

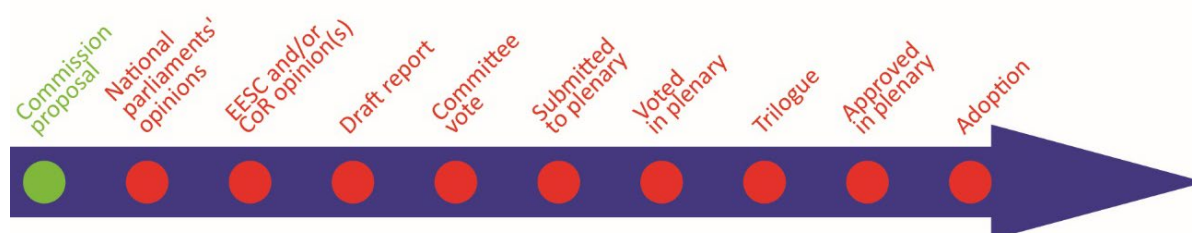
A Union certification framework for carbon removals

OVERVIEW

On 30 November 2022, as part of the European Green Deal, the Commission presented the legislative proposal for a Union certification framework for carbon removals. The initiative was first announced in the March 2020 new circular economy action plan and again highlighted in the climate target plan, as well as in the proposed 'fit for 55' revision of the regulation on land use, land-use change and forestry (LULUCF), as an essential tool to drive progress towards the 2050 climate neutrality target. The stated aim of the initiative is to ensure high-quality EU certified carbon removals, through a transparent and credible governance framework. In doing so, this would open up the possibility for further investments towards carbon removal activities and increased deployment.

In Parliament, the file has been referred to the Committee on the Environment, Public Health and Food Safety (ENVI).

Proposal for a regulation of the European Parliament and of the Council establishing a Union certification framework for carbon removals		
<i>Committee responsible:</i>	Environment, Public Health and Food Safety (ENVI)	COM(2022) 672 30.11.2022
<i>Rapporteur:</i>	Lídia Pereira (EPP, Portugal)	2020/394(COD)
<i>Shadow rapporteurs:</i>		Ordinary legislative procedure (COD) (Parliament and Council on equal footing – formerly 'co-decision')
<i>Next steps expected:</i>	Publication of draft report	



Introduction

The [European Green Deal](#), one of the six political [priorities](#) of the von der Leyen Commission, seeks to make Europe the first climate-neutral continent by 2050. This ambition is now legally binding, with the entry into force of the [European Climate Law](#) in 2021, requiring balanced emissions and removals of greenhouse gases (GHG) by 2050 at the latest, and with the aim to deliver negative emissions thereafter.

In the 2020 communication ([COM\(2020\) 562](#)) on raising 2030 climate ambitions, also known as the [climate target plan](#), the Commission points to the need for incentives to increase [carbon farming](#) practices. Further, it specifically mentions the role of EU certification systems for low-carbon basic materials' GHG performance, as well as for carbon removals to facilitate industry decarbonisation. In December 2021, the Commission adopted a communication ([COM\(2021\) 800](#)) on [sustainable carbon cycles](#). The text presents key challenges of our economy's current use of carbon (especially fossil) resources and puts forward opportunities to build circularity into value streams through a reuse, reduce and recycle or substitution approach. In both of the above communications, certification systems are seen as a way to support supply and demand-based uptake of technologies and solutions, building new markets and business models.

A 2022 report from the Intergovernmental Panel on Climate Change (IPCC) [concludes](#) that carbon dioxide removals (CDR) will be necessary to reach net zero emissions. This is due to hard-to-abate sectors, where it is difficult or even impossible to avoid residual emissions.

The proposal for a carbon removals certification framework (CRCF) is therefore an essential step in support of EU climate and circular economy ambitions. The proposal aims to deliver a transparent and reliable governance framework to build trust in EU-certified high-quality carbon removals and avoid greenwashing, thereby increasing the level of carbon removal activity within the EU.

Existing situation

No officially recognised EU-wide framework for certifying carbon removals currently exists.

