release.

(18) In addition to taking measures to minimise the risk of carbon release into the atmosphere during the monitoring period, appropriate liability mechanisms should also be put in place to address cases of reversal. Relevant liability provisions applying to geological storage of CO2 are set out in Union legislation. The liability provisions set out in this Regulation apply without prejudice to the Directive 2003/87/EC and Directive 2009/31/EC. In particular, liability for climate damage as a result of CO2 leakages is covered by the inclusion of storage sites in Directive 2003/87/EC, which requires surrender of emissions trading allowances for leaked emissions captured by an ETS installation. In addition, Directive 2009/31/EC establishes the obligation on the operator of the storage site to take corrective measures in case of leakages or

significant irregularities on the basis of a corrective measures plan submitted to and approved by the competent national authority. Where the operator fails to take the necessary corrective measures, these measures are taken by the competent authority, which recovers the costs from the operator. In order to avoid double regulation, with regard to geological storage of CO2 the relevant liability provisions of Directive 2009/31/EC and Directive 2003/87/EC apply.

(19) In order to promote the storage of carbon after the end of the monitoring period for carbon farming and carbon storage products, operators have the possibility to apply for new certification as long as the carbon removal activity is maintained. In addition, several liability mechanisms, such as discounting rates on certified carbon removal units, certified carbon removal buffers managed by the certification schemes, up-front insurance or other risk management and minimisation requirements, need to be put in place to mitigate the risk of and compensate for any carbon releases.

(20) Carbon removal activities, especially carbon farming, have a strong potential to deliver win-win solutions for biodiversity restoration and other environmental objectives. Therefore, carbon removal activities should be carried out in a way that contributes to one or more of the following sustainability objectives, without causing significant harm to any of the others: climate change mitigation and adaptation, the protection and restoration of biodiversity and ecosystems, the sustainable use and protection of water and marine resources, the transition to a circular economy, and pollution prevention and control. To this end, all operators should be required to meet at least the Do No Significant Harm principle set out in Regulation (EU) 2020/852 and related climate mitigation screening criteria, and, where relevant, the sustainability criteria for forest and agriculture biomass raw material set out in Article 29 of Directive 2018/2001, and subsequent amendments. In addition, carbon farming activities, including the production of biomass for carbon removal activities, should be eligible for certification only if it can be shown that they have co-benefits with biodiversity and ecosystem protection and restoration. In this context, it is appropriate to define harmonised technical rules on minimum sustainability requirements, biodiversity co-benefits, and other co-benefits through the relevant certification methodologies, including for instance through positive or negative lists of carbon farming practices. These harmonised rules should be based on the best available scientific evidence, build upon existing public and private labelling and certification schemes, methodologies for assessing sustainability, and take into account any relevant Union statutory requirements. Where the carbon removal activity generates sustainability co-benefits, including on food security, the operators may disclose such co-benefits in accordance with the relevant certification methodologies developed under this Regulation.

(21) Many different ways exist to remove carbon from the atmosphere and each of them has specific characteristics. Technological solutions to store carbon in geological formations can store very large amounts of additional carbon removals for several centuries. Carbon farming solutions hold a large potential for contributing towards sustainability objectives, in particular biodiversity and ecosystem restoration. Carbon storage products can be an important component of a circular bioeconomy. In order to recognise these specificities and to apply the quality criteria and monitoring requirements in a standardised and comparable way, while minimising administrative costs for operators, there is a need to develop detailed certification methodologies applying to the different types of carbon removal activities. These detailed technical

measures should be developed by the Commission under the assistance of an expert group on carbon removals and including a wide public consultation. These technical rules should also have the objective of operationalise the quality criteria laid down in this Regulation, while reducing unnecessary administrative burden for operators, or group of operators, in particular in the case of carbon farming, where action is often taken by small farmers and forest holders.

(22) Providing land managers with improved knowledge, tools and methods for a better assessment and optimisation of the carbon benefits is key for cost-efficient implementation of mitigation action and to securing their engagement in carbon farming. This is particularly relevant for European small farmers or forest holders that often lack know-how and expertise for adjusting their businesses, face important administrative burdens and the complexity of required measurements and monitoring. The Common Agricultural Policy and State aid can finance advisory services, knowledge exchange, training, information actions or interactive innovation projects with farmers and foresters. Such EU and national financing can also support cooperation approaches and the establishment of producer organisations that could facilitate the provision of relevant knowledge through technical advice to their members. Therefore, in the case of carbon farming, the group of operators should ensure that small operators receive the necessary advice to carry out the carbon removal activity.

