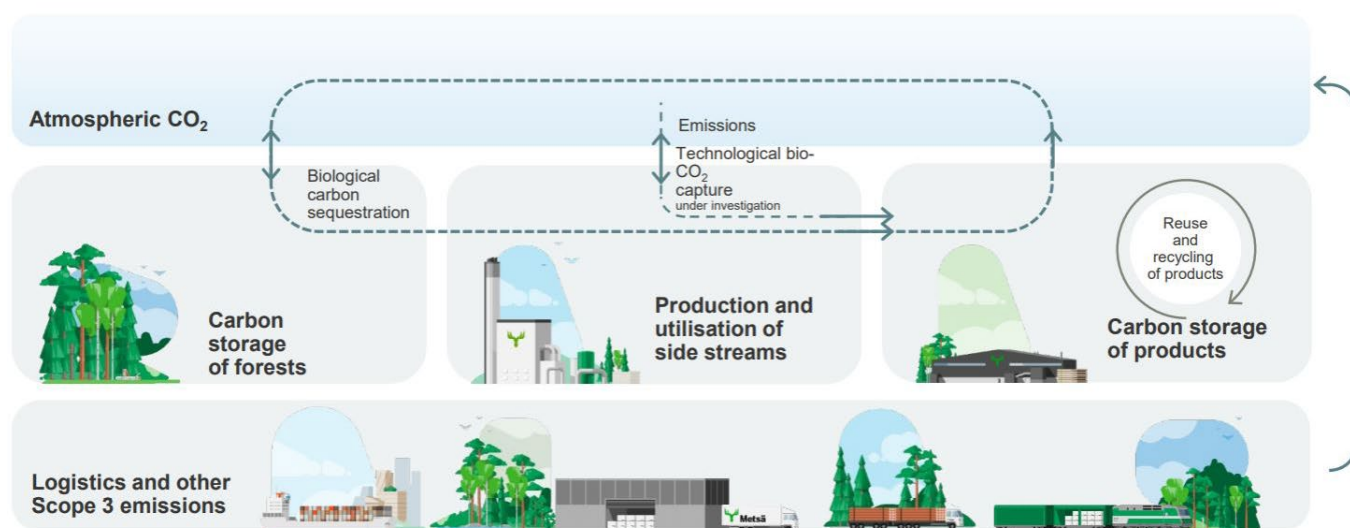


Renewable carbon can significantly contribute to the EU's climate neutrality objective and the industrial carbon management framework - COM(2024) 62 final

We must act now to achieve climate neutrality in 2050. Renewable carbon offers path toward a circular and sustainable future. To use its full potential, we urge the EU to:

- Create a science-based definition for renewable carbon to distinguish biobased carbon from fossil carbon and use this definition consistently in all EU legislation.
- Promote the transition to sustainable carbon sources and cycles in the material sector.
- Promote the capture and utilization of biogenic carbon (bio-CCU) as a valuable means to de-fossilize sectors like materials and chemicals.
- Promote cascading use of woody biomass:
 - Accelerate the development and deployment of technological bio-CCUS originated from processing of biomass in industrial applications;
 - Recognize that the biorefinery concept plays a key role in implementing the cascading principle;
 - Create an action plan to promote wood construction.
- Recognize sustainable biobased feedstock as circular input in product related regulation.
- Foster the entire biobased materials sector and its innovations under the EU Biotech and biomanufacturing initiative.

The role of renewable carbon in material use



Metsä Group welcomes Commission's communications on Sustainable Carbon cycles and Industrial carbon management, and Biotech & biomanufacturing, as well as the EU 2040 climate and 2050 climate neutrality objective. We want to contribute to the design of a predictable regulatory framework by highlighting the following:

1. Create a science-based definition for renewable carbon to distinguish biobased carbon from fossil carbon

- Making a clear **distinction between fossil and biobased carbon** is key, yet the European policy framework is currently not explicit about the different types of carbon sources.
- **Renewability** should be recognized as one of the **key product parameters** when defining the product specific criteria under the Ecodesign of Sustainable Products Regulation.
- A clear **definition of renewable carbon** is needed and should be used consistently in all EU legislation. The definition should build on the ISO standardization work:
 - Renewable carbon – *carbon originating from a sustainably¹ sourced renewable resource that can be naturally or artificially grown, regenerated or replenished using processes found in nature within a human time scale.* - Based on ISO 21930:2017, ISO 5157:2023 and ISO 59004 work in progress.
 - Note: Resources that are derived from activities that occur only in the technosphere, such as recycling, are considered recovered but not renewable resources. Biobased recycled resources are both renewable and recovered.
- Definitions should always be science-based. Finite carbon resources, such as petroleum and coal, take million of years to form and are classified as non-renewable.

