

# Public Consultation - Bioeconomy Strategy: Towards a Circular, Regenerative and Competitive Bioeconomy

Fields marked with \* are mandatory.

## Introduction

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The Commission plans to adopt a new EU bioeconomy strategy by the end of 2025. The strategy will build on the first EU bioeconomy strategy (2012), the updated strategy (2018) and the progress report (2022). It will be in line with the priorities of the Political Guidelines for 2024-2029 and other strategies and initiatives that have close links to the EU bioeconomy.

Global competitiveness, sustainability and circularity have been defined as important aspects of the EU bioeconomy and drivers to renew our industries, modernise our primary production systems, reduce our reliance on harmful fossil fuels, and enhanced environmental protection.

Furthermore, the new EU bioeconomy strategy is a flagship action of the recently adopted Competitiveness Compass and the Clean Industrial Deal, with the aim of improving the competitiveness of the EU bioeconomy sector.

Therefore, the EU bioeconomy strategy aims to advance the development of a sustainable, circular and competitive bioeconomy in the EU while respecting planetary boundaries and ensuring a fair transition across the EU, at national, regional and local level. It can help to reduce the pressure on ecosystems while ensuring alignment with the Kunming-Montreal Global Biodiversity Framework's targets for biodiversity protection and restoration.

## Why are we consulting?

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Your feedback is vital to identifying the objectives of the new bioeconomy strategy as well as challenges and barriers and to prioritising possible policy measures to address these. The questions of this public consultation also address how the bioeconomy could help achieve EU climate and biodiversity goals. This is the first EU-wide consultation on the bioeconomy organised by the Commission.

## Target audience

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The bioeconomy provides solutions to all sectors and associated services that produce, process, use or distribute biological resources, such as animals, plants, micro-organisms, biomass and organic waste.

Therefore, this public consultation addresses the entire value chain of biological resources from primary

production to advanced manufacturing and services, including the sectors and industries below:

- Primary sectors: agriculture, forestry, fisheries, and aquaculture.
- Processing industries: food, feed, and bio-based materials and products.
- Biotech and biomanufacturing sectors.
- Organisations supporting research, innovation and technology transfer.
- Service industry for bio-based solutions and ecosystem services (e.g. provision of clean air and water).
- Recycling industries of organic waste, including industrial by-products and household bio-waste.

## About you

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### \* Language of my contribution

- ☐ Bulgarian
- ☐ Croatian
- ☐ Czech
- ☐ Danish
- ☐ Dutch
- ☒ English
- ☐ Estonian
- ☐ Finnish
- ☐ French
- ☐ German
- ☐ Greek
- ☐ Hungarian
- ☐ Irish
- ☐ Italian
- ☐ Latvian
- ☐ Lithuanian
- ☐ Maltese
- ☐ Polish
- ☐ Portuguese
- ☐ Romanian
- ☐ Slovak
- ☐ Slovenian
- ☐ Spanish
- ☐ Swedish

\* I am giving my contribution as

- ☐ Academic/research institution
- ☒ Business association
- ☐ Company/business
- ☐ Consumer organisation
- ☐ EU citizen
- ☐ Environmental organisation
- ☐ Non-EU citizen
- ☐ Non-governmental organisation (NGO)
- ☐ Public authority
- ☐ Trade union
- ☐ Other

\* First name

\* Surname

\* Email (this won't be published)

\* Organisation name

*255 character(s) maximum*

\* Organisation size

- ☐ Micro (1 to 9 employees)
- ☐ Small (10 to 49 employees)
- ☐ Medium (50 to 249 employees)
- ☒ Large (250 or more)

Transparency register number

Check if your organisation is on the transparency register. It's a voluntary database for organisations seeking to influence EU decision-making.

\* Which sector does your organisation represent?

