



Sustainable production of EU-grown renewable raw materials – the foundation of the European bioeconomy

The bioeconomy comprises the production of renewable biological resources and their conversion into food, feed, bio-based products and bioenergy. The European Bioeconomy Alliance (EUBA) believes that promoting and supporting sustainable biomass production in the EU is key to further developing the bioeconomy, and consistent with worldwide sustainable development based upon non-depleting natural resources. This should be better addressed through the review of the Bioeconomy Strategy.

The sustainable production of biomass strikes a balance between the economic, social and environmental aspects of sustainability, which are interdependent and mutually strengthen one another. Sustainable EU agricultural and forestry practices deliver benefits, such as healthy food, renewable and climate-friendly raw materials, ecosystem services, recreational activities for society, mitigating climate change, and protecting key habitats and nature.

SUSTAINABILITY IN THE EU

In the EU, biomass is produced to the highest standards in the world, which farmers, forest owners and their cooperatives must respect.

In agriculture, the mandatory EU [cross-compliance system](#) sets out the most important rules that relate to meeting the public's main expectations on the environment, human and animal health, and animal welfare. This system comprises 13 legislative standards on the environment, food safety, animal and plant health, and animal welfare (statutory management requirements). It also includes a range of standards that introduce requirements on maintaining the land in a good agricultural and environmental condition, such as soil protection, avoiding habitat deterioration, and water management (good agricultural and environmental conditions – GAEC).

From 2015 onwards, the Common Agricultural Policy introduced the principle of 'greening', a new policy instrument to further strengthen the positive contribution of agriculture in a number of societal challenges. The 'greening' links 30% of the direct payments that farmers receive, to specific compulsory practices that benefit the climate, water and soil, etc.



Within the Common Agriculture Policy, the Rural Development measures contribute in addition to the cross-compliance, to enhance the sustainability of the agriculture and forestry sector, by promoting resource efficiency and supporting the shift towards a low carbon and climate resilient economy.

Under these GAEC rules, the Member States are obliged to prevent soil erosion and maintain soil organic matter in compliance with national or regional standards. Soil erosion is a great challenge for European soils and can lead to reduced crop yields, which decrease the availability of biomass. Such mandatory requirements therefore have a positive effect on maintaining high productivity and sustainably using natural resources.

Soils have multiple functions, i.e. primary productivity, water purification and regulation, carbon sequestration and regulation, provision of functional and intrinsic biodiversity, and for provision and cycling of nutrients, and need to be in balance according to local pedoclimatic conditions.

EU forests are sustainably managed as part of a multifunctional approach that covers a multitude of products and services. Forests in the EU are managed according to the principles of Sustainable Forest Management (SFM), which is guaranteed through national and regional forest and other legislation, EU legislation and pan-European agreements, such as FOREST EUROPE.

Within FOREST EUROPE, all EU countries agreed on a common understanding and definition of SFM. They also set a number of criteria and indicators, for example maintaining and enhancing forest biological diversity, productive functions and socio-economic functions, which are continually updated and have been enacted in national law. In the EU, the EU Timber Regulation (EUTR) addresses the legality of wood; rules on LULUCF ensure that EU Member States respect the SFM principles when setting their Forest Reference Levels and their methodologies for carbon accounting for biomass; and biodiversity protection is covered by the Birds and Habitat Directives, including Natura 2000, and the EU Biodiversity Strategy. Furthermore, around 60% of the EU's forestland is certified under the Programme for the Endorsement of Forest Certification (PEFC) and/or Forest Stewardship Council (FSC) voluntary certification schemes.

These policies form a comprehensive framework that aims to guarantee sustainable forest management and thereby ensure that the raw material is produced sustainably, irrespective of its end use.



Agriculture and forestry contribute to EU climate and energy objectives. Agriculture has a high level of production efficiency vis à vis third countries, and has reduced its emissions with 24% from 1990. EU forests sequester an amount of carbon corresponding to 10% of EU's total emissions each year and provides biomass for half of the EU's renewable energy consumption. The increased frequency and intensity of adverse weather events call for a holistic approach to climate change adaptation and mitigation. Agriculture and forestry as part of the Effort Sharing and the LULUCF Regulations contributes to climate change mitigation through carbon sequestration in soils, crops and trees, carbon storage in soils, biomass and long-lived products and carbon substitution when replacing fossil-based energy and materials.