(23) In order to ensure a robust and reliable certification process, carbon removal activities should be subject to third-party auditing. In particular, carbon removal activities should be subject to an initial certification of the activity before their implementation, including the correct quantification of the expected total carbon removals, carbon removal benefits, and where relevant, sustainability benefits, and to a regular subsequent verification of the generated carbon removals and their compliance with the quality criteria of additionality, long-term sequestration and sustainability (including for carbon farming activities, a description of the expected benefits on biodiversity and ecosystem protection and restoration). The certificate should contain accurate and transparent information that can underpin different uses of it, such as the compilation of national and corporate greenhouse gas inventories (including with regard to Regulation (EU) 2018/841) the proof of climate-related and other environmental corporate claims (including on biodiversity), or the exchange of verified carbon removal units through voluntary carbon offsetting markets.

(24) Independent certification bodies responsible for certification activities should have the required competences and skills and should be accredited by national accreditation authorities pursuant to Regulation (EC) No 765/2008[29]. They should also be completely independent of the economic operator carrying the carbon removal activity that it is subject to the certification. In addition, Member States should contribute towards ensuring the correct implementation of the certification process by supervising the operation of certification bodies that are accredited by the national accreditation body and by informing the certification schemes about relevant non-conformity findings.

[29] Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30).

(25) Private or public certification schemes can be used by economic operators to demonstrate compliance with the requirements set out in this Regulation. Therefore, it is necessary that certification schemes are operated on the basis of reliable and transparent rules and procedures and should ensure accuracy, reliability, and protection against fraud of information and data submitted by operators and should ensure the correct accounting of the verified carbon removal units, including to prevent double counting. Small-scale operators often lack the administrative capacity to prepare complex certification documents. Therefore, certification process should be carried out in a cost-effective way in order to minimise the administrative burden for operators, particularly small-scale land managers, while at the same time ensure a robust and credible proof of conformity.

(26) Compliance with the quality criteria should be verified in a robust and uniform manner by certification bodies and controlled by certification schemes, in particular to prevent fraud. To this end, the Commission should be empowered to adopt detailed implementing rules, including adequate standards of reliability, transparency and independent auditing to be applied by private or public certification schemes, bringing about the necessary legal certainty on the rules applicable to operators and certification schemes. These rules should also have the objective of reducing unnecessary administrative burden for operators, or group of operators, in particular for Small and Medium Enterprises (SMEs), including small farmers and foresters.

(27) With the view to ensure a robust approach to certification, the Commission should be able to adopt decisions to recognise schemes for the certification of activities that meet the Union quality criteria including with respect to competence, reliability, monitoring and reporting and verification, transparency and independent auditing. Such decisions are to be limited in time.

(28) Certification schemes play an important role in providing evidence of compliance with the quality criteria for carbon removals. It is therefore appropriate for the Commission to require certification schemes to report regularly on their activity. Such reports should be made public, in full or where appropriate in an aggregated format, in order to increase transparency and to improve supervision by the Commission. Furthermore, such reporting would provide the necessary information for the Commission to report on the operation of the certification schemes with a view to identifying best practices and submitting, if appropriate, a proposal to further promote such best practices.

(29) Certification schemes should establish and maintain interoperable public registries in order to ensure transparency and full traceability of carbon removal certificates, and to avoid the risk of fraud and double counting. Fraud may occur through e.g. double issuance and double use. Double issuance is a situation in which more than one certificate is issued for the same removal activity, e.g. when the same project is registered under two different certification schemes or twice under the same scheme. Double use occurs when the same certificate is used several times to make the same claim of carbon removal activities/units. The registries should store and make public in an electronic format the documents resulting from the certification process of carbon removals, including the summary of the certification audits and the certificates. The registries should also record the verified carbon removal units that meet the EU quality criteria. In order to ensure a level playing field across the Union, the Commission should develop standards and rules for the functioning and the inter-operability of those registries.

