

Södra's position on the circular bioeconomy



Forests, a prerequisite for a circular bioeconomy

For generations, forests have helped build the prosperity of our country. More than 50,000 family forest owners in Södra own forests that are an asset to the national economy, employment, thriving rural communities and forest biodiversity. The raw material from family forestry is transformed into sawn timber, building systems, paper and textile pulp, chemicals, energy and much more. For this value chain to function, reliable infrastructure with a low carbon footprint is essential, from the smallest forest road to railways, ports and electricity grids.

Why a circular bioeconomy?

A circular bioeconomy enables the efficient use of renewable resources, the replacement of fossil-based materials and the creation of greater value from every unit of raw material. By allowing materials to circulate through multiple value chains, climate benefits can be increased while resource losses are reduced. This is also a key part of the EU's ambition to build a more resource-efficient and competitive economy, reducing dependence on fossil-based raw materials while strengthening the industrial base. A well-functioning circular bioeconomy therefore contributes both to the climate transition and to long-term competitiveness and sustainable growth.

The role of forests in the circular transition

Forests are a renewable resource which, when managed sustainably, continue to grow and sequester

carbon over the long term. The forest raw material produced by Södra's members can be used multiple times, across different value chains and in products with varying lifespans.

Wood products provide significant climate benefits when used in long-life applications, as carbon remains stored throughout the product's service life. Paper products can also replace fossil-based alternatives, particularly in packaging applications. At the same time, fibres, by-products and side streams can continue to circulate through industrial processes, be reused and recycled, and be converted into new products. This creates opportunities for integrated, resource-efficient value chains at industrial scale.

By mobilising Europe's renewable biological resources and developing circular value chains, the bioeconomy strengthens European competitiveness, enhances strategic autonomy

and security of supply, and increases resilience to geopolitical and economic disruptions.

In our industries, every part of the tree is utilised. The portion suitable for sawn timber is used in construction, where the material can both replace more emission-intensive alternatives and store carbon over a long period. Other parts are used for paper and textile pulp as well as bio-based chemicals. Side streams such as tall oil, lignin and energy derived from residual products play an important role in reducing resource losses and creating new value. Taken together, this means that forestry and industry already operate in circular flows where resource efficiency, innovation and value creation go hand in hand.

Obstacles to development – where regulation has not kept pace

Despite the considerable potential, the development of circular value chains is being slowed by a number of barriers





in the current regulatory framework. One key obstacle is that by-products and industrial side streams are often classified as waste in practice, even when their quality makes them suitable for further use as raw materials. This results not only in unnecessary administration and higher costs, but also in uncertainty that causes companies to delay investments.

The End-of-Waste rules, which determine when a material ceases to be waste and becomes a raw material, are unclear and interpreted differently across EU Member States and between authorities within Sweden. This creates practical challenges for companies operating in international markets. For process industries, where material flows are interconnected and dependent on continuity, unclear criteria can, in the worst case, halt functioning circular flows and investments.

Another challenge is that certain policy instruments and indicators are

designed to measure volumes rather than quality and actual resource efficiency. Fibre-based materials change through the recycling process. To maintain quality and safety in end products, a combination of virgin and recycled material is required. When regulation fails to recognise this reality, development risks moving backwards rather than forwards.

At the same time, the industry is expected to evolve rapidly. New technologies and value chains require flexible and long-term conditions in order to scale successfully. When regulations governing circular flows are not aligned with, for example, chemicals legislation, product requirements and permitting processes, the barriers become even greater. For a circular bioeconomy to develop at industrial scale, these inconsistencies must be addressed and regulatory frameworks made more coherent and predictable.

The balance between virgin and recycled materials

A well-functioning circular system is based on the interaction between virgin and recycled resources, not on replacing all raw material with recycled content. Fibre-based materials lose strength when recycled, meaning quality must be safeguarded in every use cycle. Virgin fibres are essential for maintaining material performance and quality over time, while recycled materials ensure that the raw material can be used multiple times before reaching the end of its life cycle.

This is a fundamental principle for the fibre-based industry. However, today's policy instruments do not always sufficiently recognise the technical properties of materials, which in some cases results in quantitative recycling targets being prioritised over quality and genuine climate benefits.

What is a circular bioeconomy?

A circular bioeconomy is a system in which renewable, bio-based resources are used efficiently, store carbon, circulate through multiple value chains and contribute to long-term value creation, while replacing fossil-based raw materials.

