BIOENERGIA

Feedback to the Restoring Sustainable Carbon Cycles Roadmap

The Bioenergy Association of Finland appreciates the opportunity to comment on the roadmap on restoring sustainable carbon cycles. Carbon removals are a crucial part of achieving the EU's climate neutrality target at the latest by 2050 and negative emissions thereafter. Both financial and regulatory incentives are needed to best support the development of the carbon removals at scale. It is also vital that the EU indicates clear commitment to support the carbon removal technologies and sets clear targets for them. The Communication must establish a much-needed long-term vision for carbon removal solutions, providing the sector with predictability and guiding future investment choices. The first priority should be to eliminate fossil carbon emissions, but we also need to cost-effectively support both nature-based and technology-based carbon removals to restore sustainable carbon cycles. Incentivizing the research and development of carbon removals is a key part of making these solutions commercially viable. It is also critical to start building the necessary infrastructure for negative emissions technologies.

As laid out in the roadmap, there is currently no regulatory framework mandating or incentivizing carbon removals. While nature-based solutions are generally cheaper than technology-based solutions, they are also much riskier in terms of permanence. The nature-based solutions are far more vulnerable to shocks, such as fire and wind events or pest outbreaks and climate change has already increased the likelihood and severity of these threats. When designing the new initiative, it will be essential to carefully consider and balance return and risk i.e., both cost-effectiveness and the aspects of resilience, vulnerability, and permanence in order to ensure an efficient portfolio of sufficiently reliable and long-term outcomes of different carbon removal solutions. It is also important to ensure that procedures for certification, measurement, reporting, and verification are implemented in the coming years, well before the end of this decade.

Although technology-based solutions are currently more expensive than nature-based solutions, it is crucial to take into account the learning curve also in these early technologies i.e., the prices are likely to decrease as the technology gains market maturity. The technology-based solutions are less vulnerable to shocks, can capture large amounts of CO_2 at once and provide long-term storage options for captured CO_2. They are also scalable and often replicable and, if applied sustainably, do not compete with other land use. A delay in the development of technology-based solutions might prevent the EU from achieving its climate goals. Bioenergy with Carbon Capture and Storage (BECCS) has massive potential as a solution allowing production of clean renewable energy and simultaneously removal of CO_2. Sustainable bioenergy is considered carbon neutral because the resulting carbon emissions are accounted for under land-use, land-use change, and forestry accounting. Thus, when carbon is captured from a bioenergy plant, it removes the carbon that would otherwise be absorbed by new biotic growth resulting in net removals. Supporting BECCS technology is an efficient and cost-effective strategy for achieving carbon removals. Another key technology-/nature-based solution is biochar, which can act not only as a carbon storage, but also can serve other purposes, such as improving soil health and fertility. Biochar is produced from biomass or biowaste via pyrolysis. Pyrolysis creates a stable, solid form of carbon

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that can endure in soil for as long as thousands of years, making it an excellent technology for scalable carbon removal.

Carbon removal and storage solutions will play a significant role in achieving a climate neutral society, but any legislation must be structured in a way that makes this object coherent with other policies and measures. Notably, neither the recent proposals for the EU ETS nor for ESR offer incentives for carbon dioxide capture and storage (CCS) from biomass-fired installations – a carbon-negative energy system - whereas the ETS provides incentives for fossil-fuel fired CCS. This applies both for installations that use 95 – 100 % biomass and are thereby outside the scope of the EU ETS and for installations that have biomass as partial fuel input and remain within the EU ETS. It is therefore necessary that the upcoming initiative will clarify how a regulatory framework for the certification of carbon removals can rationalize the policies and incentivize negative emissions in the EU in a sufficiently credible way for investors. The initiative must complement current climate policies, and look at interlinkages with other policies, as mentioned in the roadmap.