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COMMISSION STAFF WORKING DOCUMENT

STAKEHOLDER CONSULTATION - SYNOPSIS REPORT

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

A Strategic Framework for a Competitive and Sustainable EU Bioeconomy

{COM(2025) 960 final}

1. INTRODUCTION

This staff working document presents the key findings from the public consultation activities conducted for the new EU bioeconomy strategy. Its goal is to synthesise and summarise the insights gained through those activities. It highlights the main issues, drivers and recommendations that emerged, offering an evidence base for the strategy.

The public consultation employed a threefold approach combining a call for evidence, a public consultation survey and targeted stakeholder workshops ('workshops'). The call for evidence and the public consultation survey were supported by the European Commission's 'Have your say' portal. The two tools invited stakeholders to provide feedback through structured questionnaires, open-ended responses and position papers. In addition, four workshops were organised to gain more in-depth insight into specific topics.

The information summarised in this annex reflects the views expressed by stakeholders. The contributions received via the European Commission's 'Have your say' portal and through workshops do not represent the official position of the Commission, nor do they reflect a representative sample of the EU population. Accordingly, they are not binding on the Commission when formulating future policy initiatives.

2. CONSULTATION STRATEGY, ACTIVITIES AND PROFILE OF RESPONDENTS

2.1. Consultation strategy

The consultation sought to explore stakeholder views on the existing policy framework, assess the bioeconomy's potential for growth and competitiveness and identify areas for policy improvement. The process focused on integrating insights into barriers to bioeconomy innovation, sustainability and resource efficiency, while ensuring that broader societal and environmental benefits of the bioeconomy are achieved.

Consultation activities

The **call for evidence** was open between 31 March and 23 June 2025. A total of 444 responses were received, with 300 respondents submitting position papers in addition to their direct written responses to the call for evidence. The call for evidence aimed to gather stakeholder input on the Commission's understanding of bioeconomy challenges and solutions. Stakeholders, in particular businesses, SMEs, primary producers and NGOs, were invited to provide feedback on several issues such as resource efficiency, regulatory barriers and the need for improved financing. Several Member States, regional authorities and non-EU countries responded.

The **public consultation survey** was open during the same period as the call for evidence, from 31 March to 23 June 2025. It received 362 responses, with 149 respondents submitting additional files, such as documents supporting their survey answers or position papers. The survey aimed to gather the views of a wide range of stakeholders on the new EU bioeconomy strategy, focusing on its main objectives, risks and regulatory measures.

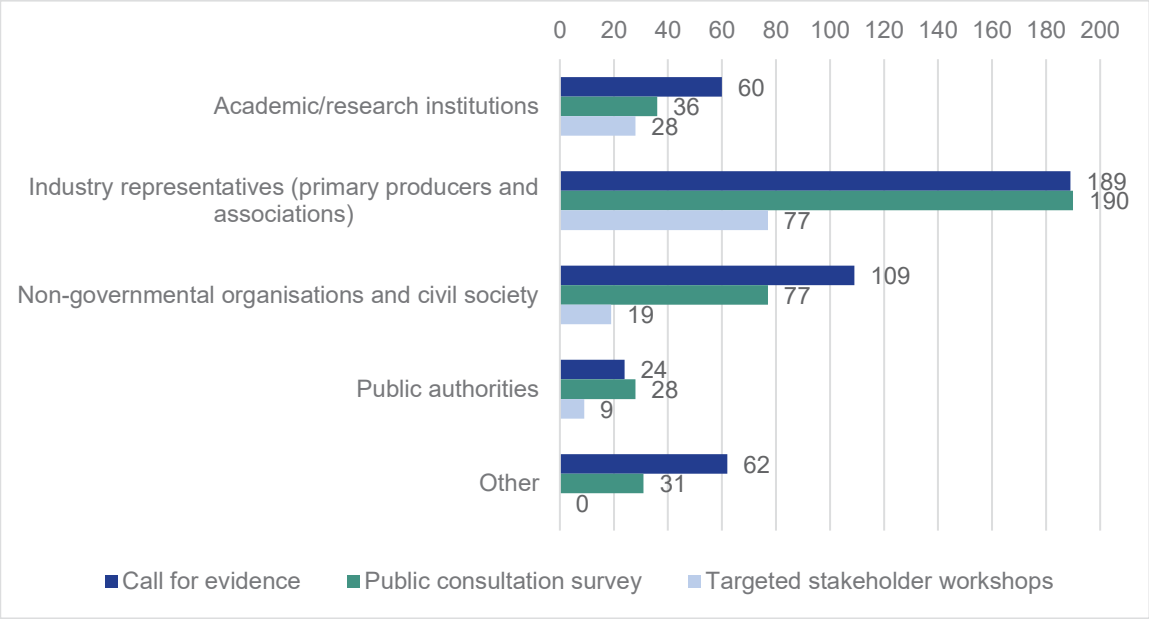
A total of 76 organisations submitted their responses to both the call for evidence and the public consultation survey.

Four **targeted stakeholder workshops** were held online on 8-9 July 2025. The workshops focused on the following topics: Improving circularity (Workshop 1); Securing a sustainably sourced biomass supply (Workshop 2); Scaling up and accelerating innovation (Workshop 3); and Financing the scale-up of innovators (Workshop 4). Each workshop lasted half a day and combined plenary presentations with breakout group discussions. Between 23 and 39 stakeholders, representing industry, academia, NGOs, civil society and public authorities, attended each session of the workshops.

2.2. Profile of respondents

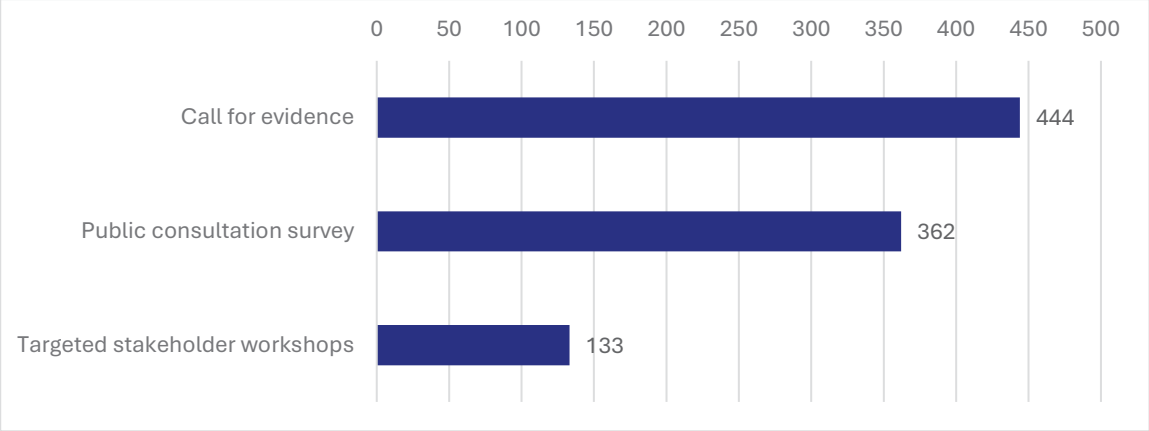
As shown in Figure 1, industry representatives were by far the most active respondents in all consultation formats, engaging consistently in both written consultations and workshops. Academic and research institutions participated fairly actively in all channels, while NGOs and civil society were much more engaged in written consultations than in workshops. Public authorities made only a modest contribution, while other stakeholders did not attend the workshops.