(30) In order to ensure compliance with the requirements and accountability of the schemes, it is appropriate for the Commission to require private and public certification schemes to report regularly on their activity. Such reports should be made public in order to increase transparency and to enable the Commission to monitor the operation of the schemes as well we to identify and share best practices.

(31) The power to adopt acts in accordance with Article 290 TFEU should be delegated to the Commission in order to set standardised monitoring and reporting methodologies for different projects of permanent removal, carbon farming and product storage; and to determine reporting requirements for public and private certification schemes. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level, and that those consultations be conducted in accordance with the principles enshrined in the Inter-institutional Agreement on Better Law-Making of 13 April 2016. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council should receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts. The Commission should also take into account, where necessary, decisions adopted under the UNFCCC and the Paris Agreement and current developments in relevant Union law.

(32) In order to ensure uniform conditions for the implementation of this Regulation, in particular with regard to: adequate standards of transparency, reliability and auditing of the certification process, including the format and information of the certificates; the notification to and assessment by the Commission of private and public certification schemes; on the reporting requirements for the certification schemes; and on the functioning and inter-operability of public registries, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council[30].

(33) In order to exercise the implementing powers laid down in this Regulation, the Commission should be assisted in its tasks under this Regulation by the Climate Change Committee established pursuant to Article 44(3) of Regulation (EU) 2018/1999 of the European Parliament and of the Council[31].

(34) The implementation of this Regulation should be reviewed three years following to the entry into force and subsequently no later than six months after a global stocktake agreed under Article 14 of the Paris Agreement. The Commission should make amending proposals as appropriate to ensure the proper implementation thereof and the achievement of its objectives. Those reviews should take into account developments in the Union legislation, technological progress and market

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30 Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

31 Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council (OJ L 328, 21.12.2018, p.1).

development in the field of carbon removals as well as international developments related to the UNFCCC and the Paris Agreement.

(35) Since the objectives of this Regulation cannot be sufficiently achieved by the Member States alone and can therefore, by reason of the scale and effects of the proposed action, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary to achieve those objectives,

HAVE ADOPTED THIS REGULATION:

Chapter 1
GENERAL PROVISIONS

Article 1

Subject matter and scope

1. This Regulation establishes a voluntary Union framework for the certification of carbon removals and sets out:
   (a) quality criteria for carbon removals placed in the Union;
   (b) rules for the certification of carbon removals;
   (c) rules for the recognition by the Commission of private and public certification schemes.

2. This Regulation does not overlap with the mandatory Union carbon pricing framework established by Directive 2003/87/EC, with the exception of emissions from sustainable biomass which are zero-rated in accordance with Article 14 and Annex IV of that Directive.

Article 2

Definitions

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

(1) ‘carbon removal’ means carbon dioxide transferred from the atmosphere to storage within a non-atmospheric carbon pool. For carbon farming, a carbon removal is to be understood as net greenhouse gas removal, thus net of greenhouse gas emissions from a biogenic carbon pool to the atmosphere;
(2) ‘biogenic carbon pool’ means above-ground biomass, below-ground biomass, litter, dead wood and soil organic carbon as set out in points (a) to (e) of Part B of Annex I to Regulation (EU) 2018/841;
(3) ‘carbon removal activity’ means one or more specific practices or processes carried out by an operator resulting in carbon removals;
(4) ‘permanent removal’ means a carbon removal activity, including bioenergy with carbon capture and storage (BECCS) and direct air carbon capture and storage (DACCS), that captures non-fossil carbon and that does not release it for several centuries under normal circumstances and with appropriate management practices;
(5) ‘carbon farming’ means a carbon removal activity related to land management resulting in the increase of carbon storage in living biomass, dead organic matter and soils by enhancing carbon capture and/or reducing the release of carbon to the atmosphere;