Several Commission strategies include a focus on enhancing or protecting the natural carbon sink and ecosystems generating carbon removals. These include among others: the [biodiversity strategy](#), the [farm to fork strategy](#), the [forest strategy](#), and the proposed [nature restoration law](#).

Within climate policy, Regulation ([EU\) 2018/841](#) on land use, land-use change and forestry (LULUCF), currently under [revision](#), is the main piece of EU legislation for carbon removals. It sets the no-debit rule, meaning that GHG emissions from the LULUCF sector may not exceed its carbon removal capacity, also known as the carbon sink. The regulation's categories ensure consistency with the reporting requirements under the United Nations Framework Convention on Climate Change (UNFCCC) and overall with the guidelines provided by the IPCC. Ecosystems under the LULUCF sector are essential in providing negative emissions and are today the main source of carbon removals. Over the past decade, LULUCF carbon removals in the EU have [declined](#), a trend expected to continue without the ongoing revision of the regulation. A provisional interinstitutional agreement was reached in trilogue on 11 November 2022, setting the LULUCF sector's 2030 carbon removal target at 310 million tonnes of CO₂ equivalents (MtCO₂e).

The 2009 Directive ([2009/31/EC](#)) on the geological storage of carbon dioxide is another piece of legislation relevant to the proposed regulation, as it sets out the legal framework for the environmentally safe storage of CO₂.

A wide range of voluntary certification mechanisms exists, with varying methodologies and quality benchmarks. However, this risks diminishing transparency for stakeholders and lowers the credibility of certified carbon removals, due to the complexity of comparing and understanding various schemes' chosen approaches. As more and more countries, as well as private and public actors, make pledges to reduce GHG emissions to net zero, the demand for certified carbon

removals to offset remaining emissions is projected to rise. The global voluntary offset market doubled in value and volume from 2017 to 2018 and is [expected](#) to reach US\$200 billion by 2050.

Article 6 of the [Paris Agreement](#) deals with voluntary cooperation towards climate targets. The rules for the various [approaches](#) were agreed at the 2021 climate conference (COP26) in Glasgow, and will eventually lead to the opportunity not only for countries to trade mitigation outcomes (emission reductions and removals – Article 6.2), but also to an overall global carbon market (Article 6.4). Though operationalisation will take time, the tools are [expected](#) to have a significant impact.

Parliament's starting position

In the European Parliament, Alexander Bernhuber (EPP, Austria) – as rapporteur for the ENVI committee – is preparing an own-initiative report ([2022/2053\(INI\)](#)) on sustainable carbon cycles, on which the Committees on Agriculture and Rural Development (AGRI) and Industry, Research and Energy (ITRE) have given opinions. The ENVI committee vote is expected in February 2023.

The European Parliament has consistently [prioritised](#) direct emissions reductions over removals. Parliament has, however, acknowledged the need to ensure carbon removals, and in a 2019 [resolution](#) called for implementation of further technological solutions including carbon capture and storage (CCS) and direct air carbon capture and storage (DACCS), as well as protection for nature-based carbon sinks and support for carbon farming practices. In February 2021, responding to the 2020 new circular economy action plan, Parliament [called](#) upon the Commission to establish a regulatory framework for certification of all nature-based and technological carbon removal solutions. Later in 2021, in the [resolution](#) regarding the Commission's farm to fork strategy, Parliament again called on the Commission to explore a framework for robust carbon quantification and certification. It further underlined the potential of carbon markets and called on the Commission to present options for carbon farming and to include carbon farming as a tool to deliver on climate objectives. Parliament has reiterated the need to ensure a flexible and simple certification framework, which is robust enough to avoid greenwashing.

Council starting position

During a meeting on 7 April 2022, the Agriculture and Fisheries Council approved [conclusions](#) regarding the Commission's communication on sustainable carbon cycles, in which ministers notes the need for a flexible yet administratively lean scheme to consider Member States differences and explore a wider range of practices relevant to agricultural greenhouse gas emissions at farm level. Ministers further invited the Commission to look into the economic value of associated co-benefits, such as biodiversity gains.

