The Finnish Forest Industry's call to the next Commission

Enable Green Potential for the Future Growth

The forest industry provides a variety of solutions to meet the needs of the consumers, industries and society at large. The ever-increasing product portfolio ranges from massive timber construction elements to high-tech nano-cellulose. Our industry already contributes to the circular bioeconomy and to a greener and wealthier European Union.

The forest industry provides solutions that can replace fossil-intensive products and store bio-based carbon. Through sustainable forest management we enhance long-term carbon sequestration, biodiversity, and source our main raw materials from renewable feedstocks.

How to enable the contribution of our industry to the wellbeing of people and the planet? We need better regulation - a coherent and predictable framework promoting the circular bioeconomy.

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Our key messages for the EU Commission focus on the following two main themes:

Green Transition and Future Growth

1.1 New product innovations and circular solutions to promote the circular bioeconomy and sustainable carbon cycles.

1.2 Ambitious climate policy by phasing down fossil emissions and replacing fossil raw materials via sustainable forest-based value chains.

Active Geopolitics and Strategic Autonomy

2.1 Self-sufficiency and security of supply from renewable raw materials.

2.2 Countering protectionism and securing global level playing field for industries.

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Green Transition and Future Growth

We fully support the EU objective to reach climate neutrality by 2050. If we continue to release the carbon contained in fossil raw materials into the atmosphere, we will lose the fight against climate change. This is not an option.

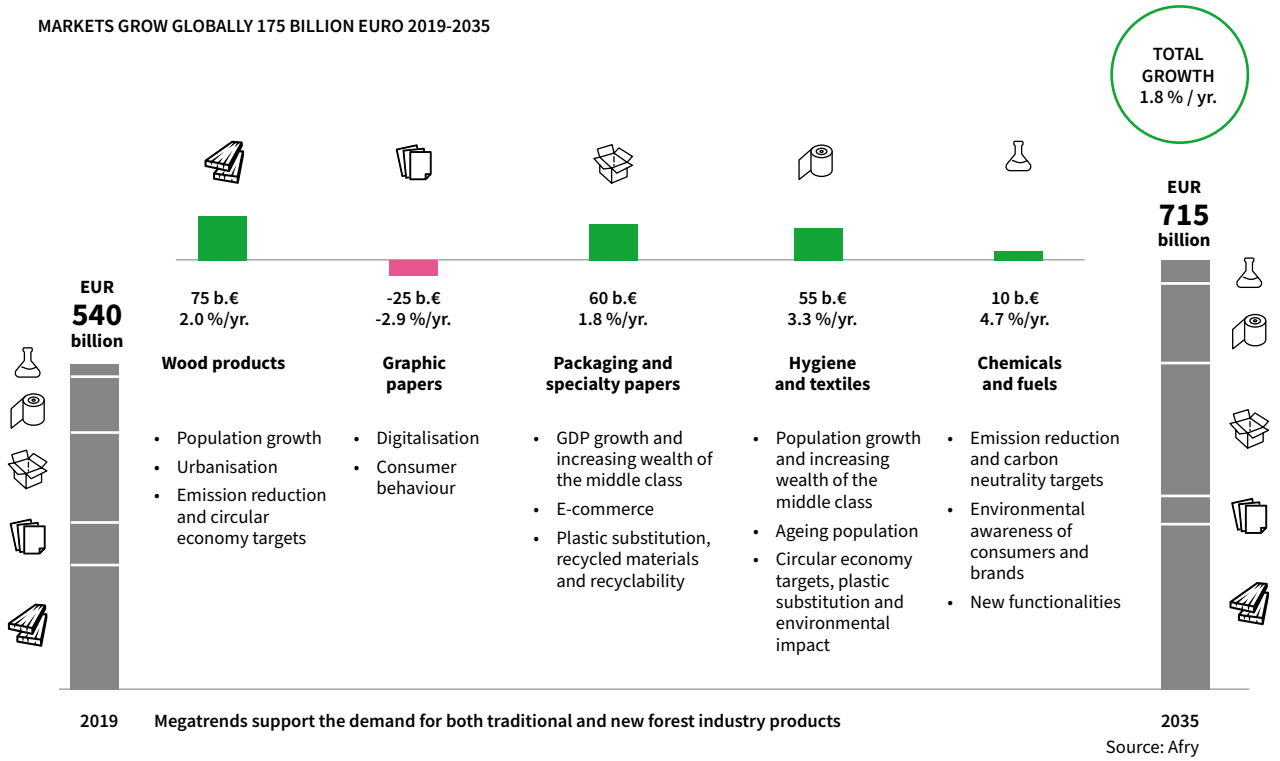
The fossil economy has reached its limits. Instead, products based on renewable raw materials have a bright future. Global megatrends and people's values support this shift. Policies should also help people to pursue more sustainable way of life.