The circular bioeconomy is a central component of the transition being driven by both the EU and Sweden to enhance competitiveness, resilience and sustainable growth. For Södra's members, circularity is already an integral part of operations, both in the long-term management of forests and in industries where every part of the tree is utilised. The potential is considerable, but realising it requires regulatory frameworks that reflect actual material flows and create predictable, long-term conditions for innovation and investment.

Unlocking the potential of a circular bioeconomy requires:

1. Clear and predictable End-of-Waste rules
2. Recognition of by-products as raw materials
3. Full recognition of renewable forest-based materials in ESPR and product legislation.
4. Harmonisation across the EU
5. Flexibility in industrial material flows
6. Circular targets based on the technical characteristics of materials
7. Timber construction as a circular system solution

What political initiatives does Södra need to move forward?

In Sweden

- 1. Introduce uniform and clear End-of-Waste rules that apply consistently across the country.**
Establish national guidelines to ensure consistent implementation between municipalities and county administrative boards. This will reduce uncertainty and enable investment in circular material flows.
- 2. Recognise industrial by-products as raw materials rather than waste.**
Adapt the Swedish application of waste legislation so that high-quality side streams can be used further. This will strengthen resource efficiency and unlock new value chains.
- 3. Ensure flexible regulatory frameworks that allow combinations of virgin and recycled materials.**
Avoid regulatory conflicts between different legislative frameworks and certification systems. Enable optimisation of quality and climate benefits in industrial processes.
- 4. Prioritise timber construction in policy and public procurement as a circular system solution.**
Integrate timber into public procurement and building regulations. Promote solutions that enable long-term carbon storage, reuse and design for disassembly.

In EU

- 1. Clear and predictable End-of-Waste (EoW) rules.**
Materials should be assessed on the basis of quality, safety and usability, not on whether they originate from a side stream. At the same time, existing, well-functioning systems such as paper recycling schemes must be safeguarded. Harmonised and proportionate EoW criteria are needed for new bio-based material flows without disrupting established circular systems such as recovered paper. End-of-Waste criteria must be designed in a way that works for existing large-scale process industries.
- 2. Recognition of by-products as valuable raw materials.**
When industrial side streams are of high quality, they should be classified as raw materials. This enables innovation, strengthens profitability in existing processes and reduces resource losses, all of which are prerequisites for a circular bioeconomy at industrial scale.
- 3. That renewable forest-based materials are fully recognised in the ESPR (Ecodesign for Sustainable Products Regulation) delegated acts, currently with a focus on textiles, and in other product-related regulatory frameworks.**
- 4. Harmonisation across the EU.**
A circular bioeconomy cannot be regulated country by country. For companies operating in a European

market, it is crucial that regulations are coordinated and interpreted consistently. This creates long-term certainty, enhances competitiveness and reduces administrative costs.

- 5. Flexibility in industrial material flows.**
Industries must be able to combine virgin and recycled materials without becoming trapped in conflicting regulatory and certification systems. The same flexibility required in material regulations must also apply to certification schemes. Today, insufficient harmonisation between FSC, PEFC, mass balance models and recycled content creates unnecessary barriers to circular solutions. Certification systems need to evolve to reflect real circular material flows, thereby enabling industrial scale, quality and resource efficiency.
- 6. Targets based on the technical characteristics of materials.**
Circularity targets must reflect how bio-based materials actually function. Fibre-based materials, for example, cannot be recycled indefinitely. Targets should therefore drive greater resource efficiency and lower environmental impact, rather than leading to reduced quality or shorter product lifespans.
- 7. Strengthen the role of timber construction as a circular system solution.**
Industrialised timber construction enables renewability, resource efficiency and long-term carbon storage, while also supporting circular principles such as disassembly, reuse and high-value recycling throughout a building's life cycle.
- 8. Secure industrial scale for circular timber building systems.**
Standardised and prefabricated systems, in which cross-laminated timber may play a role, deliver high quality, efficient material use and reduced waste. Co-location of sawmills, pulp mills and the production of building system components strengthens industrial symbiosis, logistics and resource efficiency.
- 9. Design EU policy to enable circular timber construction.**
EU policy should recognise long-term carbon storage in buildings, harmonise climate declarations, including carbon stored over the lifetime of a building, and establish EU-level procurement criteria that reward building systems with low environmental impact from a life-cycle perspective. Standards, skills development, research and innovation should be supported to facilitate disassembly, reuse and high-quality material recycling.