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Bioenergia ry – the Bioenergy Association of Finland

FEEDBACK TO THE CONSULTATION ON THE EU BIOECONOMY STRATEGY

The consultation is a timely next step in the EU towards sustainable biobased economy. Now is the time to redefine bioeconomy to increase its role. Despite the progress made during the last two decades, the EU is way too reliant on fossil-based inputs in the economy, and bioeconomy's role is essential to EU's competitiveness, circularity and resource efficiency.

Sustainable bioenergy plays a key role in the overall bioeconomy by valorising underutilised feedstock along the value chain and supplying reliable, around-the-clock renewable energy. As a fundamental component of the Bioeconomy, bioenergy should be fully integrated into the upcoming Strategy, also considering its role in supporting the EU's energy system and goals as well as rural economies. Collaboration between industries should further be encouraged to drive increased efficiencies and valorise all biomass uses. A successful EU Bioeconomy Strategy should simultaneously promote the public and industrial acceptability of biomass use while enhancing the growth of available sustainable biomass resources.

1. Bioeconomy needs to contribute to growth in EU's productivity

EU's competitiveness must be improved, and the bioeconomy strategy is one of the tools to achieve that goal. Bioeconomy generated EUR 728 billion of value added and employed 17.2 million people in the EU in 2021. A clear objective in the Strategy should be to significantly increase these numbers by 2035 with an interim milestone for 2030. This needs to be achieved within the framework of EU's simultaneous environmental goals.

2. Sustainable bioenergy is already fuelling the Bioeconomy

Several actors in the bioeconomy have invested in bioenergy as a pillar of their decarbonisation strategy. Bioenergy can replace fossil fuels in heating, power generation, transport and industrial applications, reducing the carbon footprint of industries. For example, most of the renewable energy used by the pulp and paper industry comes from bioenergy and the plants nowadays often are producing energy more than they use themselves.

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The European Commission expects a 70-80% additional need for biomass in the EU system via scaling up of bioeconomy. At the same time, the recent NECP assessment by the Commission (May 2025) showed the EU is not achieving its renewable energy target of 42.5 % by 2030. Bioenergy contributes already more than 10 % of the 42.5 % to achieve the target and secures EU's energy supply by providing an energy source, which is up to 95 % domestic. The situation should be clearly acknowledged in the Strategy, and it is crucial that the Strategy ensures positive synergies, additional mobilisation of sustainable biomass and efficient feedstock use while avoiding end-use competition. Economic, social, and energy security factors should be duly considered in the Bioeconomy Strategy.

Bioenergy supports the bioeconomy as a whole by providing income from the sale of energy wood that encourages forest management and by increasing the opportunities for those involved in the harvesting and supply chains of energy wood to increase the utilisation rate of their business and machinery.

Bioenergy-related businesses are often owned by local SMEs. In Finland there are ca 400 smalland mid-scale energy entrepreneurs producing heat, electricity and biomethane from biomass. The studies ¹ show that utilising low-quality biomasses through local energy entrepreneur model can have a major effect on local economy, improve energy security and significantly decrease fossil fuel dependence.

It should also be acknowledged that bioeconomy, including harvesting of biomasses for energy, plays a significant role in the maintenance of road infrastructure in sparsely populated areas benefiting the livelihood of rural areas.

Sustainable bioenergy is a fundamental component of the transition and must be a key pillar of the upcoming Bioeconomy Strategy.

3. Optimisation of Local Sourcing and Use of Biomass

The highest value of biomass must consider several factors including economic impact, energy needs, and environmental sustainability. In line with the cascading use principle, poly-generation offers a complementary approach by simultaneously producing multiple energy and material streams—such as electricity, heat, and bio-based products—from a single biomass input, thereby enhancing overall resource efficiency and promoting energy security.

¹ Eg. Okkonen & Suhonen, 2010. <u>https://www.sciencedirect.com/science/article/abs/pii/S0301421510000996</u> Sirkka, 2017. <u>https://www.theseus.fi/bitstream/handle/10024/125414/Sirkka%20Antti%20Lumen-lehti%201_2017.pdf?sequence=1</u>



Regional differences in infrastructure, energy needs, and priorities must be respected as the most appropriate and valuable use of biomass is context-dependent: a one-size-fits-all approach would overlook important local dynamics.

In multiple cases, using lower value biomass for local energy production supports the local economy, addresses nearby heating or electricity demand, and avoids emissions linked to transport. However, in other cases, imports will be necessary where local supply is insufficient, such as for large biochemical industries in ports or riversides.

The Strategy should respect regional differences in infrastructure and energy needs to ensure the most valuable use of biomass in different contexts.

4. A biomass mobilisation programme

An ambitious mobilisation programme will be essential to address untapped sustainable resources, infrastructure and logistical challenges. In this context, agroforestry potentially holds significant untapped potential, offering sustainable biomass sources while enhancing biodiversity, soil health, and resilience in rural areas.

At present, local circulation of biomass is hindered by a lack of awareness, high costs, and complex logistics. Targeted cost-efficient actions should be replicated across the member states, such as building local biomass hubs and implementing clean forest initiatives, to collect forest residues, prevent wildfires, and use the material where needed.