The Commission highlighted the benefits of the circular bioeconomy and various wood-based products already in the 2050 vision A Clean Planet for All. Our industry delivers products such as construction materials, pulp for various end-use purposes, packaging materials, textiles, composites, tissue papers, baking and cooking papers, bioplastics, biochemicals, materials for automotive and side-streams for advanced biofuels and bioenergy production. The industry is continuously searching for new product innovations.

President of the European Commission Ursula von der Leyen raised appealing themes in her State of the Union speech. She sees that the EU needs to develop an approach for each industrial ecosystem and start a series of Clean Transition Dialogues with industry. The Commission will look at the opportunities, needs and risks of each industrial ecosystem in green transition. Most importantly, von der Leyen stated that the Commission will keep supporting European industry throughout this transformation. In this context, as she mentioned that forests provide wood material for products, our industry plays a key role in European open and strategic autonomy and resilience. We welcome these intentions and look forward to working together with the Commission.

According to the analysts of AFRY, the global market for wood-based products will potentially increase by EUR 175 billion by 2035. By becoming a pioneer in innovation activities, EU could take full advantage of this growth.

MARKETS GROW GLOBALLY 175 BILLION EURO 2019-2035



Megatrends support the demand for both traditional and new forest industry products

Source: Afry

New product innovations and circular solutions to promote the circular bioeconomy and sustainable carbon cycles

The EU must recognise the role of the bioeconomy as crucial part of the circular economy and the role of sustainable carbon cycles. Bioeconomy plays a key role in replacing fossil raw materials with renewables, which also accelerates the storage of bio-based carbon in products. A circular bioeconomy reduces resource depletion, waste generation and pollution, while promoting a more sustainable lifestyle.

For example, the building sector needs to be transformed as it currently accounts for 38% of energy-related global CO_2 emissions, with emissions hitting a record high in 2020: 10% of this is from materials and construction (*UNEP and GlobalABC 2020*). The sector remains highly dependent on non-renewable construction materials at a time when resource scarcity is a great challenge. Wooden buildings and construction materials store carbon dioxide for decades, even centuries. When speeding up green growth, bio-based materials and sustainable carbon cycles should be per se favoured, for example, by public procurement requirements, and specific obligations demanding the use of minimum renewable content.

Also short-lived wood-based innovations can replace products made from fossil materials. Moreover, our already existing products and their manufacturing processes are constantly being optimised e.g., in terms of their environmental impacts.

For example, our biorefineries are industrial ecosystems that optimise the use of wood with synergy benefits (material and energy efficiency, producing various products in a single platform, enabling the capture and utilisation of bio-based carbon dioxide). Biorefineries are technological forerunners, but also create jobs and wellbeing in rural areas.

POLICY ASKS

Boost the EU's economy by promoting market access for innovations and products from the bio-based economy and create a regulatory framework incentivising renewable material solutions.

Fully recognise sustainably sourced renewable content and raw material as circular input in different product regulations.

Focus on promoting renewable materials to help avoiding the use of fossil materials causing fossil emissions.

Highlight the biorefinery concept as a platform to promote the cascading use of biomass.

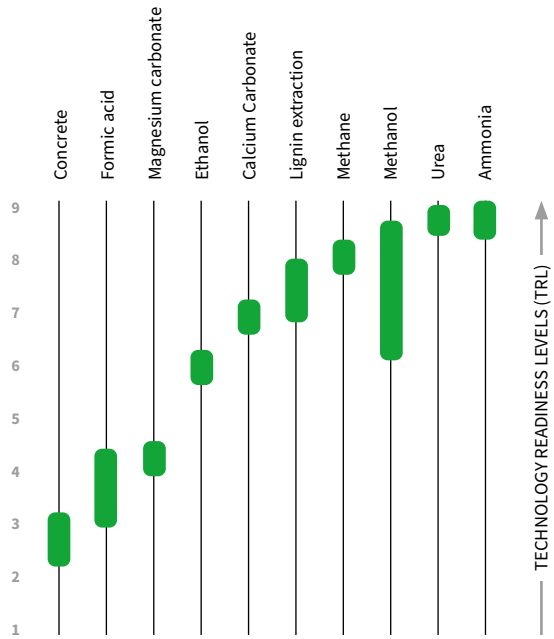
Ambitious climate policy by phasing down fossil emissions and replacing fossil raw materials via sustainable forest-based value chains

We have known for decades that we must phase down fossil emissions since they are the main cause of climate change. Finnish forest industry companies have dramatically reduced their emissions, fully aware that even the remaining low levels of emissions must be cut.