- ☐ Forest owners (public and private)
- ☐ Forestry industry
- ☐ Forest certification schemes
- ☐ Forest-based industry
- ☐ Non-wood industry
- ☐ Farmers' associations
- ☒ Trade and business associations
- ☐ Fertilizers and feed companies
- ☐ Biogas companies
- ☐ Other agriculture business
- ☐ Biotechnology associations
- ☐ Biotechnology companies and industry
- ☐ Biorefineries and chemistry associations
- ☐ Environmental NGOs
- ☐ Research institutions and project
- ☐ Investment funds
- ☐ Water companies/water authorities
- ☐ Consumers associations
- ☐ Public authorities
- ☐ Citizens
- ☐ Others

If others, please specify:

*200 character(s) maximum*

\* Please, specify the type of product your organisation produces or represents:

- ☐ Intermediate product (e.g. ingredient or component for a final product)
- ☐ Final product (used as it is)
- ☒ Both intermediate and final products
- ☐ Other (e.g. services)

## \* Country of origin

Please add your country of origin, or that of your organisation.

*This list does not represent the official position of the European institutions with regard to the legal status or policy of the entities mentioned. It is a harmonisation of often divergent lists and practices.*

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| <input type="radio"/> Bulgaria                         | <input type="radio"/> Heard Island and McDonald Islands | <input type="radio"/> Niue                     | <input type="radio"/> Togo                     |
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The Commission will publish all contributions to this public consultation. You can choose whether you would prefer to have your details published or to remain anonymous when your contribution is published. **For the purpose of transparency, the type of respondent (for example, 'business association', 'consumer association', 'EU citizen') country of origin, organisation name and size, and its transparency register number, are always published. Your e-mail address will never be published.** Opt in to select the privacy option that best suits you. Privacy options default based on the type of respondent selected

### \* Contribution publication privacy settings

The Commission will publish the responses to this public consultation. You can choose whether you would like your details to be made public or to remain anonymous.

☐ **Anonymous**

Only organisation details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published as received. Your name will not be published. Please do not include any personal data in the contribution itself if you want to remain anonymous.

☒ **Public**

Organisation details and respondent details are published: The type of respondent that you responded to this consultation as, the name of the organisation on whose behalf you reply as well as its transparency number, its size, its country of origin and your contribution will be published. Your name will also be published.

☒ I agree with the [personal data protection provisions](#)

EU bioeconomy strategy: objectives, opportunities and contribution to the EU's goals

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**\*What should be the main objectives of the new EU bioeconomy strategy?**

The bioeconomy can contribute to the EU economy and society in many ways, for example related to its ability to increase competitiveness, sustainability, circularity, and resilience in the EU, against the background of global competition, while ensuring food security, employment and welfare.

Please, select which are in your view the **four** most relevant objectives.

**The new EU bioeconomy strategy should focus on...**

*Maximum 4 selection(s)*

- ☒ ...improving the position of the EU bioeconomy in the global competition
- ☒ ...strengthening the biotech and biomanufacturing sectors in the EU
- ☐ ...increasing circularity across bioeconomy value chains
- ☐ ...ensuring food security in the EU and promoting sustainable food systems in the EU
- ☐ ...improving the provision of renewable and affordable energy
- ☐ ...contributing to climate mitigation and adaptation



- ☒ ...fostering environmentally sustainable production, supply and use of biomass, in particular to halt biodiversity loss
- ☐ ...increasing employment possibilities in bioeconomy sectors
- ☐ ...ensuring income and welfare in the rural and remote areas of the EU
- ☐ ...protecting and restoring the ecosystems that provide services for people in the EU (e.g. clean air and water)

Please, specify any additional objectives that should be considered:

*500 character(s) maximum*

Promote synergies among sectors to accelerate innovation and sustainable industrial transformation, linking bioeconomy, circularity and climate targets. Support agricultural productivity incentivising R&D for bio-based products (e.g. microorganisms). Establish harmonized criteria for biomass sustainable use for chemical sector based on RED (art29, 2-7). Foresee a holistic approach for the use of bio-based feedstock that integrates supply chains, including primary biomass, waste and by-products.

**\*What should be the main areas of innovation and opportunity of the new EU bioeconomy strategy?**

The bioeconomy offers several opportunities and innovations and can create new business models.