The Strategy should support strong mobilisation programmes in member states with targeted cost-effective actions to ensure that the untapped potential of sustainable biomass is unleashed. Mobilisation should be incentivised through e.g. R&D programmes, financed by the EU and dedicated infrastructure investment funding call.

5. Promote the uptake of biogenic CO₂ to replace fossil alternatives

We consider it important that the capture, use and storage of biogenic carbon dioxide (CCUS) and carbon removals through sustainable biochar (BCRs) are clearly recognized as intrinsic parts of the bioeconomy – as extensions to technological system related to biological activities. Carbon capture and removals should therefore be promoted both at the EU and national levels. Carbon dioxide utilisation and storage are further reuses of material, and therefore examples of biomass cascading and value added. EU needs to establish a mechanism for rewarding removal of biogenic carbon from the atmosphere. Currently there is no legislative framework to support and incentivize this. The revision of the EU ETS is a promising candidate.

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The Bioeconomy Strategy should favour the use of Biogenic CO_2 in industrial processes. Biogenic CO_2 , unlike fossil-based CO_2 , is part of the short and closed carbon cycle and does not increase atmospheric carbon. Prioritising biogenic CO_2 supports circularity and decarbonisation.

End-of-life of bio-based products should also be addressed: biodegradable products not fit for composting should not end in landfill if they can be used for bioenergy. Routing them to bioenergy production allows for full energetic potential to be harnessed. Bioenergy combined with carbon capture and storage (bio-CCS) can further enhance this by enabling negative emissions.

The ashes from combustion of sustainable biomasses should as well be seen as valuable resources and their landfilling must be avoided. There are great examples of synergies of biobased ashes and bioCO2 capture in building sector products that already today are producing carbon-negative products.

Biogenic CO_2 should be prioritised over fossil CO_2 in industrial processes to support the switch to a fully de-fossilised economy

6. Bioeconomy data should be improved

Bioeconomy targets must be embedded in and linked with the EU 2040 targets. Bioeconomy will create green and high added-value jobs, including those that are difficult to outsource to outside the EU.

We have noticed discrepancy or lack of coherence in EU bioeconomic statistics when it comes to bioenergy. For example, JRC report ²in 2023 on bioeconomy statistics does not take bioenergy fully into account, due to insufficient NACE codes. Further development of bioeconomy statistics is therefore highly advisable.

7. Continued R&D needed

In order to reach the EU's decarbonisation targets, we suggest more attention to innovation and financing. Mandates alone are insufficient to effectively promote the circular and sustainable use of biomass, especially when it comes to adopting novel technologies. EU level boost in bioeconomy calls for large amount of first-of-a-kind new technology investments in biomass utilisation. The EU should:

² JRC Publications Repository - BioRegEU. A pilot dataset for regional employment and value added in the EU bioeconomy



- Increase investments in research, demonstration and deployment funding aiming to develop and deploy pilot and first-of-a-kind plants to accelerate industrialization of innovative bio-based technologies.
- Mobilize the full potential of solid biomass by significant technological development and massive investments

Consequently, EU support instruments must be strategically designed to focus on minimizing the technical and economic risks associated with these first-of-a-kind investments.

We emphasise that the different uses of biomass in investments should not be placed in a different position in the financing terms either. For example, as environmental and forest legislation and other market rules and standards determine the sustainability of biomass use, artificially formed additional boundaries in financing are inefficient.

There are a lot of expertise and development potential in SMEs that are close to primary production. Easy participation of SME's to R&D ecosystem should be highlighted.

The combined value of all fractions and feedstocks should be taken into account when the EU is striving for a high added value. Research funding should not only focus on a very high-value, but a volumewise small part of the biomass use. The residues after fractionation, distillation or other high-end technologies should also be looked at. We emphasize that there are still research needs in bioenergy, such as the efficient use of lower quality fractions in various end-uses.

When it comes to biomass availability there is a clear understanding that much of the potential for mobilisation of new biomasses can be utilised. The previous commission in its Climate Target Plan Impact assessment anticipated possibilities to increase biomass use 2-3 times compared to 2020 level. Most of this increase would come from lignocellulosic plants and as residues from agriculture. This assessment has not induced the needed projects under EU research funding to build a roadmap towards implementation. Neither has this desire been fitted into EU common agricultural policy (CAP)

Emphasis on short-rotation coppice and agricultural residues as well as how best to utilise them is very much needed in the bioeconomy strategy.

Opportunities in biomass conversion to biofuels and high value chemicals should be addressed as the fossil-fuel-based inputs should and will decrease following the decrease of energetic use of fossil fuels.

The EU should focus on building a supportive operating environment to encourage European biomass technology providers to stay in the region. For example, the plans to extend the scope of CBAM may run counter to this goal now. In research and innovation funding, the risks taken by



technology developers and providers should be addressed, and they should be eligible for direct grants. Currently, grants are typically allocated to customers in the value chain. Especially in the case of demonstrations, considering the risks involved, it may not be optimal to expect technology providers to execute these on commercial terms.