(6) ‘carbon storage products’ means a carbon removal activity that stores non-fossil carbon in long-lasting products or materials;
(7) ‘operator’ means any legal or physical person who operates or controls a carbon removal activity, or to whom decisive economic power over the technical functioning of the activity has been delegated;
(8) ‘group of operators’ means a legal entity that represents a group of operators and is responsible for ensuring that all operators within the group comply with the requirements set out in this Regulation;
(9) ‘monitoring period’ means a period, the length of which is determined by the type of carbon removal activity, over which the storage of carbon is monitored;
(10) ‘certification body’ means an independent accredited or recognised conformity assessment body that concludes an agreement with a certification scheme to carry out certification audits and issues certificates within the framework of a certification scheme;
(11) ‘certification scheme’ means a private or public organisation that certifies the compliance of operators, or group of operators, with the requirements set out in this Regulation;
(12) ‘certification audit’ means an initial audit carried out by a certification body, with the purpose of issuing a certificate within the framework of a certification scheme;
(13) ‘re-certification audit’ means an audit with the purpose of renewing a certificate issued by a certification body within the framework of a certification scheme;
(14) ‘certificate’ means a conformity statement issued by the certification body within the framework of a certification scheme, certifying that the activity complies with the requirements of this Regulation;
(15) ‘carbon removal unit’ means a tonne of certified carbon removal benefits generated by the carbon removal activity.

Article 3

Eligibility for certification

Carbon removals shall be eligible for certification if they:

(a) are quantified in accordance with Article 4;

(b) are generated by a carbon removal activity that complies with the criteria set out in Articles 5, 6 and 7; and

(c) are generated by a carbon removal activity in conformity with Article 9.

Chapter 2
QUALITY CRITERIA

Article 4

Quantification

1. Carbon removals shall be generated only by a carbon removal activity that provides carbon removal benefits. To this end, the following shall be demonstrated:

$$Carbon\ Removal\ Benefit = CR_t - CR_b + GHG_{increase} < 0$$

where:

(i) CR_t is the total carbon removals;

(ii) CR_b is the total carbon removals under the baseline;

(iii) $GHG_{increase}$ is the increase in direct and indirect greenhouse gas emissions, other than those from biogenic carbon pools in the case of carbon farming, which are due to the implementation of the carbon removal activity.

(iv) Carbon removals designated with a negative sign (-) refer to net greenhouse gas removals, carbon removals designated with a positive sign (+) refer to net greenhouse gas emissions.

2. Carbon removals and greenhouse gas emissions shall be quantified in a relevant, accurate, complete, consistent, comparable and transparent manner.

3. The baseline shall be based on the standard carbon removal performance of comparable activities in similar social, economic, environmental and technological circumstances.

By way of derogation from the first subparagraph, where duly justified, the baseline may be based on the individual carbon removal performance of the operator.

The baseline shall be periodically updated.

4. The quantification of the carbon removal benefit shall account for uncertainties in accordance with recognised statistical approaches.

Article 5

Additionality

1. Carbon removals shall be additional. To that end, they shall be generated only by a carbon removal activity that:

(a) goes beyond Union and national statutory requirements; and

(b) takes place due to the incentive effect provided by the certification.

2. Where the baseline is established pursuant to the first subparagraph of Article 4(3), additionality as defined in paragraph 1 is considered to be complied with. Where the baseline is established pursuant to the second subparagraph of Article 4(3), additionality as defined in paragraph 1, points (a) and (b), shall be demonstrated through specific tests.

Article 6

Long-term storage

1. A carbon removal activity shall aim to ensure the long-term storage of carbon.

2. The risk of release of the stored carbon shall be mitigated and monitored over the monitoring period.

3. Any carbon release occurring over the monitoring period shall be reported to the certification body. They shall be addressed through appropriate liability mechanisms.

5. The carbon stored by a carbon removal activity shall be considered released to the atmosphere at the end of the monitoring period. Carbon removal units shall expire at the end of the monitoring period, unless storage is demonstrated to be permanent.

Article 7

Sustainability

1. Carbon removals shall be generated only by a carbon removal activity that has a neutral or positive impact on the sustainability objectives set out in paragraph 2.

2. The sustainability objectives are:

(a) climate change mitigation beyond the carbon removal benefits referred to in Article 4;

(b) climate change adaptation;

(c) the sustainable use and protection of water and marine resources;

(d) the transition to a circular economy;

(e) pollution prevention and control;

(f) the protection and restoration of biodiversity and ecosystems.

