

Position Paper - EBI

Certification of carbon removals – EU rules

The European Biochar Industry Consortium (EBI) welcomes the Commission's initiative to elaborate a common European Carbon Removal Certification Mechanism. According to the IPCC, the world and the EU must implement large-scale permanent carbon removal to keep global warming within the targets set by the Paris Agreement. This removal has to go beyond net-zero goals, as we have to actively reduce the CO₂-concentration in the atmosphere.

A stringent accounting and certification of additionally created carbon sinks in a common European carbon removal certification mechanism is key to building trust in this industry and thus to enable the scaling of industrial Carbon Dioxide Removal (CDR).

Reaching climate neutrality by 2050 will require all available, scientifically proven net-zero compatible technologies to be developed and deployed at scale.

Today, Pyrogenic Carbon Capture and Storage (PyCCS) represents the most relevant technical carbon sink. PyCCS is the technical process of transforming biogenic carbon (biomass) into a valuable, stable form of carbon (biochar) and the successive long-term storage by use in materials or soils. Due to the mature technical readiness level (TRL) of 8+, a developing voluntary market for biochar-based carbon sink certificates and added value through marketable products like renewable energy and biochar, the industry is growing rapidly (3yr. CAGR 2019-2022: 67%).

Thus, in 2022 alone, EU-wide PyCCS installations will sequester 100.000 tons of CO_{2e}. In 2036, 255 million tons of CO_{2e} annually can be stored if PyCCS is supported by policy as a key means to carbon sequestration¹. Thus, in short-term PyCCS will be a key technology for the creation of carbon sinks and thus for limiting climate change.

In order to facilitate the rapid deployment of durable carbon sinks at scale, the European Biochar Industry Consortium considers the following points as integral parts of a European CRC-M:

1. The separation of **sink conservation, emission reduction** and **carbon removals** with targets and allocated **budgets** to each sector.
2. Rigorous and transparent **accounting** of (additional) carbon sinks.
3. Creation of a Europe-wide **Carbon Sink Registry**.
4. **Setting the path** for large-scale deployment of carbon sinks already in the **2020s**.

¹ European Biochar Market Report (2021/2022): https://www.biochar-industry.com/wp-content/uploads/2022/03/EU-Biochar-Market-Report_2022-03-09.pdf

1. Separation of sink conservation, emission reduction and carbon removals

We urge to differentiate between the three main pillars to balance the global carbon circle:

- **Conservation of natural sinks:** Conservation of existing, natural carbon sinks is an important pillar to limiting climate change. They need to be protected but must not be mixed with active long-term carbon removal. Natural sinks are subject to both anthropogenic and natural pressure. Therewith, they are per their nature more prone to unforeseen losses (e.g. forest fires).
- **Reduction of GHG emissions:** Global Greenhouse Gas Emissions from fossil sources are the main contributor to climate change. If, and only if, promises in the form of nationally determined contributions (NDCs), are held, we are on a 2.7°C trajectory. To stay on the track to limit global warming to 1,5°C, an additional 28 Gt of CO_{2e} need to be taken off annually by 2030. Such a reduction in only 8 years will demand a comparably large effort and cannot be postponed.
- **Carbon removals:** The active removal of carbon from the atmosphere (additional carbon sinks) is needed because mankind has already emitted too much CO₂ and other GHGs into the atmosphere and continues to do so. The EU is, including historically emissions, responsible for 22 % of the global emissions. The creation of carbon sinks is not merely needed to balance residual emissions, but to reduce the CO₂-concentration in the atmosphere. In order to achieve the goal of the Paris agreement of limiting climate change to well below 2°C at the end of the century, a reduction to 350 ppm CO₂ is needed. This reduction can only be realized through a massive scale-up of Negative Emissions Technologies (NET). Consequently, the latter must not be used to compensate for a lack of effort in emission reduction. The most discussed, available and scalable NETs are Pyrogenic Carbon Capture and Storage (PyCCS), Bioenergy Carbon Capture and Storage (BECCS), Direct Air Capture and Storage (DACs) and Enhanced Weathering. Biochar, the solid carbon resulting from PyCCS, as well as Enhanced Weathering, can even have further positive benefits on the environment.

Only if all three pillars are treated simultaneously, limiting global warming to the set targets can be achieved. Therefore international, national and regional governments should **set separate qualitative and quantitative goals and define a budget to enable their realization.**

2. **Rigorous and transparent accounting of (additional) carbon sinks**

To ensure a reduction of carbon dioxide in the atmosphere, **permanent removals must be accounted with robust monitoring, measurement, reporting, verification and certification processes** to ensure Carbon Removal Certificates (CRCs) deliver net-negative emissions. The boundaries of the system must include the whole value chain until carbon is permanently and safely stored. This includes any sourcing, transport, production emissions etc. linked to the respective CDR technology. Eventual leakage² should be addressed and double counting must be prevented.

In order to create a strong and transparent accounting system, a clear, **common definition of technical carbon removal credits** must be established. The European Biochar Industry therefore calls the EU to consider additionality, eventual leakage, permanence as well as sustainability aspects. We also urge to demand for strong LCAs of all accounted carbon sinks.

3. **Creation of a Europe-wide Carbon Sink Registry.**

In order to keep track of existing and additionally created carbon sinks, the EBI believes that the creation of a European C-Sink Registry is elemental. It would permit a clear and transparent counting of technical carbon removals, the prevention of double counting as well as the monitoring of rather short-lived carbon sinks (e.g. wood in the building sector). An adequate monitoring timeframe should be determined for different sinks in order to ensure the registry is reflecting the current reality. Sinks with different permanence could therefore be used to achieve the necessary reduction path for the CO₂ concentration in the atmosphere as soon as possible.

4. **Setting the path for large-scale deployment of carbon sinks in the 2020s**

The world and the EU need to extract carbon from the atmosphere, and we need to start scaling now in order to reach climate relevant levels in the near future. To ensure PyCCS reach the magnitude of a million tons of CO_{2e} sequestered by 2026 and **255 million tons by 2036**, the EBI is asking to consider PyCCS as a highly relevant CDR technology and its inclusion as a key technology in relevant EU initiatives³, like it has been done e.g. through the inclusion of pyrolysis and gasification materials in the EU regulation 2019/1009. Further, a **reduction of market barriers** and support for large scale deployment is needed.

The voluntary carbon market already led to a massive scaling effect for PyCCS, emerging business cases and hence the creation of additional carbon sinks within the EU. Nevertheless, **secure and predictable frameworks** for revenue streams are needed and could be realized, via initiatives like

² Leakage is defined as "mechanism-incentivized removals resulting in increases of emissions/reduced removals elsewhere, reducing the overall climate impact.

³ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL COM (2021) 800 final

CRC-M. There are several possibilities to implement such a framework into EU policy, e.g. the European Trading System (ETS) or Effort Sharing Regulation (ESR).

While other technologies are in greater need of support for pilot projects, PyCCS / biochar needs support in scaling in order to become climate relevant in the near future and contribute substantially to the creation of additional, long-lasting carbon sinks.

The European Biochar Industry is the most advanced worldwide. **Europe is the leading technology provider** of a technology that enables the simultaneous production of energy and carbon sinks. Supporting the development of the industry secures the European position as a leading technology provider of this future technology.