Please, select which are in your view the **four** most relevant areas.

**The new EU bioeconomy strategy should use the opportunities and innovation potential of:**

*Maximum 4 selection(s)*

- ☒ **Advancements in biotechnology and agriculture.** The development of new biotechnological capabilities can improve agricultural productivity, reduce dependency on chemical inputs, and increase crop resilience to climate change. Precision breeding, microbial solutions, and bio-based fertilisers are examples of innovations driving sustainable agricultural practices.
- ☐ **Sectors beyond medicine and food.** While traditionally associated with pharmaceuticals and food production, the bioeconomy is expanding into multiple sectors, including textiles, construction and chemicals. This diversification opens new markets and reinforces economic resilience.

- ☒ **Sustainable biomaterials as alternatives to plastics.** The emergence of bio-based materials offers viable alternatives to conventional plastics, reducing environmental pollution and dependency on fossil-based resources. Innovations in biopolymers contribute to the circular economy.
- ☐ **Improved biofuels and sustainable energy solutions.** Advancements in biofuel technologies are increasing efficiency and sustainability, providing renewable energy options that can play a role in achieving the EU's decarbonisation goals. Bioenergy solutions contribute to energy security and a low-carbon economy.
- ☒ **Market scale-up and economic growth.** The bioeconomy has the potential to scale up rapidly, creating new business opportunities and employment across various value chains. By investing in bio-based industries, the EU can strengthen global competitiveness and attract new investment.
- ☐ **New sources of protein and sustainable and novel food systems.** Innovations in alternative proteins, including plant-based, microbial, and insect-based sources can enhance food security and reduce environmental impact.
- ☒ **Investment in research and innovation.** Continuous investment in bioeconomy-related research and development is crucial to unlocking new solutions, improving efficiency, and addressing challenges such as resource scarcity and environmental degradation. Collaborative efforts between academia, industry, and policymakers can accelerate progress.

Please, specify any additional opportunities and innovations that should be considered:

*500 character(s) maximum*

Reconvert industrial plants into bioeconomy ones and biorefineries (including biocatalysis and fermentation) enabling bio-based value chains and fostering companies' investments.

Develop: sustainable energy solutions and biofuels; market for products and energy from biomass to strengthen EU leadership; integrated innovation platforms; new fertilisers, pesticides and agritech integrating traditional inputs, not yet replaceable, to improve agricultural productivity; bio-based systems for CCUS.

## How should the EU bioeconomy strategy contribute to achieving the EU climate goals?





































The EU is committed to cut greenhouse gas emissions by 55% by 2030 and to reach climate neutrality by 2050. To achieve these climate goals, we need to promote green transition in all our economic sectors and change production and consumption patterns.

The sustainable and circular bioeconomy can play a major role in achieving EU climate goals through various practices, measures and innovations.

Please, rank the below climate action pathways according to their relative importance.

### In your opinion, the bioeconomy strategy should contribute to...

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* ...substituting fossil-based and energy-intensive raw materials by bio-based material, renewable resources and biomass	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* ...promoting innovations and biotechnology solutions with decarbonisation potential	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* ... fostering resource efficiency and a circular economy approach across bioeconomy value chains	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* ...recovering and recycling organic waste and by-products as raw material for bio-based materials and products instead of using primary raw material	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* ...encouraging production and consumption towards bio-based products with longer lifetimes and reduced environmental impact. (e.g. wood in buildings and furniture)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* ...promoting sustainable consumption	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* ...improving the resilience and productivity of primary production, sustainable agricultural practices or carbon farming						
* ...supporting soil management practices, such as sequestering and storing carbon, improving the soil's capacity to retain water						
* ...increasing carbon sinks in forests through sustainable afforestation and sustainable forest management						
* ...increasing carbon sinks in marine the environment (e.g. by restoring seagrass and seaweed beds)						
* ... scaling up blue bioeconomy low carbon products (algae, molluscs) while removing excess carbon and nutrients from the marine environment						
* ...providing potential alternatives to animal protein such as plant- and microbial-based (e.g. fungi-and bacteria-based) protein						