2. Promote the transition to sustainable carbon sources and cycles in the material sector

- Climate and circular economy policies (e.g. carbon removals, forthcoming carbon management framework as well as reviews of LULUCF, ETS and RED III) should **recognize the climate and circular benefits of biobased carbon**. As stated in the Commission Communication on Sustainable Carbon Cycles (2021) the material sector cannot be decarbonized but the carbon utilized should originate from sustainable sources.
- One of the outcomes of COP28 was a common agreement to transition away from fossil fuels in the energy sector. Phasing down the use of virgin fossil carbon sources is equally important in the material sector. Currently about 60%² of the organic carbon-based raw materials utilized in the EU-27 material and chemical sector originate from virgin fossil sources.
- The **substitution impacts of biobased materials should be better recognized and quantified** as part of climate, product and circular economy policies. The handprint approach³ can provide a solid methodological basis for this.

3. Promote bio-CCU as a valuable means to de-fossilize sectors like materials and chemicals

- **Bio-CO₂ is an untapped potential** as raw material and its capture and storage can act as technical carbon sink.
- Metsä Group is exploring possibilities to construct a carbon capture facility at one of its pulp or bioproduct mills⁴. Wood-based carbon dioxide can be used to replace fossil carbon sources. It is an important component for hydrogen economy's products (fuels, chemicals, plastics...).
- The **role of bio-CCU should be better recognized and promoted** in parallel with bio-CCS. Biogenic carbon storage in products should be fully recognized; also 'temporary' biogenic carbon storage (< 100 years) can provide climate benefits.
- Operators should be encouraged to take **voluntary actions** regarding bio-CCU/CCS.
- The Commission communication on Industrial Carbon Management (2024) acknowledges that additional measures are needed to gain the potential climate benefits of using sustainable carbon from captured bio-CO₂ instead of fossil carbon. Creating market pull in product regulation for bio-CCU products is crucial, e.g., by setting a goal to substitute fossil-based solutions with solutions based on sustainable carbon sources.⁵
- Create an **EU roadmap on the role of bio-CO₂** in EU climate and raw material policies.

4. Promote cascading use of woody biomass

- Recognise in the climate and product regulation that the **biorefinery concept is in line with the cascading use of wood**. Biorefineries provide platforms with synergies and promote 'cascading in value'.
- **Accelerate the development and deployment of technological bio-CCUS** connected to processing of biomass in industrial applications. This extends and strengthens the cascading use of woody biomass.
- Bio-CCU is a side-stream of the biorefinery process and the carbon in bio-CO₂ can be put into use as a sustainable raw material for products fulfilling people's every day needs.

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- Metsä Group is investigating the feasibility of capturing bio-CO₂ from one of our bioproduct mills. The main product is pulp and bio- CO₂ side streams are a real opportunity. In many products carbon originating from bio- CO₂ can replace fossil-based carbon.
- Create an **action plan to promote wood construction**.

5. Recognize sustainable biobased feedstock as circular input in product regulation

- Renewable materials have a specific role in the development of a more circular economy. As losses and degradation always take place, no material can be reused or recycled forever: new **virgin material is always needed**. Virgin renewable raw materials, such as wood, can be supplied to loops according to principles of circular economy, in a regenerative way.
- Sustainably sourced **renewable content should be recognised as circular input** in the same way as recycled content e.g. public procurement, CMUR (circular material use indicator), product ecodesign requirements, taxonomy, packaging laws. Renewable content is already recognized by the World Business Council for Sustainable Development and its circular transition indicators⁶.

6. Foster the entire biobased materials sector and its innovations under the EU Biotech and biomanufacturing initiative

- We welcome the initiative and want to highlight that to **truly unlock the potential of the EU bioeconomy** it is key to foster the entire biobased material sector and its innovations.
- **Biomanufacturing** needs to be understood as **manufacturing bio-based products using any technology**. Biotechnology is one important means of biomanufacturing, but not the only one.
- Metsä Group's innovation company invests in and supports potential sustainable innovations and technologies that find new purposes and higher value for Nordic wood to replace fossil-based materials and chemicals in everyday products. To date, we have made six external startup investments, and have launched two in-house development projects both based on paper-grade pulp: Kuura® textile fiber and Muoto™ 3D molded fibre product.
- **Promoting investments in first of its kind demo and commercial production plants** is of crucial importance to accelerate the commercialization of European biobased innovations.

Metsä Group's parent company is a cooperative owned by over 90,000 forest owners. We use wood to make recyclable products for the day-to-day lives of millions of people globally. We focus on wood supply and forest services, wood products, pulp, paperboards, and tissue and greaseproof papers. We are committed to the principles of regenerative forestry to measurably strengthen the state of forest nature. In 2023 our sales totaled EUR 6.1 billion, and we have around 9,500 employees.

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¹ According to RED III biomass sustainability criteria

² Nova Institute. 2023. Flows of organic carbon in the EU-27 material & chemical sector.

³ <https://www.handprint.fi/links/>

⁴ <https://www.metsagroup.com/news-and-publications/news/2023/metsa-group-is-looking-into-the-construction-of-a-carbon-capture-facility/>

⁵ In line with the 20% aspirational objective set in EU Commission's sustainable carbon cycles communication

⁶ <https://www.wbcsd.org/Programs/Circular-Economy/Metrics-Measurement/Resources/Circular-Transition-Indicators-v4.0-Metrics-for-business-by-business>