Figure 1. Number of respondents/participants in stakeholder groups by consultation activity



The call for evidence attracted the largest number of respondents (444), followed by the public consultation survey (362), with the targeted stakeholder workshops drawing the smallest number of participants (133).

Figure 2. Number of respondents/participants by consultation activity



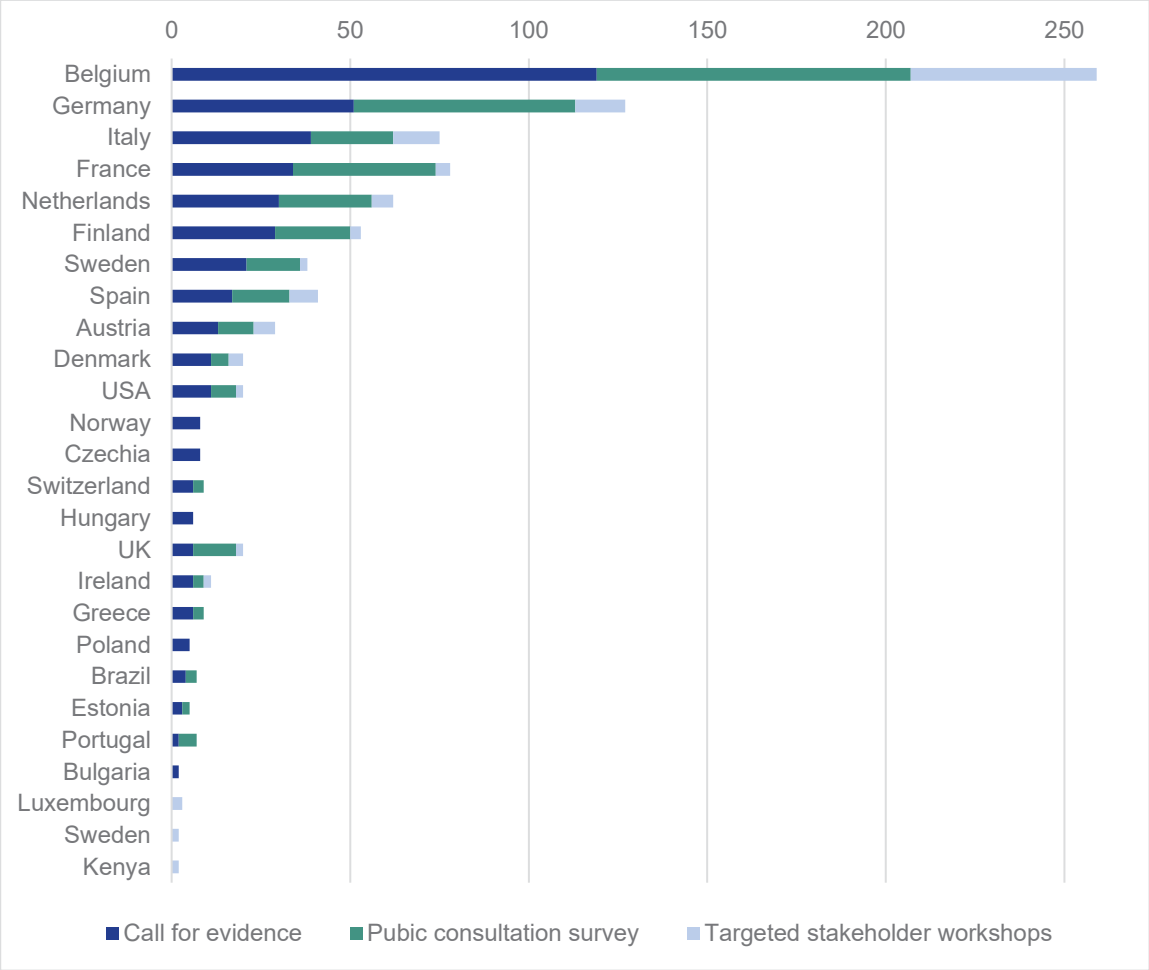
The consultation activities covered a wide range of stakeholder groups, ranging from academic and research institutions to industry representatives, NGOs and civil society, public authorities and other actors. For the call for evidence and the public consultation survey, respondents selected their stakeholder type from a standardised drop-down list. The targeted stakeholder workshops used a different system in which the stakeholder subgroups were classified directly by the European Commission. To ensure consistency in all consultation activities, the classifications were standardised using stakeholder groups, as shown in Table 1.

Table 1. Stakeholder groups and subgroups participating in consultation activities

Stakeholder group	Stakeholders
1. Academic/research institutions	- Academic/research institution (call for evidence and public consultation survey) - Organisations supporting research and innovation (workshops)
2. Industry representatives (primary producers and associations)	- Business association (call for evidence and public consultation survey) - Company/business (call for evidence and public consultation survey) - Trade union (call for evidence and public consultation survey) - Businesses and Industries, including SMEs (workshops) - Primary producers of biomass, farmers, and foresters (workshops) - Social partners and representatives of professions, industry, manufacturing, and services (workshops) - Consultancies (workshops)
3. Non-governmental organisations and civil society	- Consumer organisation (call for evidence and public consultation survey) - Environmental organisation (call for evidence and public consultation survey) - EU citizen (call for evidence and public consultation survey) - Non-EU citizen (call for evidence and public consultation survey) - Non-governmental organisation (NGO) (call for evidence and public consultation survey) - Non-governmental organisation organisations (workshops)
4. Public authorities, including Member States and national and regional public authorities	- Public authority (call for evidence and public consultation survey) - National and regional public authorities, EU decentralised agencies, and other bodies (EU agencies) (workshops)
5. Other	- Other (call for evidence and public consultation survey)

Respondents from a total of 38 countries participated in the consultation activities. Of the 38 countries, **26 EU countries** (all Member States except Cyprus) and **12 non-EU** countries (Australia, Brazil, China, Kenya, Nigeria, Norway, Peru, Serbia, South Africa, Switzerland, the United Kingdom and the United States) provided stakeholder feedback. Figure 3 shows the distribution of each country from which more than two stakeholders participated in any one consultation activity. There were many more participants from western European countries than from central and eastern European countries. Most responses from Belgium, the country with the largest number of respondents, came from EU organisations, meaning that they do not really represent a national position.

