



Helsinki-Uusimaa's non-paper on EU Bioeconomy Strategy

The new EU Bioeconomy Strategy, due by the end of 2025, aims to advance innovation and maintain the Union's leadership in bioeconomy. It will propose actions to unlock the potential of bioeconomy innovations, so that they can reach the market, generating green jobs and growth, without damaging the nature.

The strategy will mark a significant step forward in harnessing the opportunities of the bioeconomy to support European businesses and drive progress towards the EU's environmental, biodiversity, climate and competitiveness objectives. The Helsinki-Uusimaa Region supports its focus on reinforcing circularity and sustainability, while contributing to the decarbonisation of the EU's economy. The strategy will set the necessary framework conditions to enable bioeconomy startups, entrepreneurs and new business models to thrive.

Helsinki-Uusimaa is the second most innovative region in the EU (EU Regional Innovation Scoreboard 2023) and one of the fastest growing regions in Europe. Helsinki-Uusimaa is home to a third of Finland's total population and the hub of Finland's international competitiveness, research and development. Bioeconomy, circular economy and the clean transition in general are already in the heart of the future competitiveness of the region. As one of the frontrunner regions in the subject with the background of a well-established functional RDI ecosystems, the Helsinki-Uusimaa Region would like to offer the following recommendations to maximise the success and impact of the future Bioeconomy Strategy.

Recommendations from Helsinki-Uusimaa:

Bioeconomy, circular economy and clean transition form a strategic sustainability framework for the EU

Bioeconomy, circular economy and clean transition are interconnected, and it is crucial to address them in an integrated way. Together, they form a strategic sustainability framework for the EU and its member states. The future bioeconomy strategy should be closely linked to the [EU's Biodiversity Strategy](#), climate policy and the forthcoming Circular Economy Act. The strategy needs to be built on the foundation of safeguarding and increasing biodiversity and reaching the Union's climate neutrality and circular economy goals. This is the only way of making bioeconomy sustainable and socially acceptable.

Applying scientifically sound sustainability criteria for using biomass and enhancing the creation of nature credit markets should be seen as part of the bioeconomy. Public engagement is essential to ensure that bioeconomy is trusted and accepted by society. Bioeconomy is always connected to nature, and both natural and biodiversity values are inherently local. Therefore, in policy instruments and other solutions, the local and regional aspects should be considered.

Clean and resource efficient bioeconomy technologies, including biotechnology and biomanufacturing, should be an elementary part of the EU's industrial policy and its instruments. Helsinki-Uusimaa supports the Commission's decision to align the new strategy with key EU initiatives, such as the [Competitiveness compass](#) and the [Clean Industrial Deal](#), the upcoming Life Science Strategy, the Ocean Pact and the Biotech Act. EU policies must be coherent and effective across the entire value chain, including supporting its development, removing regulatory obstacles and ensuring the protection of the environment and society.

Biotechnology and bio-based solutions play a key role in solving global challenges

Bio-based solutions and biotechnologies enable circular bioeconomy and play a key role in supporting Europe's green and clean transition. Sustainable bioeconomy can be one solution to several environmental, climate, biodiversity and food system challenges. Green transition is increasingly also a matter of economic security, resilience and regional development.

For example, marine bioeconomy is a growing sector in the green transition and resource efficiency. It offers new opportunities for the development of bio-based chemicals and materials, strengthening the EU's sustainable growth and innovation goals. It is crucial to ensure that marine biomass production supports and benefits natural ecosystems. Biotechnology and biomanufacturing also hold untapped potential to diversify food production from the perspective of both environmental sustainability and balanced nutrition.

Bioeconomy can decrease critical dependencies and contribute to EU, national and regional resilience

The value chains in the EU must be resilient and able to withstand disruptions in production, logistics or access to raw materials, including the aspect of ensuring access to safe, nutritious and sustainable food. Biotechnology can enhance food system resilience by enabling local, resource-efficient production methods that reduce dependency on imported inputs. Investing in regenerative agriculture and diversifying protein sources increase the sustainability and resilience of the European food system. Attention should also be paid to the fair inclusion of primary producers in the value chains and business models.