Capturing bio-based carbon can create a whole new platform to produce fuels, chemicals, and materials from a sustainable carbon source, and reduce EU's dependence on fossil raw materials.

RECOGNITION FOR BIO-BASED CARBON CAPTURED, UTILISED OR STORED IN PRODUCTS

To achieve climate neutrality in 2050 the EU needs to promote carbon removals. The policy framework should recognise the benefits of the biogenic carbon cycle and the climate benefits of wood-based product value chains (sink, sustainable carbon source, carbon stock, substitution). Our industry is an important part of the solution in all key carbon removal measures aiming for negative emissions:



A group of high potential cabron capture end uses can be divided by TRL into

1. Being pushed up to speed (concrete, formic acid, magnesium carbonate)
2. Approaching markets (ethanol, calcium carbonate)
3. Marketable (lignin extraction, methane, methanol, urea, ammonia)

TECHNOLOGY STAIRCASE ARRANGED BY TECHNOLOGY READINESS LEVEL

Technology readiness levels (TRL) estimating the maturity of technologies when capturing bio-based carbon from our pulp mills. (Afry) There are several promising new solutions.

1. **Product sinks a.k.a. carbon storage products:** Wood-based products store the CO_2 removed from the atmosphere by trees. Wooden buildings and structures can store carbon for decades and even longer. Wood-based composites, insulation materials, textiles and biochemicals for example, can also store carbon for a long time. It is important to understand this is possible only if we ensure the vitality of forests and use our forest resources.

2. **Technological removals:** Our industry manufactures various products, but also bioenergy produced from industrial side-streams and forestry residues. Capturing biogenic CO_2 from the bioenergy production enables our industry plants to generate significant negative emissions and provide a key solution in future climate change mitigation efforts. The captured biogenic carbon can be stored permanently or reused across a variety of synthetic products in the hydrogen economy. In that case, some of the carbon in the wood used for energy could be utilised multiple times and thus serve the circular economy and material efficiency. It is important to note that there are still uncertainties related to profitability, technical reliability, time horizon and availability of affordable electricity.

   EU regulation must seize the moment to accelerate the market and technology build-up. Not by obligation, but by leading by example, showing that the EU can become the world's leading market in negative emission technologies and the hydrogen economy. Technological sinks capturing and storing biogenic carbon shall furthermore be reported under LULUCF, contributing to Member States' sink targets.

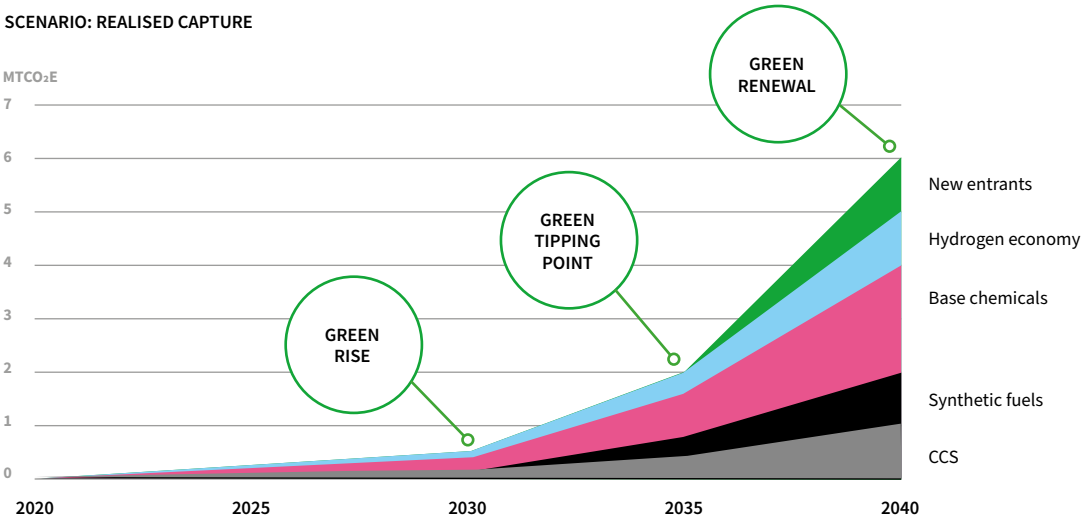
3. **Carbon sinks in forests:** Active and sustainable forest management maintains the vitality of forests and improves their growth, which is a basic requirement for a strong long-term forest carbon sink. Adaptation to the future climate plays a key role and needs active and sustainable management of forests. Furthermore, reforestation and afforestation increase carbon sequestration. These measures also provide materials for processing. In the bigger picture, we need to remember that the availability of wood for processing is also the basis for creating more carbon sinks using products and technologies.