Figure 3. Number of respondents/participants by country (two or more only)



The 'Other' category includes certain international organisations that responded, such as the Food and Agriculture Organization (FAO), the International Cotton Advisory Committee (ICAC), the International Sericultural Commission and the World Economic Forum.

3. RESULTS OF THE PUBLIC CONSULTATION ACTIVITIES

3.1. Overall summary of the public consultation

All contributions to the consultation were analysed using a mixed-method approach integrating quantitative and qualitative techniques. Pattern-based detection was applied to identify coordinated campaigns in closed responses, while multidimensional content analysis was used to examine open-text inputs. A quality assurance framework was implemented to address potential duplicates and abusive content.

When preparing the analysis, duplicate position papers were removed to ensure accuracy and consistency. A thorough review was also carried out to identify any abusive or inappropriate language, and none was found. One coordinated campaign was detected, which highlighted concerns from agriculture and forestry stakeholders that current life cycle assessment (LCA) tools, such as the product environmental footprint category rules (PEFCRs) for apparel and footwear, undervalue the environmental benefits of natural fibres while overlooking the negative impact of synthetics. The campaign calls for policy

reforms to ensure that sustainability assessments reflect the full life cycle of materials, support growth of the bioeconomy and promote the use of renewable, environmentally beneficial resources.

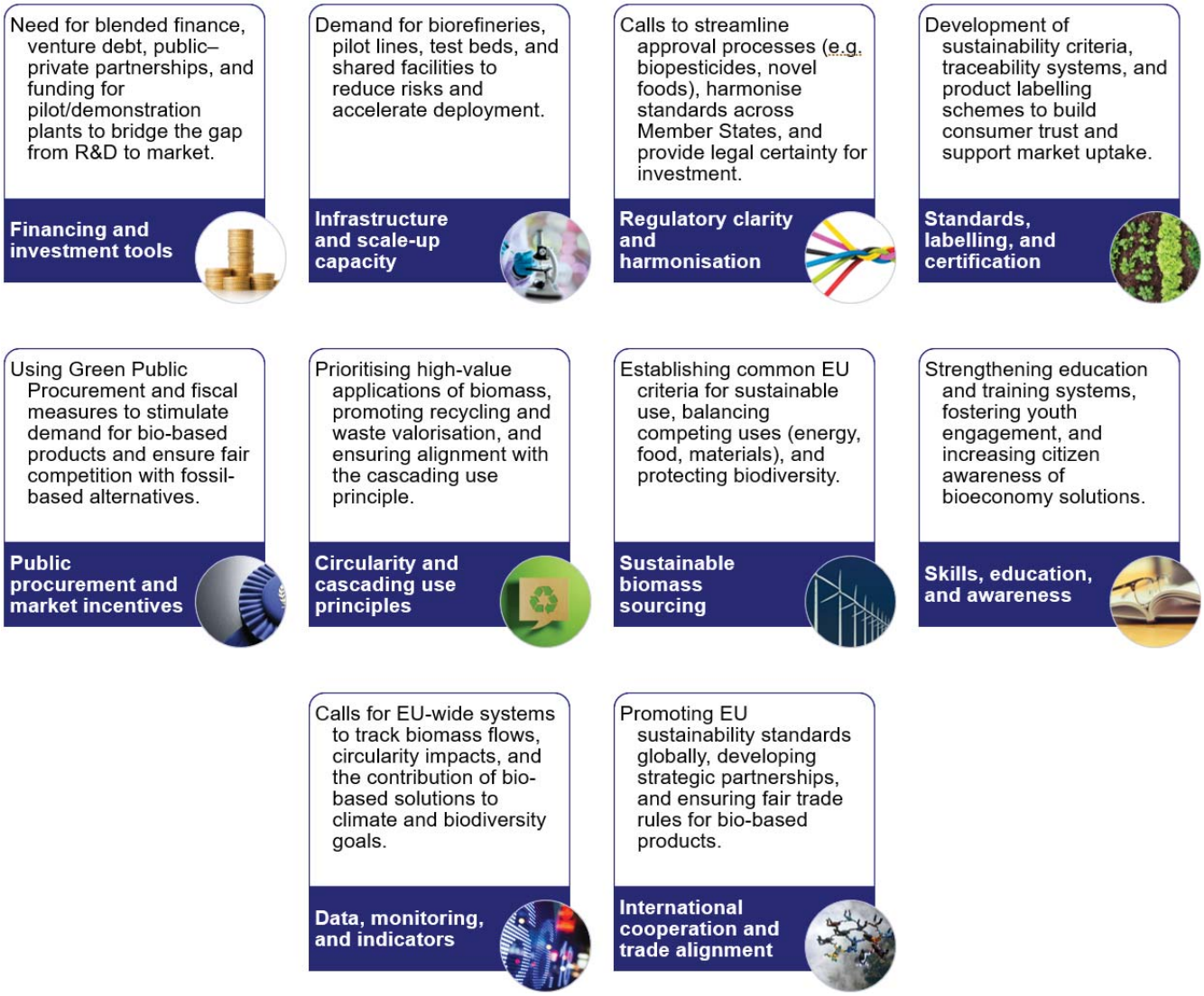
The contributions from national parliaments, local and regional authorities and agencies were limited to the call for evidence and the public consultation survey. The contributions highlighted key issues across Europe. In Austria, for instance, public authorities emphasised the role of biomass and renewable energy in the country's energy strategy. Belgium's contributions were focused on plant science, biogas and the promotion of a circular, bio-based economy. In Bulgaria and Romania, public authorities concentrated on shaping bioeconomy-related public policies. The focus of the authorities in Denmark was on fostering environmental sustainability and promoting bio-based solutions. Finland's contributions centred on furthering the bioeconomy and its industrial applications. Germany's public authorities provided insight into the country's economy, rural affairs and environmental protection. In France the public authorities concentrated on biochemical production and development of the bio-based industry, while Sweden's agencies highlighted the country's perspectives on bioenergy.

