Brussels, 7 October 2021

We welcome the opportunity to respond to the **Roadmap: Restoring Sustainable Carbon Cycles** and the inclusion of planning for development of technological removals therein.

General comments:

The Roadmap focuses in the first place on nature-based removals from the land-use sector and indicates the timeframe of 2035 to achieve carbon neutrality in this sector. We see value in developing the framework for and incentivising carbon farming practices, however we see an equal if not greater urgency in developing an enabling policy framework for technological solutions that generate permanent carbon removals. We note that the recent proposal for LULUCF Regulation, which sets out the objective of a climate-neutral land sector by 2035 indicates also that beyond 2036 the combined AFOLU sector will need to generate further carbon removals 'to balance remaining emissions in other sectors'.
We believe that due to inherent reversibility and difficulty of monitoring of carbon farming practices this is a high-risk approach and there should be a greater focus in the upcoming Communication on technological removals as an at least equally important way of neutralising residual emissions. Most importantly, technological removals present the possibility to remove carbon and store it for climate-relevant timeframes (>100years). An enabling framework for technological removals should be put in place by 2025 at the latest to enable deployment at scale of DACS, BioCCS, Waste-to energy CCS projects, biochar production and application, and an increase in enhanced weathering demonstration pilots by 2030, as well as generation of increasing volumes of air-captured CO2 to gradually replace fossil carbon in a range of products and materials. In order to present a viable business model and bridge the investment gap faced by technological carbon removal solutions a conditional role for permanent carbon removal (DACS and BioCCS, Waste-to energy CCS) under the EU Emissions Trading System could be introduced by 2025, additional to the

reduction of greenhouse gas (GHG) emissions foreseen by the cap on GHG emissions.

With regard to technological carbon removals the Communication should focus on a) clarifying the interlinkages of the upcoming CRC-M with incentives and requirements under current climate policies, b) reviewing and submitting to a further public consultation a range of recommended policy instruments applicable at Member States level, and on c) strengthening of current EU instruments relevant to removals.

a) The Communication should not only clarify how the upcoming regulatory framework for certification will complement current policies directly related to (nature-based) carbon removals (LULUCF, ESR), but in particular how the certification of technology-based removals at a project level will contribute in the context of incentives or requirements under other policies (EU ETS/CORSIA, Innovation Fund, Renewable Energy Directive, Energy Performance of Buildings Directive, or reporting related to the climate component of products' environmental footprint). The Communication should aim at better incorporating the development of technological removals capacity at Member States level by 2030 as a part of Fit for 55 package. The upcoming update of National Energy and Climate Plans (foreseen for 2023) should include indicative national commitments of volumes of technological removals by 2030, symmetrical with the LULUCF target (310Mt of CO2 eq in 2030) that will be distributed between MS as annual national targets for the period from 2026 to 2030. Planning and distribution of national and EU-wide capacities to deploy technological carbon removal solutions should follow the modelling underpinning the 1.5 TECH scenario of the EU Long-term strategy which distributes the compensation for residual emissions by 2050 (ca 600 Mt/CO2eq/pa) more or less equally between nature based and technological solutions. The main contribution of the CRC-M should be a definition of a reference framework for how the LCA emissions (cradle-to-grave) of different removal methods are

calculated. The framework should include rules, requirements, criteria, and procedures for various capture processes, transport modes as well as storage and long-term usage activities. A system for qualifying the permanence of different removal methods/technologies should be introduced as a prerequisite for EU-wide and international trade in CRCs and ITMOs. Tools are being developed for the use of voluntary market players that enable calculation of costs and comparison of strategies relying on reversible and permanent removals. A similar tool with Life Cycle Cost assessment should be put in place to underpin the EU CRC-M and allow for inclusion of 'cost of permanence' in policy choices by 2030 and beyond.

b) The Communication should review and consult about applicability of Member States -level instruments that address financial barriers to deployment of carbon removal technologies. These include:

- tax incentives such as credits to reduce tax liability of companies that invest in capital intensive technologies such as DACS and BECCS. The approach could be modelled on the US 45Q (with exclusion of EOR activities).
- obligation schemes that require businesses to deploy or invest in a defined volume of permanent carbon removal or face a penalty;
- governmental service contract for large-scale projects (BECCS, biochar production, Waste-to-energy CCS, DACS,) which could be a highly effective way of incentivising FOAK projects and have the added benefit of enabling government to procure specific volumes of removals at a timescale which supports net-zero commitments.
- targeted grants and loans for decentralised or smaller-scale removal projects (biochar application, enhanced weathering)
- public procurement incentives (for example dedicated schemes for construction materials with embedded air-captured CO2, applications of biochar in road and building construction)

c) Existing EU instruments and regulations should be strengthened to incentivise technological removals:

- inclusion of a dedicated funding stream under the Innovation Fund;
- inclusion of R&D funding streams in upcoming Horizon Europe work programme for currently underrepresented methods: applications of biochar and enhanced weathering on land;
- Recognition of different values of various sources of CO2 in GHG methodology and LCAs under the ReFuelEu initiative and Renewable energy directive to deliver the EU's Synthetic Aviation Fuel mandate by 2030;
- A supportive investment environment for open access CO_2 transportation and storage infrastructure through TEN-E revision.