Please, specify any other significant ways in which the bioeconomy could contribute to EU climate objectives:

500 character(s) maximum

Encourage: bioeconomy platforms (e.g. building blocks, intermediates, polymers, fuels) from renewable sources; production and consumption of biomass-derived products and, where appropriate, biodegradable and/or compostable ones to reduce virgin fossil dependency and enhance their end of life properties. Support the circular use of waste and residues for bio energies production. Foster bio-based innovations such as biomanufacturing processes and enhance waste-to-value chains in healthcare.

## How should the EU bioeconomy strategy contribute to achieving the EU biodiversity goals?

The provision of biomass for the bioeconomy depends on the resilience and integrity of the ecosystems that generate biomass. The triple planetary crisis (biodiversity loss, pollution and climate change) and degraded ecosystems impact the variety and quantity of ecosystem services and biomass productivity, while demand for them is diversifying and intensifying in the EU and globally.

A sustainable and circular bioeconomy can help to reduce the pressure on ecosystems while ensuring alignment with the Kunming-Montreal Global Biodiversity Framework's targets for biodiversity protection and restoration. To do so, the bioeconomy should prioritise nature-based solutions that improve ecosystem services and support the EU biodiversity targets.

Please, rank according to their relative importance the below ways in which the strategy should contribute to achieving the EU biodiversity goals.

### In your opinion, a bioeconomy that protects biodiversity should support...

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* ...land management practices, business models and value chains that prevent and reverse natural ecosystem degradation	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* ...farming practices and agricultural models that ensure environmentally sustainable biomass production						
* ...sustainable forest management practices that have a positive impact on biodiversity and nature, contributing to the resilience of forests against anthropic pressures and climate change						
* ...business models that continue and improve the provision of ecosystem services (clean air, soil retention, flood control, water purification and replenishment, biodiversity, carbon sequestration and storage, nature-based recreation)						
* ...solutions to regenerate biological resources (e.g. bioremediation, depollution of brownfields for biomass production)						
* ...resource efficiency, circularity and innovations across bioeconomy value chains to get more added value from fewer primary natural resources						
* ...use of organic waste and by-products instead of primary natural resources						
* ...adiversified, stable and fair income for primary producers						
* ...locally adapted solutions and reorientation of traditional bioeconomy actors						

Please, identify any other significant ways the bioeconomy could contribute to EU biodiversity goals:

*500 character(s) maximum*

Valorize biodiversity contribution of biotech applications across health, industry and agriculture. Promote circular bioeconomy models and the use of sustainable biomass sources, safeguarding ecosystems and enabling sustainable land and resource management, e.g. vulnerable regions. Identify and optimize biomass-derived processes through biotech, especially those that valorise residual biomass, while encouraging the redesign of industrial systems within a circular, bio-based framework.

## The EU bioeconomy: barriers and risks impeding or slowing down its growth and potential measures to address them.

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The EU bioeconomy faces multiple interconnected barriers that hinder or slow down its growth and development. The Commission has identified the below barriers based on studies, reports and workshops, and position papers and other contributions from stakeholders and Member States. The upcoming new EU bioeconomy strategy aims to tackle these barriers. The barriers have been divided into following subgroups:

- regulatory barriers
- financing barriers
- market barriers
- other barriers

Please, select the two barriers per subgroup that in your view are the most relevant ones.