EU decentralised agencies and bodies ('EU agencies') that have contributed to the EU bioeconomy strategy include the **European Environment Agency** (EEA), the **European Investment Bank** (EIB), the **European Food Safety Authority** (EFSA) and the **European Chemicals Agency** (ECHA). Most of those agencies were involved in one of the workshops, providing expertise on regulatory coherence, sustainability standards and the financial mechanisms required to support the scaling-up of bioeconomy innovations across the EU.

When it comes to what the main objectives of the bioeconomy strategy should be (see **Figure 7.**), survey respondents signalled increasing circularity across bioeconomy value chains (63%). This was closely followed by fostering environmentally sustainable biomass production, supply, and use (56%), and contributing to climate mitigation and adaptation (55%). Improving the EU's position in the global bioeconomy (44%) and strengthening the biotech and biomaterials sectors (40%) also ranked highly. The feedback reflects a strong focus on sustainability, climate action, and enhancing the EU's global competitiveness in the bioeconomy sector.

The consultation highlighted a set of **key topics encompassing all the objectives** of the new EU bioeconomy strategy. Stakeholders consistently emphasised the need for improved financing and investment tools, stronger infrastructure and scale-up capacity and clearer, harmonised regulatory frameworks. They also pointed to the importance of: (i) developing standards, labelling and certification; (ii) using public procurement and incentives to stimulate demand; and (iii) embedding circularity and the cascading use of biomass. Other central priorities identified were: (i) ensuring sustainable biomass sourcing; (ii) strengthening skills and public awareness; (iii) improving monitoring and data systems; and (iv) furthering international cooperation. These topics cut across all pillars and, taken together, set the systemic conditions for a successful bioeconomy.

Figure 4. Key topics encompassing all stakeholder recommendations



Source: Drawn up by the study team.

When identifying **barriers to specific product groups**, public consultation survey respondents most commonly referred to bio-based, biodegradable and compostable plastics, pointing to insufficient legislative support and regulatory fragmentation. Natural fibres and textiles were highlighted as being at a disadvantage to synthetics, as current assessment tools do not adequately reflect their environmental benefits. Certified forest-based and wood products were mentioned in relation to conflicting regulations and the need to promote cascading use. Additional groups raised included bio-based chemicals, biowaste-derived fertilisers, bio-based construction materials, novel foods such as algae and fungi, and biopesticides, with further references to biolubricants and CO_2-based plastics. These examples illustrate how there are product-specific barriers to both established and emerging bio-based sectors.

Figure 5. Barriers to specific product groups identified by public consultation survey respondents (N=167)

Source: Drawn up by the study team.

3.2. Summary of the feedback received on the call for evidence document describing the initiative

Key concerns raised included regulatory complexity, financial gaps and challenges in market access for bio-based products. Stakeholders in all sectors emphasised the need for a more circular and sustainable bioeconomy, with particular focus on addressing regulatory burdens, improving access to financing and creating demand for bio-based solutions.

A number of barriers to the development of the bioeconomy were identified by stakeholders. Regulatory complexity was seen as a major issue, with many respondents highlighting the need for simpler and more harmonised regulations across EU Member States. This complexity was particularly problematic for innovation, as it led to delays and additional costs for companies. Financial barriers were also a significant concern, in particular the lack of dedicated funding for early-stage bioeconomy companies and start-ups. Furthermore, stakeholders pointed out that competition from fossil-based products, which are often more affordable and better established, prevented bio-based products from accessing the market. These challenges were compounded by the lack of adequate financial and institutional infrastructure to support the scaling-up of bio-based solutions.

Specific recommendations from stakeholders focused on addressing these barriers in a targeted way. Industry representatives called for regulatory sandboxes and innovation hubs to test bio-based solutions in real market conditions. There was also a strong emphasis on increasing access to finance, with many stakeholders suggesting that financial instruments be created to support the transition from research to commercial deployment. Public authorities stressed the importance of aligning bioeconomy strategies with other EU policies, particularly those related to agriculture and climate change, and improving coordination between EU, national and regional levels to ensure effective implementation.

NGOs and members of the public highlighted the importance of integrating sustainability and biodiversity goals into the strategy, calling for a stronger focus on environmental protection and sustainable practices across bioeconomy sectors.

In response to the barriers and recommendations, stakeholders suggested several policy measures to help unlock the full potential of the bioeconomy. A key proposal was to simplify regulatory processes, including the streamlining of permitting and certification procedures for bio-based products. Financial support for innovation was another crucial aspect, with many respondents calling for dedicated funding mechanisms and green finance initiatives to support start-ups and scale-ups in the bioeconomy sector. Public awareness and education were also seen as important, with stakeholders recommending that efforts be made to raise awareness of the benefits of bio-based products and their role in achieving climate and sustainability goals. These policy measures, when implemented, will be critical in addressing the challenges facing the bioeconomy and ensuring its long-term success.

Stakeholders across various sectors have also recognised barriers and recommendations that relate to the need for a more circular and sustainable bioeconomy as particularly relevant. For bio-based chemicals and polymers, it was pointed out that a significant challenge arises from current frameworks, such as the Renewable Energy Directive, which may inadvertently favour bioenergy production over bio-based materials, thereby hindering circularity objectives. To counteract this, stakeholders who responded to the call for evidence suggested developing clearer circularity standards and implementing tailored incentives for bio-based products as crucial steps. Similarly, the sector of natural fibre textiles faces regulatory barriers due to inconsistent classification and definitions. According to the stakeholders, addressing this requires broadening the definition of circularity to encompass biodegradability, ecological regeneration, renewability, regenerative land use, and product longevity, ensuring a more holistic approach to sustainable material cycles.

3.3. Summary of results by EU bioeconomy strategy objectives and key topics

This chapter provides an overview of the four key themes set out in the public consultation and the call for evidence. In each objective, main topics of interest and issues raised during the consultation activities are outlined, followed by recommendations put forward by stakeholders. Lastly, a note is included on how the European Commission has integrated the feedback received from consultation activities on development of the strategy. The four themes were:

1. Bioeconomy innovations and investments: from lab to deployment
2. Delivering lead bioeconomy markets
3. Securing sustainably sourced biomass supply
4. Building on Europe's strengths to advance a sustainable bioeconomy globally

3.3.1. Bioeconomy innovations and investments: from lab to deployment

This objective aims to address the barriers to taking bio-based innovations from research and development (R & D) to commercialisation. It focuses on overcoming the 'valleys of death' that start-ups and innovators face in scaling-up, particularly in relation to funding gaps, regulatory hurdles and the need for supportive infrastructure. Stakeholders highlighted the need for better financing models, regulatory support and collaborative

innovation ecosystems in order to speed up the transition of bio-based innovations from lab to market.