3. In order to contribute to the sustainability objectives set out in paragraph 2, a carbon removal activity shall comply with the minimum requirements defined in the certification methodologies pursuant to Article 8. Carbon farming activities shall ensure a positive contribution to the objective referred to in paragraph 2 (f).

7. Where the operator, or group of operators disclose co-benefits that contribute to the sustainability objectives referred to in paragraph 2, they shall comply with the certification methodologies referred to in Article 8.

Article 8

Certification methodologies

1. In order to ensure an accurate, harmonised, and cost-effective implementation of the quality criteria set out in Articles 4 to 7, the Commission is empowered to adopt delegated acts in accordance with Article 15, setting out specific certification methodologies for permanent removal, carbon storage products and carbon farming. Certification methodologies for carbon farming shall be established in accordance with the guidance set out in Annex 1.

2. In adopting those delegated acts, the Commission shall take into account the objectives of minimising administrative burden, particularly for small-scale carbon farming operators, while ensuring high-quality carbon removals.

Chapter 3
CERTIFICATION

Article 9

Certification of compliance

1. The operator, or group of operators, applying for certification of carbon removals under this Regulation, shall submit an application to a certification scheme. Upon acceptance of that application, the operator, or group of operators, shall submit to a certification body a management plan, including a comprehensive description of the carbon removal activity and a monitoring plan. Groups of operators shall also specify how advisory services will be provided, in particular to small-scale carbon farming operators. The management plan shall specify the expected total carbon removals and carbon removal benefits generated by the carbon removal activity, and the way in which compliance with Articles 4 to 7 will be ensured.

2. The certification body shall conduct a certification audit to validate the information submitted pursuant to paragraph 1. As a result of that certification audit confirming compliance with Articles 4 to 7, the certification body shall issue a certification audit report and a certificate, which shall be controlled by the certification scheme. The certification scheme shall make publicly available the certificate and a summary of the certification audit report, in a registry pursuant to Article 12. The certificate shall include the minimum information set out in Annex II.

3. In order to verify the correct implementation of the management plan, the certification body shall carry out periodic re-certification audits of the carbon removal activity. Where compliance with Articles 4 to 7 is established, the certification body shall issue a re-certification audit report and an updated certificate, which shall be controlled by the certification scheme. The certification scheme shall make publicly available the summary of the re-certification audit report, the updated certificate and the certified carbon removal units, in a registry pursuant to Article 12.

4. The operator, or group of operators, shall support the certification body carrying out the certification and re-certification audits, notably as regards access to the activity premises and provision of the relevant data and documentation.

5. The Commission, assisted by the Climate Change Committee referred to in Article 16(1), may adopt implementing acts to set out the structure, technical details and the minimum content of the management plan, the certification and re-certification audit reports, and to set out further information for the content of the certificate in addition to the information listed in Annex II. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Article 10

Operation of certification bodies

1. Certification bodies appointed by certification schemes shall be accredited by a national accreditation authority pursuant to Regulation (EC) No 765/2008.

2. Certification schemes shall ensure that certification bodies are:

(a) competent to carry out the audits referred to in Article 9;

(b) independent of the operators, or group of operators, and carry out the activities required under this Regulation in the public interest.

3. For the purpose of paragraph 2(b), certification bodies or any part of the same legal entity shall not:

(a) be an operator, or a group of operators, the owner of an operator, or group of operators, or be owned by them;

(b) have relations with operators, or group of operators that could affect their independence and impartiality.

4. Member States shall supervise the operation of certification bodies appointed by certification schemes. Certification bodies shall submit, upon request by the national competent authorities, all relevant information necessary to supervise their operations, including date, time and location of the audits referred to in Article 9. Where Member States find issues of non-conformity, they shall inform the certification body and the applicable certification scheme thereof without delay, which shall ensure that conformity, is re-established.

Chapter 4
CERTIFICATION SCHEMES

Article 11

Operation of certification schemes

1. To demonstrate compliance with this Regulation, the operator, or group of operators, shall use private or public certification schemes recognised pursuant to Article 13.

2. Private and public certification schemes shall operate on the basis of reliable and transparent rules and procedures, in particular with regard to internal management and monitoring, complaints and appeals management, stakeholder consultation, transparency and publication of information, appointment and training of certification bodies, management of non-conformities, and development and management of registries.