   Voluntary carbon removal certificates concerning the land use sector must promote the Member States' ability to reach the LULUCF targets. It would not make sense to allow large fossil economy players to buy carbon credits based on forestry projects from Member States.

ENERGY POLICIES TO PROMOTE AFFORDABLE ELECTRICITY

Our industry is not emission intensive although we are energy intensive. We've achieved this by investing significantly in energy efficiency, nuclear power and renewable energy, partly driven by EU policies. Only about 12% of fuels used at our mills are fossil and according to our *Climate roadmap* (2020) we can reach zero by 2035.

The hydrogen economy and capture of bio-based CO_2 will require increasing amounts of non-fossil energy. The EU needs to ensure that regulation does not hamper investments nor restrict consumption of such energy.



Scenario for bio-based CO_2 capture and utilisation among forest industries in Finland. (Afry)

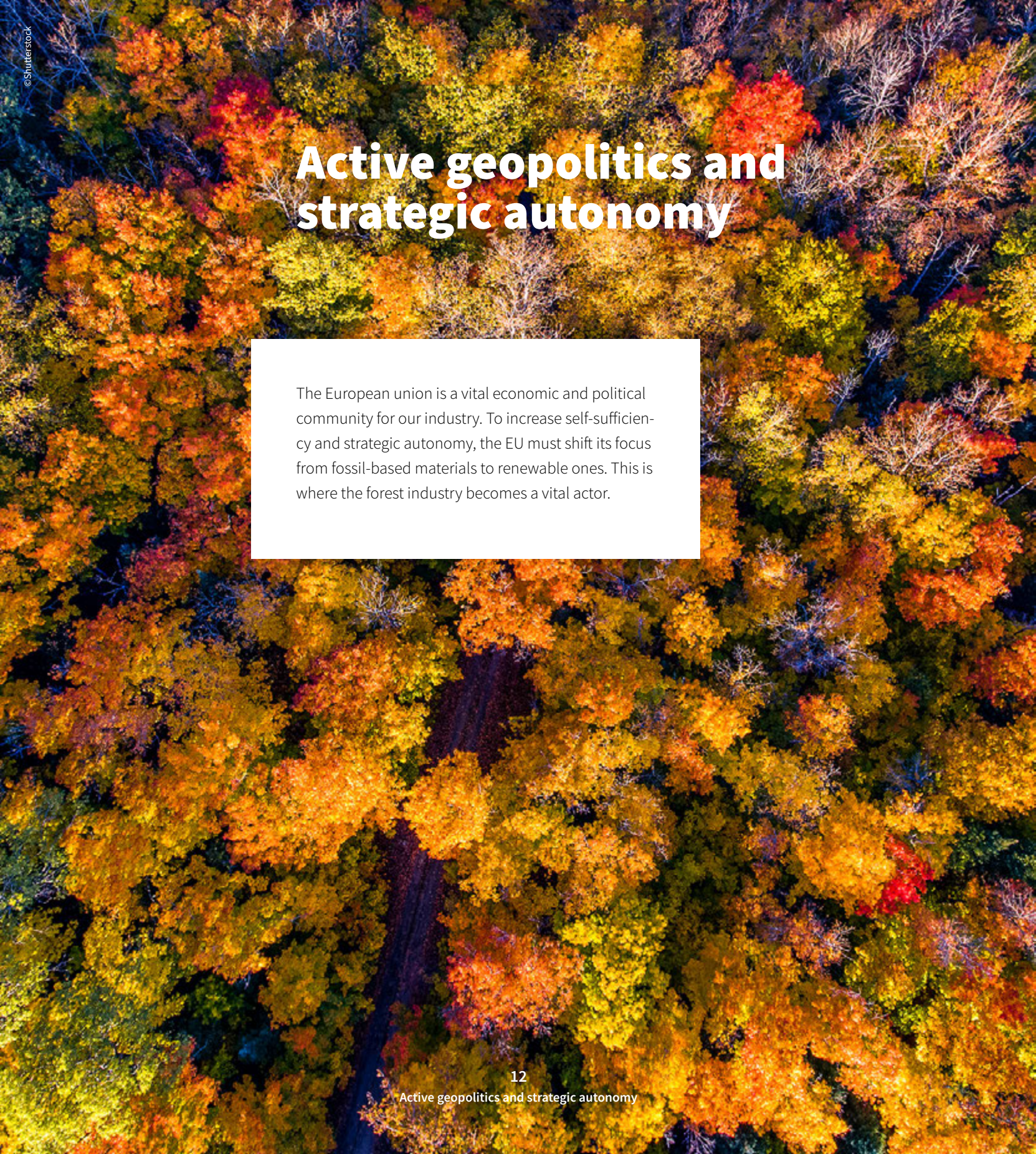
POLICY ASKS

Keep bio-based and fossil emissions separate in reporting and targets. Carbon removals based on capturing of biogenic CO_2 should be reported under LULUCF.

Maintain the carbon neutrality of CO_2 originating from sustainably grown biomass.