Main topics of interest and issues raised in all consultation activities

Innovation gaps and scalability challenges. Both the call for evidence and the public consultation survey emphasised that there is a significant innovation gap in the bioeconomy, particularly in scaling up innovations from R & D to industrial applications. Respondents pointed out the challenge of surviving the 'valleys of death', where innovations often fail to secure sufficient funding to move beyond the lab stage. Industry representatives highlighted the need for increased public and private investments to bridge this gap. They also noted that the lack of supportive financial and institutional infrastructure to scale up bio-based innovations was a major challenge. On the other hand, workshops moved beyond simply identifying the funding gap to proposing practical solutions. That is to say, workshop participants focused on measures to close the innovation gap and provide targeted financial support. They emphasised the need for co-investment and blended finance models to de-risk new bioeconomy ventures and identified slow and uncertain regulatory approval as a major obstacle to scaling-up. There was also a strong push for greater cooperation between industry and research to assist scaling-up.

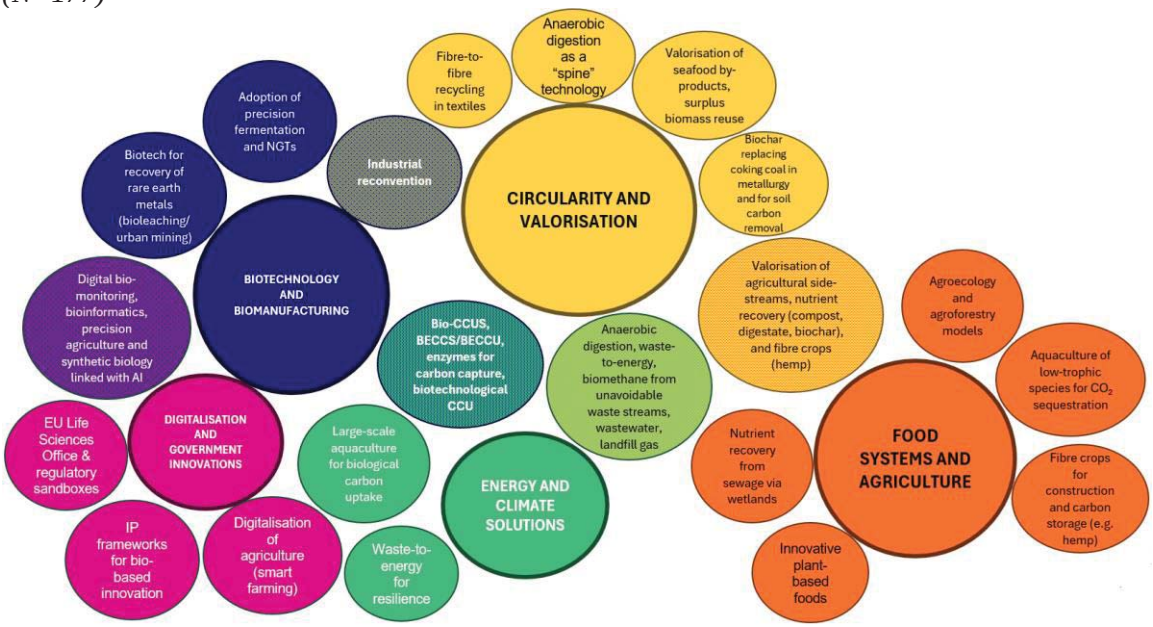
Regulatory barriers to scaling up innovation: The two consultation activities conducted through the 'Have your say' portal identified regulatory hurdles as one of the primary obstacles to scaling up bio-based innovations. Respondents from industry and public authorities pointed to the complexity and fragmentation of regulations across the EU, in particular on biotechnology and novel bioproducts. The public consultation survey called for more predictable and harmonised regulations to ease the scaling process, particularly for start-ups looking to enter the market. Workshop participants reiterated the need for regulatory simplification. Industry representatives stressed that differing national regulations create an additional barrier to scaling up bio-based innovations. They emphasised that simplified regulatory frameworks, along with pilot schemes and sandboxes, would provide greater flexibility for start-ups. NGOs also pointed out that environmental regulations should be aligned more closely with the scaling-up of bio-based innovations.

Market barriers to scaling up innovation. The call for evidence and the public consultation survey identified significant market barriers to scaling up bio-based innovations, such as unfair competition from fossil-based products, lack of demand and price competitiveness. Industry representatives highlighted the need for incentives to encourage consumers and businesses to adopt bio-based alternatives. In the workshops, stakeholders focused on actionable solutions, such as green procurement policies, tax incentives and public awareness campaigns, to reduce price gaps and stimulate demand for bio-based products. While the public consultation survey and the call for evidence mainly highlighted structural barriers such as market access, the workshops placed more emphasis on demand-side solutions and policy-driven market incentives. Despite these differences, all consultation formats agreed on the need to overcome market barriers through targeted policies and financial instruments.

Moreover, public consultation survey respondents identified several **further opportunities and innovations** for the new EU bioeconomy strategy. The most frequently mentioned clusters concern circularity and valorisation, such as cascading use of biomass, recycling and biochar deployment, alongside biotechnology and biomanufacturing, including enzymes, precision fermentation and new genomic techniques. Stakeholders also

highlighted food and agriculture innovations, with references to plant-based foods, fibre crops and aquaculture. Further opportunities include energy and climate solutions (e.g. bioenergy with carbon capture and storage / bioenergy with carbon capture and utilisation, biomethane) and digital and governance enablers. Overlaps were noted across biotechnology, circularity, agriculture and digitalisation.

Figure 6. Additional opportunities and innovations from public consultation survey respondents (N=177)



Source: Drawn up by the study team.

In terms of **funding and financing measures**, the public consultation survey highlighted a clear prioritisation of certain areas critical to furthering the bioeconomy. The responses given indicated that financing research and innovation was the top priority, with 87% of respondents (316 out of 362) considering it important or very important, reflecting strong support for deepening knowledge of bioeconomy innovations. The second highest priority was the need to improve funding and capacity building for scaling up bioeconomy innovations, which was considered important or very important by 80% of respondents (289). While sustainable financing tools for primary producers and data-driven approaches were also deemed important, they were considered a lower priority, with 66% (239) and 60% (216), respectively, of respondents rating them as important or very important.