**Which of the following barriers hinder or slow down the most the growth of the EU bioeconomy?**

### \* **Regulatory barriers**

*Maximum 2 selection(s)*

- ☒ Complex regulatory requirements and lack of harmonisation at the EU and national level for bio-based materials and products
- ☐ Lengthy and burdensome permitting and administrative procedures that are slowing down uptake of bio-based products
- ☐ Insufficient harmonisation of standards across the EU for bio-based products
- ☐ Lack of an updated regulatory framework for novel biotechnologies and innovations
- ☐ Insufficient guidance, capacity building and support for small to medium-sized Enterprises MEs and start-up at EU and national level
- ☒ Unfair competition of bio-based products with conventional fossil-based products (e.g. lack of a regulatory level playing field in the single market, insufficient regulatory incentives)
- ☐ Unclear or insufficient rules on what constitutes sustainable sourcing of biomass within the planetary boundaries
- ☐ Lack of synergies between EU, national and local strategies

## \* **Financing barriers**

*Maximum 2 selection(s)*

- ☐ Limited access to financing for investments in bio-based production and biomanufacturing due to risk factors
- ☐ Lack of an efficient EU capital market to finance start-ups and scale-ups
- ☒ Insufficient financial incentives and support for primary producers to engage in nature positive actions that ensure and contribute to ecosystem integrity and resilience for long-term sustainable supply of biomass and ecosystem services that increase the value of the bioeconomy (biodiversity investment gap)
- ☒ Insufficient research and development funding across the bioeconomy value chain
- ☐ Unfair competition of bio-based products with conventional fossil-based products (e.g. lacking regulatory level- laying field inn the single market, lacking regulatory incentives)

## \* **Market barriers**

*Maximum 2 selection(s)*

- ☐ Lack of demand for bio-based products
- ☒ Restrictions to bio-based products in comparison with fossil-based products due to several reasons (e.g. novelty, higher prices, lower scale)
- ☐ Lack of infrastructure for the processing of woody biomass for high-value applications
- ☒ Lack of infrastructure (e.g. recycling facilities, pilot facilities and equipment) for start-ups and scaleup and for recycling of organic waste
- ☐ Impacts on the availability of biomass for other applications of existing policies that prioritising biomass for energy
- ☐ Lack of strategies to increase the availability of sustainably sourced biomass and to ensure resilient supply chains for different uses of biological resources
- ☐ Uncertainty about the sufficiency of sustainably sourced biomass availability in the EU and globally

## \* **Other barriers**

*Maximum 2 selection(s)*

- ☐ Lack of education programmes on bioeconomy production methods, products and services.
- ☒ Lack of transparent and reliable information on the environmental and climate benefits and impacts on the bioeconomy of products and services



- ☐ Lack of skilled workforce on bioeconomy production methods, products and services
- ☐ Barriers specific to product groups (please, specify these groups in the below free text box)
- ☐ Limited consumer knowledge and acceptance of certain novel bioeconomy products and services
- ☒ Lack of awareness of the potential of the bioeconomy
- ☐ Limited use of artificial intelligence and other digital solutions and technologies to promote the uptake of the bioeconomy

Please, specify barriers to specific product groups

*500 character(s) maximum*

Please, specify any additional barriers that should be considered:

*1500 character(s) maximum*

The fragmentation policies across sectors limit the integration of value chains and cross-sector innovation. Existing frameworks don't reflect the benefits of bio-based solutions (e.g. pharmaceuticals, chemicals, plastics and fuels).

Lack of dedicated NACE subcodes identifying the bio-based chemical sector is a gap limiting the valorisation of the sustainable value of bioeconomy products within EU policies and their recognition at customs.

Lack of adequate definition of biomass-derived, bio-based and bio-attributed products.

EU legislation doesn't valorise the biomass-derived content in products (e.g. lack of mandatory requirements in specific legislation and in GPP). Bio-based content for selected uses of biodegradable and compostable products should be promoted for specific applications.

Reg.(EU) 2023/2486 technical screening criteria for plastic packaging excludes primary biomass, due to the absence of legally agreed sustainability criteria, without considering the ones in RED.

Necessity of harmonized LCA methods to guarantee homogeneous comparison among different products.

Definition of a suitable bio-content calculation methodology for accounting the renewable feedstock in products.

ETS doesn't adequately account for the CO2 fraction stored in bio-based products leading to competitiveness gap vs. fossil-based ones.

Additional support needed for biofuels production and to reduce their price-gap with conventional fuels.