Encourage operators to take voluntary actions to capture bio-based CO_2 as it has essential role for the development of the hydrogen economy and P2X.

Support, but not mandate, the capture of bio-based CO_2 (due to uncertainties such as technology, finance, infrastructure, availability of electricity and hydrogen).



Active geopolitics and strategic autonomy

The European union is a vital economic and political community for our industry. To increase self-sufficiency and strategic autonomy, the EU must shift its focus from fossil-based materials to renewable ones. This is where the forest industry becomes a vital actor.

Self-sufficiency and security of supply from renewable raw materials

The EU should reduce its dependence on fossil raw materials. To strengthen the resilience of the EU economy, the bio-based industries should be made an indispensable part of the EU's geopolitical strategy.

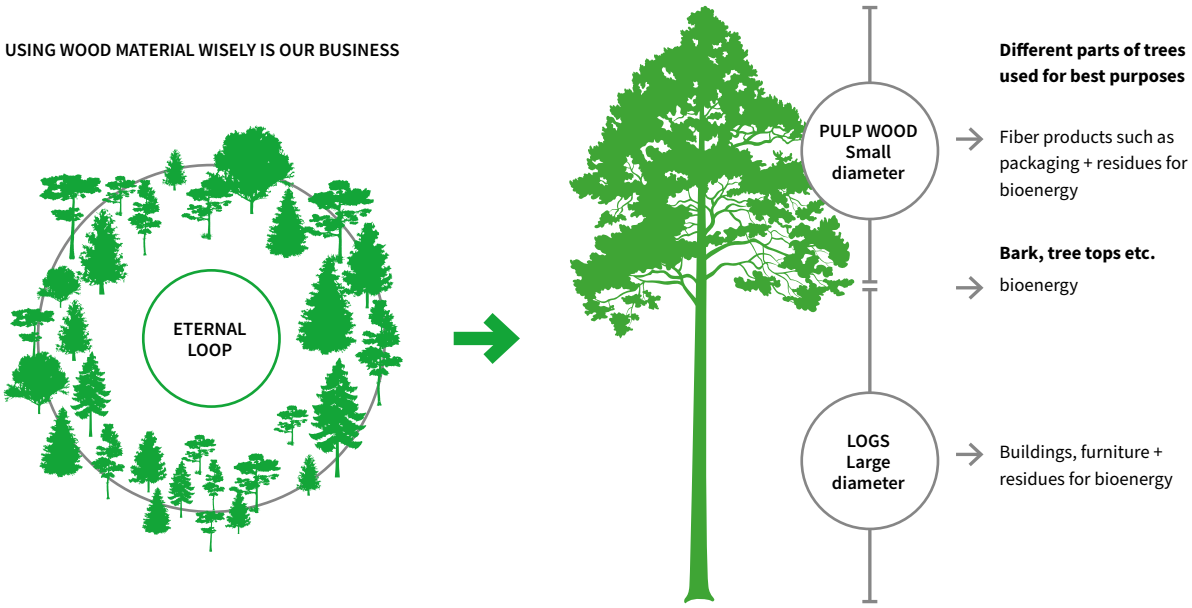
Our products are mainly based on European innovations and sourced, manufactured and recycled in the EU. The Commission should scale up solutions where renewable raw materials can replace fossil materials imported from outside EU to boost self-sufficiency and resilience.

Comprehensive understanding of the land use sector's complexity and long-term horizons of ecological processes and management decisions is much needed.