RURAL VIABILITY

The agricultural and forestry sectors cover more than 80% of the land in the EU and play an important role in ensuring viable rural areas. The farming sector provides more than 25 million jobs and contributes to economic prosperity at local and regional level. Farmers, forest owners and their cooperatives are a key part of our rural identity and foster local development by sustainably managing the land, but a more diverse rural economy is needed to ensure that this continues.

SUSTAINABLE RAW MATERIALS FOR THE BIO-BASED INDUSTRIES

An increased use of bio-based materials and products offers a wide range of benefits for consumers, the environment and the EU economy in terms of creating jobs and growth. By sourcing most of their raw materials domestically, the European bio-based industries contribute in an inclusive manner to Europe's economic growth.

The EU Member States have signed and ratified the eight fundamental ILO conventions¹. Therefore, all actors in the bioeconomy abide by these conventions and they even commit to more sustainability in

¹ The eight ILO fundamental conventions are:

1. [Freedom of Association and Protection of the Right to Organise Convention \(No. 87\)](#)
2. [Right to Organise and Collective Bargaining Convention \(No. 98\)](#)
3. [Forced Labour Convention \(No. 29\)](#)
4. [Abolition of Forced Labour Convention \(No. 105\)](#)
5. [Minimum Age Convention \(No. 138\)](#)
6. [Worst Forms of Child Labour Convention \(No. 182\)](#)



the work place. The number of companies certified under the international standard OSHAS 18001 on occupational health and safety is testament to this situation.

However, many potentially beneficial sectors within the bio-based value chain are currently disincentivised to invest in the development of new bio-based products and processes. The reason for this is to a large extent that fossil-carbon based products are already produced in a large scale and are rarely required to meet sustainability criteria or to demonstrate it. This brings the cost of fossil-carbon alternatives down considerably which in turn prevents bio-based alternatives from entering the market. Furthermore, it creates a series of barriers which perpetuates the linear, extract-produce-dispose-emit fossil carbon 'business as usual' model. Below the EUBA sets out recommendations which, if put in place, would help the EU to become a world leader in the creation of smarter, more sustainable, renewable bio-based products.

THE EUROPEAN BIOECONOMY ALLIANCE ADVOCATES ENHANCED SUSTAINABILITY IN THE EU

In order to support the transition towards a circular bioeconomy, the EUBA advocates implementing concrete measures in the following three areas:

1. Research and innovation for smart and sustainable land management

Tools: Horizon 2020, European Innovation Partnership on Agricultural Sustainability and Productivity (EIP-Agri), national research programmes

Research and innovation has huge potential to help farmers and forest owners enhance their sustainability, increase their productivity and produce more with less. Consequently, innovation must be driven by their needs.

7. [Equal Remuneration Convention \(No. 100\)](#)

8. [Discrimination \(Employment and Occupation\) Convention \(No. 111\)](#)



Some important topics to address include:

- **Improve plant breeding – “produce more from less”** – e.g. increase resistance to adverse growing conditions, improve the quality of feedstocks, and improve varieties to deliver specific ingredients. Expand training programmes for EU workers in the bioeconomy.
- **Stabilise and increase productivity** – e.g. ensure robust crops and plants with higher yields, enhance precision farming, and optimise crop rotations.
- **Improve the quality and quantity of productive soils** – this includes deploying appropriate techniques, using areas that have not previously been used for biomass, and developing new soil improvement techniques for marginal land.
- **Water use, efficiency and quality** with a focus on locally adapted schemes for water storage, quality control and irrigation.
- **Climate change mitigation and adaptation** – help individualise synergies between actions that mitigate the impact and manage the repercussions of climate change, strategies to adapt to and cope with these changes.
- **Investigate the scope for using novel biomass** – it is essential to assess sustainable waste flows and develop technologies to deal with the inherent variability of waste and residue products. Furthermore, it is vital to evaluate the possibility to use ‘alternative’ biomasses such as bio-waste (especially the stream coming from municipal waste), and remove current regulatory barriers in order to guarantee a constant and reliable flow.