Table 2. Public consultation survey results on funding and financing measures (N=362)

Funding and financing measures	Very important + Important	Neutral	Slightly important + Not at all important
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)	239 (66%)	60 (17%)	37 (10%)
Finance more research and innovation to strengthen knowledge based on bioeconomy, including biomass supply and demand innovations	316 (87%)	25 (7%)	16 (4%)

Improve funding and capacity building for regions and Member States to scale-up bioeconomy innovation and allow the transition from laboratory to the market	289 (80%)	41 (11%)	11 (3%)
Support the uptake of innovative bio-based products and services (e.g. product-as-a-service applications for example related zto fertilizers)	250 (69%)	58 (16%)	12 (3%)
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.	216 (60%)	85 (23%)	35 (10%)

Recommendations put forward by stakeholders

Addressing the innovation gap with targeted funding. The call for evidence and the public consultation survey recommended increasing the availability of targeted funding mechanisms to bridge the innovation gap. Stakeholders called for financial support for start-ups and SMEs to help scale up their innovations, with particular focus on the early stages of innovation. The need for flexible financial instruments addressing the high risk of bio-based ventures was another key point. In the workshops, stakeholders suggested co-investment and blended finance models as a solution to scale up innovations. Industry representatives also advocated setting up EU-level funds specifically designed for bioeconomy scale-ups. There was a strong push for regional funds capable of targeting local bioeconomy clusters and promoting their growth.

Streamlining regulatory frameworks. The call for evidence and the public consultation survey identified the need for regulatory simplification to enable bio-based innovations to scale up. Industry stakeholders highlighted the barriers caused by fragmented regulations across the EU and called for more predictable and harmonised regulations to support the scaling-up of innovation. The workshops expanded on this by recommending regulatory sandboxes and pilot schemes as flexible tools for scaling up bio-based innovations. Industry stakeholders argued for clearer and simpler regulatory pathways to fast-track bio-based innovations into commercialisation. Other stakeholders, by contrast, tended to have concerns about the sustainability of innovations and called for regulations that were environmentally sound as well as simpler.

Improving public-private partnerships for scaling up innovations. The call for evidence and the public consultation survey recommended developing public-private partnerships (PPPs) to support the scaling-up of bio-based innovation, emphasising the need for cooperation between public authorities, industry and research institutions. In the workshops, stakeholders highlighted PPPs as crucial for de-risking investments and advocated EU-wide initiatives to support start-ups and SMEs, with NGOs calling for stronger sustainability criteria. While all consultation formats agreed on the importance of fostering cooperation, the workshops provided more detailed recommendations on structuring those partnerships.

The Commission's consideration of feedback on this objective

The new bioeconomy strategy aims to create a seamless investment journey for sustainable bio-based solutions, from pilot to deployment, and to support small and medium-sized enterprises (SMEs). Under the new Multiannual Financial Framework (MFF), the Commission proposed to create a 'bioeconomy window' inside both the European Competitiveness Fund and the future Horizon programme to fund innovation, mobilise large-scale investment, de-risk industrial deployment and bridge the gap between research, innovation and market upscaling.

The Commission will review the Circular Bio-Based Joint Undertaking, a public-private partnership that helps accelerate the innovation process and the market deployment of bio-based solutions. It will identify the most effective and impactful future collaboration options under the next MFF. The Strategy will align investment priorities with Member States and coordinate EU support mechanisms with national projects.

The Commission will also focus on targeted financial tools and will consider revising the EU Taxonomy Delegated Acts to ensure sustainable biomanufacturing and other bio-based economic activities are properly recognised as key enablers of the green transition, to improve investment certainty.

The Commission will also set up a European Bioeconomy Regulators and Innovators' Forum to exchange best practices related to risk assessments of novel bio-based solutions, ensure transparency, monitor progress, and engage in early discussions with firms developing novel bio-based solutions. It will coordinate national and EU actions to fast-track authorisation for new entrants and remove barriers.

3.3.2. Delivering new lead bioeconomy markets

This objective focuses on promoting the use of bio-based materials within bioeconomy lead markets and on creating a level playing field for competing uses of biomass. It aims to create sustainable markets for circular bio-based solutions, enhance resource efficiency and reduce waste. Stakeholders have highlighted the need for clear frameworks, market demand stimulation and regional cooperation to drive circularity across value chains. The goal is to ensure that high economic and environmental added-value applications are prioritised to optimise biomass use and to foster innovation.

Main topics of interest and issues raised in all consultation activities

Creating demand. In both the call for evidence and the public consultation survey, creating markets for circular bio-based solutions was a key concern. Stakeholders emphasised the importance of using biomass more efficiently in all value chains, with a strong push for stimulating market demand. Stakeholders representing industry were particularly vocal about the need for clear market incentives to ensure the uptake of bio-based products. In the workshops, the main topic of discussion was how to create demand for bio-based products. Stakeholders identified the lack of regulatory coherence and competition from fossil-based alternatives as significant barriers. Regional differences emerged in the discussion, with stakeholders from central and eastern Europe focusing on the lack of local strategies and infrastructure, while those from western Europe concentrated more on policy coherence and EU-wide market creation.

Circularity and the biomass cascading principle. The call for evidence and the public consultation survey highlighted the cascading principle as essential for the circular bioeconomy. They called for **biomass to be prioritised for high-value applications** such as materials and food before considering energy production. However, some industry stakeholders pointed out that energy production recovery from biomass is often the most financially viable option. Participants in both consultation activities recognised regulatory barriers as the main obstacles to effectively implementing the cascading principle. The workshops highlighted the challenges of balancing the cascading principle in the marketplace, where industry stakeholders advocated for economic considerations, such as maximising biomass use for energy, while NGOs emphasised the importance of