POLICIES MUST ENSURE RAW MATERIAL AVAILABILITY - IMPACT ASSESSMENTS NEEDED

Sustainable forest management is an integral part of safeguarding strategic autonomy and should be widely supported. As the climate is warming at an unprecedented rate, through sustainable forest management we can adapt forests to changing climate conditions while maintaining the EU's self-sufficiency in wood resources.

Forest regeneration after harvesting is the most evident way to maintain material self-sufficiency, sustainable carbon cycles and biodiversity. *Studies* made as a part of *Biodiversity roadmap* for the Finnish wood processing industry, confirm that timber production and forest biodiversity can coexist. But policies needs to ensure regeneration after harvesting.



In sustainable forest management we make decisions best suitable for the future conditions based on long history and science. Active forest management and regenerating forests help adapting to climate change. Harvested trees are utilised efficiently for many purposes strengthening EU's material and energy self-sufficiency.

Along with wood availability, forest resilience and adaptation to climate change, it is important to tackle challenges concerning biodiversity. Science-based monitoring of biodiversity is crucial and while doing that, we must keep in mind, that some biodiversity indicators can have great importance in some countries or regions and less importance in others. National, and even regional differences in climate, geography and historic land use all impact biodiversity and hence which indicators are best suited in a given location. Our harvesting is followed by regeneration and thus does not cause deforestation. This is self-evident for us since our future depends on future wood availability.

In addition, renewable energy targets and solutions should prioritise higher value-added uses for woody biomass, saving it from direct energy use. We strongly support the cascading principle that limits energy generation to biomass residues or biomass unsuitable for material products.

It is important to remember that ageing forests are vulnerable to various damages (forest fires, insects, fungi, snow, drought). It is risky to maximise forest sinks in the short-term which would ultimately mean more ageing and vulnerable forests. Instead, we must promote active forest management to have vital and well-growing forests in the long-term. We must not postpone the phase-out of the fossil-economy by means of forest sinks.

POLICY ASKS

Provide a cumulative impact assessment of the new regulations affecting the availability of woody raw material.

Develop a coherent and predictable regulatory framework for the bioeconomy that recognises the diverse nature of renewable natural capital and its crucial role for the wellbeing of natural and built ecosystems.

Introduce EU-wide obligatory forest regeneration after harvesting so there is always more biomass growing than being harvested.

Phase-out direct financial subsidies for burning wood in energy installations and promote other climate friendly energy sources (such as geothermal, nuclear, heat pumps, solar, wind, waste heat).

Countering protectionism and securing a global level playing field for European industries

International trade is the lifeline of the forest industry. Depending on the product category, up to 98 per cent of production in Finland is exported, with more than half going outside of the EU. As such, the forest-based sector is also a key actor in providing income to both forest owners and employees working in the sector as well as GDP for the Member States.

PREVENT CARBON AND HARVEST LEAKAGE - FAIR PLAY IN GLOBAL COMPETITION

The atmosphere recognises no national boundaries. From a climate policy point of view, products should be manufactured where they can be made at the lowest possible level of emissions. Our industry has the necessary capacity and knowledge to act accordingly.

Climate policy should focus on ambitious targets and hold fossil-based industries accountable for their emissions. Policies should not cause decrease of manufacturing in the EU through harvest leakage or unwanted industrial relocation. The threat of harvest leakage is described in this *study* (Forest Policy and Economics 2018).

INNOVATION BOOST NEEDED

Research, development and innovation (RDI) lie at the core of ongoing renewal in forest industry companies and serve as some of the most important long-term promoters of productivity and economic growth. For this purpose, our sector has built up *The Forest-based Sector Technology Platform (FTP)* with the main aim of FTP being to develop, promote and implement a Strategic Research and Innovation Agenda, and to advance competitiveness and sustainability of the forest-based sector through innovation.

Our companies are at the global forefront of various interesting technological applications and the development of new, sustainable products and technologies. An international patent *survey* shows that the Finnish forest industry companies are at the forefront of technology and innovation in developing new products.

Still, the EU should boost more RDI development in the field of the circular bioeconomy. This is a vital issue, since not only sustainability requirements, but also global markets for forest industry products are growing strongly.

POLICY ASKS

Make the circular bioeconomy a prominent feature in EU programmes. Public-private-partnerships (PPP), such as the Circular Bio-Based Europe (CBE), should continue also in the next framework programme.

Finance more piloting, demonstration projects and up-scaling, which are the most expensive and risky phases of innovations in our industry.

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