If you have evidence to substantiate some of your answers above, please provide it below (e.g. via links) or upload it as a separate document:

*500 character(s) maximum*

Market pull measures, incentives and mandatory use targets needed to face scale-up and investments returns in a price driven market. Lack of coherence, legislative support and suitable environmental standards to boost bioeconomy. Regulatory uncertainty in e.g.: plastics from biomass, including biodegradable /compostable ones, not valorised; medicine and health (long approval pathways); biofuels (RED targets vs ICE ban); fertilizers (new raw materials); new genomic techniques (new regulatory framework)

**Please, upload your file(s)**

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## Which of the below potential risks are relevant to the EU bioeconomy?

The growth of the EU bioeconomy may face, or even lead to, specific c risks, such as deepening the potential gap between increasing demand of biomass and what can be sustainably harvested, as identified by some reports (e.g. the European Biomass Puzzle by the European Environmental Agency). This potential biomass gap can, in turn, result in difficulties in ensuring long-term competitiveness, lead to increased competition for land between different bioeconomy uses and endanger, for example, carbon sinks.

Other risks relate to a shortage or unstable supply of certain natural resources and raw materials due to climate change impacts, such as droughts, floods or forest fires. This question refers to the kind of strategic risks that affect whole societies, rather than just individual companies or other bioeconomy actors, such as farmers.

Please, assess the importance of the below potential related to the EU bioeconomy.

## What is the relative importance of the following potential risks for the EU bioeconomy?

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* Lack of stable supply of sustainably sourced biomass and competition for it between different uses, such as for food, materials, products, energy and ecosystem services	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Societal concerns linked to the ethics and safety of biotechnologies and its solutions	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Loss of competitiveness of the sector due to an altering landscape and uncertain regulatory framework	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Spread of invasive species (e.g. blue crabs, round goby) competing with and harming local species traditionally used in bioeconomy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please, specify any additional risks that should be considered:

*500 character(s) maximum*

An EU strategy is needed for the sustainable and diversified supply of biomass, also to avoid price volatility and ensure EU resilience. All bioeconomy activities residues should be valorised for the sustainable biofuels production and fertilizers. Long-term sustainability for EU industry and offshoring need an equilibrium between bio-based and traditional products.

**Which measures would help to address the above barriers and to promote sustainability, circularity and competitiveness of the EU bioeconomy?**

The upcoming new EU bioeconomy strategy aims to address the barriers, to the EU bioeconomy, to promote its sustainability, circularity and competitiveness, and to ensure a fair transition across EU at national, regional and local level.

Please, rank according to their relative importance the measures that, in your view, should be considered as part of the new EU bioeconomy strategy.

## **Regulatory and policy measures**

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* Simplify and speed up permitting procedures and biotech and biomanufacturing solutions	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Create regulatory sandboxes and/or pilot regulatory regimes for bio-based products and services	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Improve policy consistency and harmonisation between EU and national regulations and reduce administrative burden	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Promote integrated territorial biomass strategies that take into account environmental, climate and anthropogenic risks to the biomass stock and balance ecosystem, climate adaptation/mitigation and biomass supply needs	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Introduce regulatory incentives such as mandatory bio-based content requirements (e.g. bio-based plastic in packaging) to promote biomaterials and bioproducts	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Develop sustainability criteria for biomass use beyond energy use	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Improve monitoring and knowledge of the condition of biodiversity, ecosystems and ecosystem services and its uptake to underpin ecosystem conservation and restoration, secure long-term provision of biomass, and increase the value and the resilience of the bioeconomy	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Measures to engage with value chain actors

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* Introduce platforms, networks or alliances to boost development and uptake of the bioeconomy and efficient implementation and achievement of the EU bioeconomy strategy's objectives	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Raise awareness of benefits and environmental impacts of bio-based materials and products compared to fossil-based ones	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Support public-private partnership programmes for biotech solutions, biomanufacturing and other bio-based products	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Introduce a support scheme for small to medium-sized enterprises, with grants to promote collaboration and the scaling-up of operations	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Develop education and training programmes to support reskilling and upskilling of workers in the bioeconomy, e.g. biotech and regenerative and circular business models	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Support involvement of primary producers in bioeconomy value chains and diversification of economic activities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Support for regions and Member States to develop bioeconomy strategies and monitor progress	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Develop market opportunities in non-EU countries	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Promote global partnerships and cooperation for sustainable and circular bioeconomy	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## **Funding and financing measures**