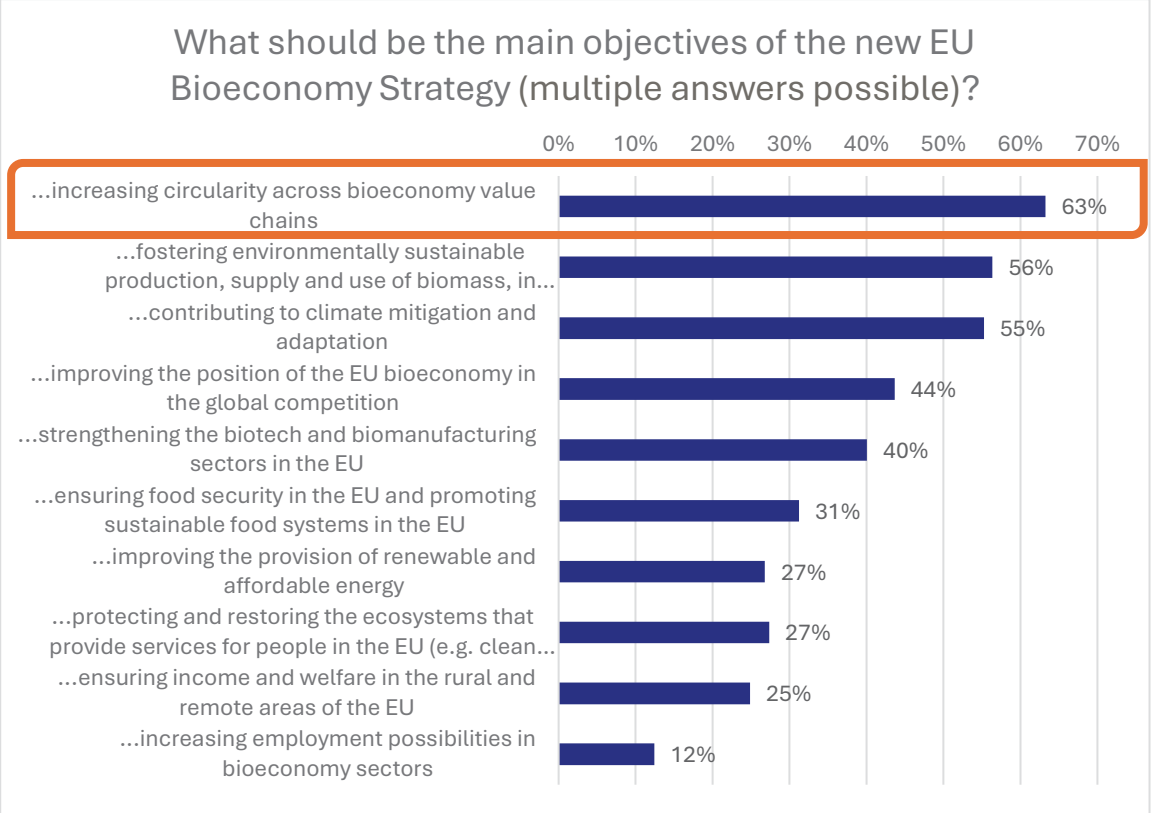
environmental sustainability. There was therefore a significant divergence between industry and NGOs, with the former focusing on economic value and the latter pushing for stronger regulations to ensure environmental added value.

Waste management and valorisation. All three consultation activities recognised the importance of improving waste management and creating value from biological residues, in particular for materials, fertilisers and soil health improvements. Stakeholders across the board agreed on the need for EU-level funding for waste-to-resource projects, albeit with a slight difference in focus. NGOs, civil society and academic research institutions placed greater emphasis on improving waste collection systems, while industry representatives called for regulatory incentives to improve the valorisation of biowaste. The public consultation survey suggested that public procurement policies should play a more proactive part in driving waste valorisation. In addition, workshop participants also emphasised the idea of **minimising waste generation from the outset**, suggesting that businesses integrate circularity into their processes to reduce waste generation in the first place.

Regional cooperation. Both the call for evidence and the public consultation survey recognised the importance of regional cooperation in fostering context-specific solutions to promote circular bioeconomy practices. Stakeholders, particularly those from local or regional initiatives, emphasised the need for localised biomass valorisation to address regional disparities in biomass availability and infrastructure. The survey indicated that cross-border cooperation could help optimise resource use and improve biomass supply chains. In the workshops, participants focused on regional cooperation as a critical aspect of stepping up circular bioeconomy efforts. The importance of localised biomass valorisation was noted by industry representatives from regions with limited infrastructure, in particular, who called for tailored solutions taking account of the potential of regional biomass. Cross-border cooperation was also highlighted as essential for improving resource efficiency and ensuring a more resilient bioeconomy.

According to the public consultation survey data, **circularity was seen as the most important objective for the new bioeconomy strategy**. That is to say, when asked 'What should be the main objectives of the new EU bioeconomy strategy?', most respondents (229 out of 362, or 63%) selected the '… increasing circularity across bioeconomy value chains' option. The graph below compares this objective to others.

Figure 7. Public consultation survey results on the main objectives of the new bioeconomy strategy (N=362)



Recommendations put forward by stakeholders

Creating a level playing field. The call for evidence and the public consultation survey both called for demand-side measures, in particular public procurement to drive the uptake of bio-based products. The survey also highlighted the need for EU-level harmonisation of regulations to reduce inconsistencies between Member States. Industry representatives insisted on the need for tax and other financial incentives for bio-based products. In the workshops, there was broad agreement on the need for public procurement policies to stimulate demand.

Financial and regulatory support for circular biomass projects. The call for evidence and the public consultation survey strongly recommended EU-level funding for circular biomass projects, with particular emphasis on supporting smallholders and innovators. Many stakeholders highlighted the importance of simplifying access to EU funding, particularly for start-ups and small-scale innovators. Industry stakeholders, on the other hand, stressed the need for predictable policy environments to encourage long-term investment. In the workshops, EU-level funding for circular biomass projects was, again, a key recommendation. Industry stakeholders focused on public-private partnerships to scale up innovation, while NGOs stressed the importance of environmental safeguards in addition to financial support.

Encouraging co-production models. The call for evidence and the public consultation survey highlighted the need for co-production models in which biomass could be used for a number of high-value purposes. Industry stakeholders focused on financial incentives to support such models, while NGOs emphasised the importance of stronger regulations to ensure sustainability. Similarly, in the workshops, industry representatives advocated co-production business models, emphasising the need for market-driven solutions. NGOs, on the other hand, stressed the need for environmental regulations to ensure sustainability of the models.

The Commission's consideration of feedback on this objective

One of the main goals of the new Bioeconomy Strategy is to encourage the development of lead markets by promoting bio-based materials over their fossil-based alternatives. Demand creation and support measures have been proposed for materials (bio-based plastics and polymers, textiles from bio-based fibres and fabrics, bio-based chemicals, bio-based construction products, bio-based fertilisers and plant protection products) and technologies (biorefineries, advanced fermentation and permanent storage of biogenic carbon). Additional measures have been proposed with the launch of a 'Bio-Based Europe Alliance' and the possibility of exploring, within the recast of the Public Procurement Directives, the possible creation of lead markets in clean and strategic technologies.