Preparation of the proposal

For the legislative proposal, the Commission [simultaneously](#) carried out a call for evidence and a public consultation, from 7 February to 2 May 2022. Before this, in connection with the December 2021 [communication](#) regarding sustainable carbon cycles, the Commission held a [conference](#) on the same topic on 31 January 2022. The 2021 communication was accompanied by a technical assessment ([SWD\(2021\)451](#)) as well as a document ([SWD\(2021\)450](#)) dedicated to carbon farming and was preceded by a [feedback period](#) on the 'have your say' website from 9 September to 7 October 2021.

In February 2021, the Commission published a [technical guidance handbook](#), prepared by external experts, on setting up and implementing result-based carbon farming mechanisms in the EU. An independent expert [report](#) on the carbon economy, prepared by COWI, Nova Institute and Utrecht University, for the European Commission, was published in April 2021. An October 2021 [evaluation report](#) was also prepared by external experts, on the climate benefits of the use of harvested wood products in the construction sector and assessment of remuneration schemes. The Commission further commissioned two external expert reports under the project management of the Austrian

environment agency in 2021. The [first](#) provided a synoptic review of carbon removal solutions, while the [second](#) provided a review of existing carbon removal certification mechanisms and methodologies.

The legislative proposal is accompanied by an [impact assessment](#). An initial appraisal of this impact assessment from the European Parliament Research Service (EPRS) is in preparation. In November 2021, a European Parliament [study](#) on carbon farming was published by the Policy Department for Economic, Scientific and Quality of Life Policies.

The changes the proposal would bring

The Commission [proposes](#) to establish a regulation to ensure a credible and transparent framework for certifying high-quality carbon removals.

The objective (Article 1) of the proposed regulation is to facilitate the deployment of carbon removals within the Union by operators or groups of operators. To this end, the regulation lays down quality criteria for carbon removal activities, the rules regarding verification and certification of carbon removals and finally rules for the functioning of certification schemes and their recognition by the Commission. Applying the proposed framework would be voluntary. The regulation would not apply to emissions falling within the scope of Directive [2003/87/EC](#) – the EU emission trading system (EU ETS), currently under [revision](#) – except with one noted exception: for storage of CO₂ from sustainable biomass, which has been zero-rated according to that directive's Annex IV guidelines.

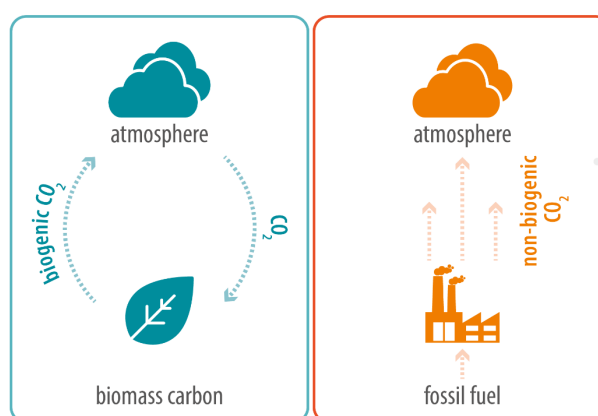
[Article 2](#) provides definitions relevant to the implementation of the regulation. Most notably, it defines carbon removal as 'the storage of atmospheric or biogenic carbon within geological carbon pools, biogenic carbon pools, long-lasting products and materials, and the marine environment, or the reduction of carbon release from a biogenic carbon pool to the atmosphere'. In defining carbon removal only as relating to **atmospheric** and **biogenic carbon**, the text mutates any discussion on the role of non-biogenic or fossil carbon emissions' at-source capture and storage, which does not remove carbon but **avoids** its release into the atmosphere.

'Carbon removal activities' defines three types of carbon removal, being any process or practice which; enhances carbon capture in or reduces carbon release from a biogenic carbon pool (**carbon farming**); results in **permanent carbon storage** or; ensures long-lasting atmospheric or biogenic **carbon storage in products or materials**.

Other important definitions include the 'biogenic carbon pool'; defined as including above-ground biomass, below-ground biomass, litter, dead wood and soil organic carbon; and 'permanent carbon storage', defined as lasting, under normal conditions, 'several centuries'. Finally, it clarifies that a 'carbon removal unit' is one tonne of certified net carbon removal benefit from a carbon removal activity, registered by a certification scheme overseeing compliance with the regulation.