3. Private and public certification schemes shall ensure that information and data submitted by an operator, or group of operators, for the certification of compliance pursuant to Article 9 are subject to independent auditing. Certification schemes shall also ensure that the certification of compliance is carried out in a cost-effective way by independent certification bodies.

4. Public and private certification schemes shall publish, at least annually, a list of the appointed certification bodies. The list shall indicate for each certification body the entity or national public authority that has recognised the certification body and is monitoring it.

5. In order to ensure that certification is carried out in an efficient and coherent manner, and in particular to prevent fraud, while minimising administrative burden particularly for carbon farming operators, the Commission, assisted by the Climate Change Committee referred to in Article 16(1), shall adopt implementing acts setting out implementing rules on certification schemes, including adequate standards of

transparency, reliability, accounting and independent auditing, and require all private and public certification schemes to apply those rules. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Article 12

Registries

1. Each certification scheme shall duly maintain a public registry of carbon removal activities and carbon removal units certified under Article 9. Those registries shall use automated systems, including electronic templates, and shall be interoperable.

2. The Commission, assisted by the Climate Change Committee referred to in Article 16(1), may adopt implementing acts setting out technical rules on the functioning and interoperability of the public registries, and on the recording, holding or use of carbon removal units, in order to prevent fraud and avoid double counting. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Article 13

Recognition by the Commission

1. Only certification schemes recognised by the Commission by means of a decision may be used by operators, or group of operators, to demonstrate compliance with the requirements of this Regulation. Such decisions shall be valid for a period of no more than five years.

2. Public certification schemes shall be notified to the Commission by the Member States. Private certification schemes shall be notified to the Commission by the legal representative of the relevant schemes.

3. The Commission may repeal decisions recognising certification schemes pursuant to paragraph 1 in the event that those schemes fail to implement the standards and rules set out in the implementing acts referred to in Article 11(5). Where a Member State raises concerns that a certification scheme does not operate in accordance with the standards of reliability, transparency and independent auditing that constitute the basis for decisions under paragraph 1, the Commission shall investigate the matter and take appropriate action.

4. The Commission, assisted by the Climate Change Committee referred to in Article 16(1), may adopt implementing acts setting out the implementing rules on the notification and recognition processes. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Article 14

Reporting

1. Public and private certification schemes recognised by the Commission shall submit annually by 30 April a report to the Commission.

2. The report shall cover the preceding calendar year. Paragraph 1 applies only to certification schemes that have operated for at least 12 months.

3. The Commission shall make those reports publicly available, in full or, where necessary to preserve the confidentiality of commercially sensitive information, in an aggregated form.

4. The Commission, assisted by the Climate Change Committee referred to in Article 16(1), may adopt implementing acts setting out the implementing rules on the content and format of the reports referred to in paragraph 1. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 16.

Chapter 5
FINAL PROVISIONS

Article 15

Exercise of delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.

2. The power to adopt delegated acts referred to in Article 8 shall be conferred on the Commission for an indeterminate period starting the day following the entry into force of this Regulation.

3. The delegation of power referred to in Article 8 may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the Official Journal of the European Union or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Inter-institutional Agreement of 13 April 2016 on Better Law-Making.

5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

6. A delegated act adopted pursuant to Article 8 shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and to the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Article 16

Committee procedure

1. The Commission shall be assisted by the Climate Change Committee established by Article 44(3) of Regulation (EU) 2018/1999. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

2. Where reference is made to this Article, Article 5 of Regulation (EU) No 182/2011 shall apply.

Article 17

Review

1. This Regulation shall be kept under review, taking into account the relevant developments in the Union legislation, technological progress and market development in the field of carbon removals, and international developments related to the UNFCCC and the Paris Agreement.

2. Three years after the entering into force of this Regulation and subsequently no later than six months after the global stocktake agreed under Article 14 of the Paris Agreement, the Commission shall report to the European Parliament and to the Council on the operation of this Regulation. That report may be accompanied by a legislative proposal, where appropriate.

Article 18

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 European Parliament	*For the Council*
The President	*The President*
[...]	*[...]*