Bio-based alternatives reduce reliance on imported oil, gas, and fossil-based chemicals. The use of bio-based and recycled raw materials in closed-loop resource cycles, for example in fertilizer production, strengthens the EU's strategic self-sufficiency and reduces dependency on critical raw materials. In Helsinki-Uusimaa, the VTT Technical Research Centre of Finland is leading the way of [developing smart biomaterials](#) while Finland's [FinnCERES flagship programme](#) is developing new bio-based materials addressing the main challenges of our century, including resource sufficiency and climate change.

Recyclability brings sustainability over many other raw material alternatives, especially in single-use products. Innovations in wood-based and lignocellulosic materials bring significant carbon hand-print benefits and competitive alternatives for fossil-based plastics. An example of such innovation from Helsinki-Uusimaa is [Woodly](#), a company producing a new type of plastic packaging based on wood. The bioeconomy strategy must support the sustainable use of materials while also enhancing resilience. Resources should be used without overexploiting nature or endangering biodiversity. Investing in the development of regenerative bioeconomy and circular economy improves Europe's economic and ecological sustainability and resilience.

Innovations in bioeconomy require secured funding

Bioeconomy and biotechnology provide several new opportunities, solutions, production methods, products and applications. They also enhance circularity and efficiency through the use of bio-based side-streams, waste and water. Innovative solutions support the principles of the circular economy and enable the resource-wise use of natural resources without overusing new inputs. The bioeconomy must be grounded in innovations and practices that actively increase biodiversity.

The EU needs to create conditions to utilize quantum technologies, AI-based solutions and digital modelling tools in bioeconomy innovations. Helsinki-Uusimaa is leading the way in [quantum computing](#), which will fundamentally revolutionise many industry fields, all the way from novel material development to industrial process optimisation. Our regional stakeholders (VTT) are also part of the [Industrial Biotechnology Innovation and Synthetic Biology Accelerator \(EU IBISBA\)](#) infrastructure network.

Innovations in bioeconomy generate green jobs, growth and attract new investments to Europe. The EU should prioritize funding of bioeconomy, including biotechnology and biomanufacturing, in its multi-annual financial framework and Horizon Europe programmes, as well as scaling and commercialisation of bioeconomy solutions. Funding for R&D activities, including innovations, in biotechnology, bio-based industrial applications, industrial-scale biomanufacturing and biorefining, is a necessity to drive progress towards the Union's environmental, climate and competitiveness objectives.

Europe needs to invest in skills and cooperation

To ensure Europe's leading role in bioeconomy, we must invest in research and innovations as well as the education and training of the future workforce, research and technology infrastructure and pilots and platforms for scaling new innovations towards market-entries. Regions have an important role in creating such platforms and cooperation. The [Helsinki-Uusimaa Circular Hub](#) is a regional innovation ecosystem bringing together different stakeholders and aiming to take Finland to the pinnacle of circular economy.

Special emphasis needs to be paid to strengthening collaboration between private and academic as well as research sectors to promote innovations, investments and new business opportunities in bioeconomy, as well as skills development. To unlock the full potential of bioeconomy and biotechnology, there is a need for further industrial engagement and cooperation with primary producers. Regulation, innovation, and industrial policies must be aligned to support the sustainable growth of bioeconomy. Close cooperation between different DGs is also necessary in the planning and implementation process of the strategy.

Predictable and coherent EU regulation

A predictable and coherent, but also flexible EU regulation should support and enable the development and investments in bioeconomy. All EU legislation must be aligned with the goal of using natural resources within the planetary boundaries, enhancing biodiversity and addressing climate change through both mitigation and adaptation measures.

The EU must ensure that regulation supports safe and sustainable use of biotechnology and renewable raw materials, while removing overlapping or conflicting requirements that hinder innovation. The added value of bioeconomy products should be recognized and their market uptake promoted. Industry perspectives of bioeconomy should be taken into consideration already in the planning phase of new regulatory proposals, including chemicals legislation and other regulatory frameworks. Regulatory fragmentation across the EU, especially in novel food approvals, slows down market entry for precision-fermented and cultivated products.

There is also a need for improved cross-checking of existing policy and regulation to ensure removing overlapping or conflicting requirements. The cumulative effect of new regulations needs to be analysed and evaluated, to ensure coherence. Cities and municipalities serve as testbeds and are often early adopters for new bioeconomy solutions. Therefore, regulatory predictability and coherence are essential for promoting investment and innovation.