	Very Important	Important	Neutral	Slightly important	Not at all important	I do not know
* Develop and facilitate the uptake of sustainable financing tools, in particular private investments, that reward primary producers and landowners for environmentally sustainable biomass production, improving the resilience and integrity of ecosystems and the provision of ecosystem services (e.g. carbon/nature credits)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Finance more research and innovation to strengthen knowledge based on bioeconomy, including biomass supply and demand innovations	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Improve funding and capacity building for regions and Member States to scale-up bioeconomy innovation and allow the transition from laboratory to the market	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Support the uptake of innovative bio-based products and services (e.g. product-as-a-service applications for example related to fertilizers)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
* Incentivise data-driven approaches to the bioeconomy value chain: from satellite data for biomass production to new digital solutions in support of logistics, traceability, etc.	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please, specify any additional policy measures that should be considered:

*1500 character(s) maximum*

Introduce a legislative definition of biomass-derived product (wholly or partly derived from biomass), that encompass bio-based product (with a content of biological origin measured by radiocarbon methods) and bio-attributed product (mass balance methodology accounts the use of bio-based feedstock for its production). Introduce dedicated targets for biomass-derived products. Boost the demand and market uptake of biomass-derived products (e.g. tax leverage, financial incentives and GPP criteria). Support selected uses of biodegradable and compostable products for specific applications and consider the increase of bio-based content, where applicable. For chemicals, maintain in the mid-term the use of first-generation sustainable bio-based feedstocks to assure the decarbonization path. Support industrial investments for the production and the deployment of fuels from biomass. Develop harmonized LCA methods for biomass-derived solutions to cover all types of products (also for imports). Biogenic carbon accounting based on the -1/+1 approach in PEF and in CFP for reliable GHG savings claims. Introduce dedicated NACE sub-codes for bio-based chemical activities and products custom codes. Recognize the potential of bio-based innovation in biopharmaceuticals tech and the role of healthcare bio-waste in circular models. Support the development of EU-scale biomanufacturing hubs for medical, industrial and agritech applications. Create institutional bodies with competences to support EC and NAs

## Additional input

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Please, specify any additional issues that should be raised:

*1500 character(s) maximum*

Promoting industrial symbiosis within the bioeconomy landscape, enhancing synergies between local economic actors to improve both environmental and economic efficiency by turning the residues from one actor into a resource for another, thereby valorising byproducts and waste as raw material and recovering energy.

Moreover, it is essential to ensure an overall coherent policy framework enabling the scalability of circular economy solutions across the EU and to remove regulatory barriers that hinder the circular use of resources, including biological ones. As for organic residues, incentivizing the development of industrial bioeconomic solutions for the valorisation of biological waste and byproducts deriving from agrifood sectors, as well as from bio-based industries and urban bio-waste management, and their integration in the production process. A step in this direction would be the expansion of existing categories of the Renewable Energy Directive (RED) Annex IX, part A, as follows:

- besides biomass fraction of waste, include biomass fraction of residues deriving from bio-industries /production processes that use exclusively biomass as feedstock;
- alongside Cyanobacteria, include all (known) bacteria which can become a source of advanced biofuels;
- besides lignin coming from forestry and forest-based industries, allow the use of lignin from bio-industries /production processes that use exclusively biomass as feedstock for the production of advanced biofuels.

You are welcome to upload a position paper on bioeconomy with possible recommendations on specific issues here (three pages maximum).

Please, upload your file(s)

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**/Consultation\_on\_upcoming\_EU\_Bioeconomy\_Strategy\_Confindustria.pdf**



## **Contact**

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