According to the proposed Article 3, carbon removals would need to meet the quality and verification criteria set out in the legislative proposal. In the proposal, the Commission lays out Chapters 2, 3 and 4 as the three pillars of the regulation, concerning respectively; quality criteria, compliance certification procedures and, finally, internal functioning and recognition of certification schemes.

Figure 1 – Types of carbon emissions



Adapted from the [International Energy Agency](#).

In **Chapter 2**, Articles 4 to 7, the Commission has outlined key quality criteria regarding quantification (Article 4), additionality (Article 5), long-term storage (Article 6), and sustainability (Article 7). Article 8 of the chapter sets out the Commission's power to adopt delegated acts establishing the technical certification methodologies for operators to comply with quality criteria.

The Commission uses the acronym Q.U.A.L.I.T.Y for the four overarching areas of quality criteria.

Quantification is determined according to a [formula](#) presented in Article 4(1), determining the net carbon removal (CR) benefit by subtracting the net carbon removals in tCO₂e from a CR_{baseline}. Net carbon removals are determined by subtracting any GHG_{increase} due to implementation of the activity from CR_{totals}. For carbon farming activities, the accounting rules to determine CR_{baseline} and CR_{totals} will follow the accounting rules laid down in the LULUCF Regulation. Paragraphs 5 and 6 of Article 4 lay down the manner in which the baseline may be set (depending on the activity), while Paragraph 7 sets the requirement for periodical updating of the baseline. Uncertainties would need to be taken into account in quantifying carbon removals. Data on GHG emissions or removals would need to be collected by the operator or group of operators in a way compatible with national GHG inventories under the LULUCF Regulation or the Governance Regulation ([\(EU\) 2018/1999](#)).

Additionality would be considered according to Article 5 when a quantified carbon removal goes beyond Union and national statutory requirements and occurs due to the incentive effect of the certification. Specific tests would prove additionality where an Article 4.6 type baseline was used.

Long-term storage depends on the type of activity and monitoring period. Operators or groups of operators would need to demonstrate the aim to ensure long-term storage. In this regard, they shall monitor and mitigate any risk of release during the monitoring period and be subject to liability measures for release of the stored carbon during the monitoring period (Article 6, Paragraph 2). Specifically for carbon farming and carbon storage in product activities, the carbon would be considered released at the end of the monitoring period indicated on the certificate (thereby setting an expiry date on carbon removals of these types).

Sustainability criteria concern the requirement for carbon removals to comply with the minimum sustainability requirements as per the future delegated acts mentioned in Article 8, but also lists a number of sustainability objectives for which carbon removals would need to have a neutral impact or generate co-benefits. These objectives include: (a) climate change mitigation beyond the net carbon removal benefit; (b) climate change adaptation; (c) sustainable use and protection of water and marine resources; (d) transition to a circular economy; (e) pollution prevention and control; and (f) protection and restoration of biodiversity and ecosystems. A reported co-benefit shall comply with the certification methodologies laid out in the Article 8 delegated acts. It is further noted that the certification methodologies shall incentivise as much as possible the generation of co-benefits going beyond the minimum sustainability requirements, in particular for the biodiversity and ecosystems objective (f).

In Article 9, **Chapter 3** deals with the mandatory steps set out in a certification process, from the submission of application by a carbon removal activity operator, the operator's detailed description of the activity and applied certification methodology. The operator should note expected carbon removals and net carbon removal benefit. If the application is submitted by a group of operators, it should be specified how advisory services are provided, especially to small-scale carbon farming operators. With the support of the operator or group of operators, the certification body shall conduct a certification audit in a first phase, to verify the submitted information and confirm compliance with the regulation's quality criteria. A certificate could then be issued as part of the certification audit report, which shall contain the information set out in Annex II to the proposed regulation. Periodic re-certification audits would be performed with re-certification audit reports issued. The certification scheme would control the reports and certificates and shall make the report summary and the certificate publicly available in the registry (see Article 12). Article 9, Paragraph 5 sets out the Commission's power to adopt implementing acts defining structure, format and technical details to be included in the operators' description of their carbon removal activity and in

the (re-)certification reports of certification bodies. Article 10 sets out the accreditation and other requirements of certification bodies appointed by certification schemes. Member States shall supervise the operation of certification bodies.