2. Increase the uptake of innovation and further investments to enhance the sustainability of farming and forestry

Tools: Rural development measures (operational groups, investment, cooperation, knowledge transfer), European Structural and Investments Funds (ESIFs), Smart Specialisation regions, Horizon 2020, PPPs



- **Improve the skills and knowledge** of producers via efficient training schemes and advisory services adapted to their needs.
- **Promote producer groups**, such as associations and cooperatives of farmers and forest owners, in order to mobilise and strengthen small-scale players.
- **Promote the use of new technologies and machinery**, as well as the application of new ICT tools that contribute to resource efficiency and climate change mitigation and adaptation.
- **Enhance cooperation between the various actors** throughout the value chain to stimulate discussions and develop ideas on how to improve sustainability and support the implementation of joint initiatives.
- **Provide flexible financial instruments** that respond to the challenges faced by farmers and forest owners in their quest to ensure sustainable land management. For example, resources could be pooled from different financing mechanisms by creating a European Bioeconomy Strategic Investment Fund (EBESIF). Such mechanisms could include those available under the European Investment Bank and private funds to leverage national and regional finances.
- **Ensure fair prices** for feedstocks and develop infrastructure to collect, store and transport biomass.
- **Enhance collaboration** between producers along and across the value chains in order to use each other's by-products. Hence, remove regulatory barriers preventing the utilisation of waste, residues and by-products.

3. Provide a suitable framework that supports the sustainable production of renewable raw materials in the EU

Tools: Commission services, European Parliament, Civil Dialogue Groups, Social Dialogue

- The EU and its Member States need to ensure **a long-term, stable, and coherent policy and framework for incentives to promote the bioeconomy**. This would help ensure a holistic



approach to the various EU policies that affect land and forest management, and especially the climate and energy policies, and the decisions of farmers and forest owners, covering areas ranging from research to investment.

- A series of measures such as **financial incentives or tax reductions** could be used to help foster investment, whilst public procurement for bio-based products could help create new markets. The recent report² commissioned by DG Grow's Expert Group on bio-based products³ provides a set of recommendations on how Europe can promote bio-based products in public procurement and create dynamic new markets for home-grown, EU-sourced bio-based products.
- Analyse the impact of environmental policies that promote the set aside or non-active management of land, and introduce measures that will incentivise the use of abandoned or underutilised land for growing bioeconomy feedstock.
- **Public perception and awareness of bio-based products** and their benefits should be improved. Targeted information campaigns to consumers and end-users can help in this respect.
- **Barriers between fossil-based materials and bio-based materials should be eliminated.** Many potentially beneficial sectors within the bio-based value chain are currently severely lacking in incentives to invest in developing new bio-based products and processes. This is largely because fossil-carbon based products are already produced at a large scale and rarely have to meet sustainability criteria or prove it. This creates a series of barriers that perpetuate the linear, extract-produce-dispose-emit fossil carbon 'business as usual' model.
- **Integration along the value chain:** the bioeconomy does not just deal with renewable resources, but also covers territorial regeneration and cultural change. The future of the bioeconomy is dependent on establishing a link between companies and territories, research, industry, production and energy, agriculture and consumption. Creating links between these areas helps establish a sustainable economic model that tackles common

² http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8767

³ http://ec.europa.eu/growth/sectors/biotechnology/bio-based-products/index_en.htm



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climate and environmental challenges (hydrogeological instability, polluted areas, abandoned land, air pollution, lawlessness in the food and innovation sectors) by reconvertng the economy in dismissed areas and encouraging the economic development of territories to provide new job opportunities. We therefore believe that the bioeconomy must become an industrial strategy at global level.

The European Bioeconomy Alliance calls on the EU Institutions and Member States to promote and implement the aforementioned proposals, which could support the entire bio-based value chain, from the agricultural and forestry sector to technology providers, covering consumer product manufacturers and end-of-life management. This approach would better respond to the current challenges related to enhanced sustainability. It would also help the bioeconomy flourish whilst benefitting from EU-grown renewable raw materials.



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ABOUT EUROPEAN BIOECONOMY ALLIANCE

The [European Bioeconomy Alliance](#) (EUBA) is an alliance of leading European organisations representing sectors active in the bioeconomy – agriculture, forestry, biotechnology, sugar, starch, vegetable oils, pulp and paper, bioplastics, renewable ethanol, and research & innovation.

Members of the European Bioeconomy Alliance



BIC
Bio-based Industries Consortium



CEFS
European Association
of Sugar Producers



CEPF
Confederation of European
Forest Owners



CEPI
Confederation of European
Paper Industries



COPA-COGECA
European Farmers and
European Agri-Cooperatives



ePURE
European Renewable Ethanol
Producers Association



EUBP
European Bioplastics



EuropaBio
The European Association
for Bioindustries



FEDIOL
The EU Vegetable Oil &
Proteinmeal Industry



FTP
Forest-based Sector
Technology Platform



PFP
Primary Food Processors



Starch Europe
European Starch Industry
Association