Articles 11 to 14 of **Chapter 4** concern the certification schemes related to the regulation, which can be private as well as public certification schemes. To issue certificates under the regulation, certification schemes would need to apply to the Commission, which can then recognise the scheme through a decision, which is valid for a maximum of five years (Article 13). The Commission would be able to rescind the recognition if a scheme does not continue to live up to standards and rules set out under Article 11. Implementing acts would set out further details of notification and recognition processes.

Article 11, Paragraphs 2 and 4, lay down overall governance, transparency and accountability measures that certification schemes shall uphold. Examples of measures are mentioned in the accompanying text to the legislative proposal and include providing transparency into their day-to-day operation and full disclosure of all information related to certified carbon removals. Paragraph 3 of the same article sets out schemes' proposed obligation to verify the accuracy, reliability and cost-effective manner of certification audits, as well as the independence of certification bodies. Again, implementing acts shall be adopted to set out specific details.

The public registries, to be established by certification schemes, as per Article 12, to make certificate and process information publicly available, would need to be based on automated and interoperable systems, using electronic templates. Here, the Commission may adopt implementing acts further setting out structure, format and technical details of public registries and of the recording, holding or use of carbon removal units.

Certification schemes in operation for at least 12 months, shall submit annual reports concerning their operations, including any cases of fraud and remediation measures (Article 14). Such reports would need to be submitted by 30 April for the preceding calendar year. The Commission shall make the reports publicly available in full or aggregated form, if needed, due to commercially sensitive information. Implementing acts may be adopted setting further details under this article.

Article 15 empowers the Commission to adopt delegated acts to amend Annex II (minimum information on certificates). Article 16 covers the Commission's exercise of delegation, relevant to Article 15 and Article 8 of the proposed regulation.

The Commission would be assisted by the Climate Change Committee (Regulation 2018/1999, Article 44, Paragraph 1, Point 1), according to Article 17. An [expert group on carbon removals](#) would assist the Commission in developing the carbon removal activity's tailored technical certification methodologies, to be implemented through delegated acts, as per Article 8. Annex 1 of the proposal lists elements to be included in the methodologies put forward through delegated acts. The first meeting of the expert group is planned for the first quarter of 2023.

The regulation would be reviewed three years after entry into force and no later than 2028, and subsequently after each stocktaking exercise under the Paris Agreement, as proposed by Article 18.

Advisory committees

In the European Economic and Social Committee (EESC), rapporteur Stoyan Tchoukanov (Diversity Europe – Group III, Bulgaria) has been appointed by the Section for Agriculture, Rural Development and the Environment (NAT) to prepare the [opinion](#) on the Commission's proposal. An EESC [online public hearing](#) took place on 17 January 2023.

In the European Committee of the Regions (CoR), the Commission for Natural Resources (NAT), adopted its [own-initiative opinion](#) on Regional adaptation strategies for low carbon agriculture in November 2022, prepared by rapporteur Loïg Chesnais-Girard (PES, France), which is expected to be adopted in plenary during the 8-9 February 2023 sitting. The own-initiative opinion refers a great

deal to certification schemes for carbon removals from agriculture, and the NAT commission will continue this work on the Commission's legislative proposal.

National parliaments

The deadline for submitting reasoned opinions on the grounds of subsidiarity is yet to be indicated in [IPEX](#). To date, no Member State has made a reasoned opinion on the file.

Stakeholder views¹

Following the Commission's adoption of the legislative proposal an eight-week [feedback period](#) was launched on the 'have your say' website. Several organisations have published their immediate feedback online through position papers or opinions. Among the reactions to the proposal, it is evident that stakeholders would have wished for more detail in the legislative proposal itself, rather than these to be decided in subsequent delegated acts. Some definitions and aspects of scope are the subject of specific criticism.

One repeated criticism pertains to the **inclusion of measures to reduce carbon emission release** from the biogenic carbon pool as a type of carbon removal and activity as stated in Article 2(a) and (b). This specific point is mentioned, among others, by the European Environment Bureau ([EEB](#)), the Clean Air Task Force ([CATF](#)) and [Bellona](#). The CATF however praise the potential of the Article 7 sustainability criteria, in particular the setting of minimum sustainability requirements.

The second main critique voiced by several environmental organisations, including the World Wildlife Fund (WWF), Bellona, EEB, [CAN Europe](#), and CATF, pertains to the lack of detail (also in general) or definitions regarding the **use of certificates**. The CATF recommends using the three types of removals to distinguish their use, EEB finds the proposal immature, while the WWF [calls](#) the overall proposal a 'leap of faith, leaving all the critical details to be filled in later'. Bellona, who listed their criticism under headings 'The bad' or 'The ugly', placed the issue of use of certificates under 'The ugly' – claiming it risks undermining EU climate goals:

'If storing carbon in soils can be used in the same way as storing carbon in geological formations, in spite of their significantly different characteristics, polluters may find it more interesting to buy cheap, reversible offsets than to reduce their own emissions. At the same time, suppliers of more expensive and permanent removals will be undercut.'

[Bellona Europa](#), 30 November 2022.

The lack of detail on liability for stored carbon removals is also frequently mentioned.

With both organisations criticising the lack of detail, [Copa-Cogeca](#), the European farmers' and agri-cooperative association, finds it hard to assess the end result of the CRCF, yet also calls for further inclusion of agricultural emission reduction measures, such as low-emission buildings and precision fertiliser use. Meanwhile, the Confederation of European Forest Owners ([CEPF](#)), cautions against a heavy administrative burden and calls for links with other policy objectives, such as from nature restoration or taxonomy files, to be minimised. The CEPF suggests close links to existing LULUCF reporting approaches and is concerned that the additionality focus will not take adequate account of the work already delivered through sustainable forest management.

Service provider Abatable provides carbon offsetting options for the private sector. [Abatable](#) is also critical of the inclusion of carbon reduction measures and calls for further details regarding traceability of retirements, the certificate duration of specific removals and category assignment of specific activities and finally, again repeats the issue of permitted uses of certificates for specific types of removals (issue of short-term removals for long-lived emissions). Abatable further points to potential inclusion of carbon removals into the EU ETS, which organisations such as [Bellona](#) and WWF strongly oppose on grounds it would undermine reduction efforts.

Eve Tamme, head of [Climate Principles](#), a climate policy advisory, states that the CRCF could become a global blueprint, yet also highlights the unclear use of the certificates as likely to limit demand for

certification. She points to the lack of technical details and clarity on permitted uses of certificates as key obstacles. Further, she criticises the [superficial links](#) to other policy initiatives as not being granular enough for stakeholders. Tamme further asks what happened to the idea of incorporating carbon removals under the EU compliance legislation post-2030 – a point left out, although hinted to earlier, and one hard to achieve with a voluntary tool.

Legislative process

With the publication of the Commission's legislative proposal, the ENVI committee has appointed Lídia Pereira (EPP, Portugal) as rapporteur for the file. She will now prepare the draft report to be presented in committee. On 20 December 2022, Commission Vice-President Frans Timmermans made a short presentation of the proposal and ministers gave their initial reactions during the Environment Council [meeting](#).

EUROPEAN PARLIAMENT SUPPORTING ANALYSIS

Jensen, L., [Sustainable carbon cycles: Promoting removal, storage and recycling](#), EPRS, European Parliament, October 2022.

Jensen, L. and Margaras, V., [Certification of carbon removals - Pre-legislative synthesis of national, regional and local positions on the European Commission's initiative](#), EPRS, European Parliament, October 2022.

Erbach, G., [Carbon dioxide removal: Nature-based and technological solutions](#), EPRS, European Parliament, February 2021.

[Carbon farming – Making agriculture fit for 2030](#), Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, 2021.

OTHER SOURCES

[Union certification framework for carbon removals](#), Legislative Observatory (OEIL), European Parliament.

Sustainable Carbon Cycles, own-initiative procedure, [2022/2053\(INI\)](#), Legislative Observatory (OEIL), European Parliament.

ENDNOTES

- ¹ This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under 'European Parliament supporting analysis'.

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