In order to decouple growth in the bioeconomy from demand for biological resources, it is necessary to create a level playing field for different uses of biomass and to direct biomass to where it delivers the highest value. For that purpose, the Commission will work with the Knowledge Centre for Bioeconomy to provide examples of where biomass is of the highest economic and environmental added-value, building on the experience of the cascading principle as mentioned in the Renewable Energy Directive.

In addition, the allocation of public funding and the setting of policy priorities in tools such as National Energy and Climate Plans and national or regional bioeconomy strategies should be guided towards higher-value and material uses of biomass. This approach is fully in line with the Clean Industrial Deal State Aid Framework, which encourages Member States to ensure that projects and activities supported by State aid contribute to the circular economy to the largest extent possible**.**

Co-production models will be encouraged in this strategy. For example, biorefineries process and convert biomass – in particular, biowaste – into a range of valuable products including biochemicals, biomaterials and bioenergy. The sector integrates advanced technologies to optimise biomass transformation, nutrient recycling and the co-production of energy, materials and chemicals.

3.3.3. Securing sustainably sourced biomass supply

This objective focuses both on ensuring that the growth of the bioeconomy is supported by a reliable and sustainable supply of biomass and on balancing environmental goals and economic needs. Stakeholders highlighted the challenges presented by biomass sourcing, land management and regulatory frameworks, with emphasis on ensuring long-term sustainability and biodiversity protection.

Main topics of interest and issues raised in all consultation activities

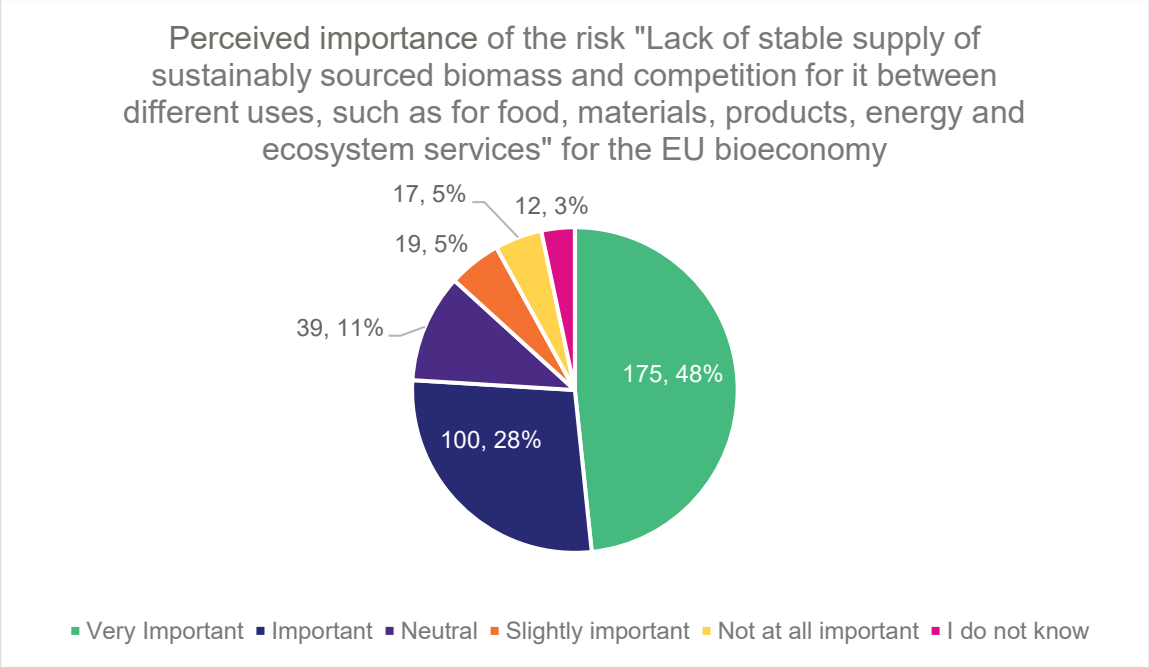
Sustainability criteria and certification systems. The call for evidence and the public consultation survey both emphasised the need for clear and consistent sustainability criteria for biomass sourcing and uses. Both consultation formats stressed that setting up EU-wide certification schemes would help standardise practices and improve traceability. In the workshops, stakeholders agreed on the importance of harmonising sustainability criteria and highlighted the role of EU-level certification in improving transparency throughout the biomass supply chain. The workshops placed emphasis on biodiversity protection and environmental criteria in sustainability frameworks.

Competition for biomass and land use. The call for evidence and the public consultation survey recognised the growing competition for biomass. Food, feed production and bioenergy (the latter to a lesser extent) take in a great portion of the existing biomass, making it difficult for new sectors of the bioeconomy to ensure sufficient supply. The survey highlighted concerns from some EU primary producers, who fear that existing policies could often prioritise bioenergy over biomaterials, leading to potential conflicts over land use. NGOs in the survey raised alarms about land degradation and the need to ensure that sustainable biomass production does not lead to deforestation or biodiversity loss. In the workshops, the competition for land was a central issue. Industry representatives pointed out that biomass production should be balanced across bioenergy, materials, and food production, with an emphasis on finding win-win solutions. They also suggested co-management models to increase biomass production without compromising land sustainability. On the other hand, NGOs emphasised the importance of land use regulations that prevent deforestation and protect biodiversity.

Regulatory barriers and simplification. Both the call for evidence and the public consultation survey emphasised the need to simplify the regulatory landscape for biomass sourcing. Respondents pointed to the complexity of sustainability frameworks and traceability requirements, which can act as barriers to entry for smallholders and new producers. Industry representatives noted that the lack of clear, harmonised regulations across the EU, in particular, makes it difficult to plan long-term biomass sourcing, leading to market fragmentation. In the workshops, stakeholders agreed that regulatory simplification is key to fostering a sustainable supply of biomass. Industry representatives called for clearer regulations and consistent standards across the EU to facilitate biomass trade and production. They also highlighted the need for flexible permitting systems to reduce the administrative burden. NGOs, however, cautioned that simplification should not come at the expense of environmental safeguards, stressing that simplified regulations should still ensure sustainability and biodiversity protection.

The public consultation survey highlighted **significant concern over the lack of a stable supply of sustainably sourced biomass and competition for it between different uses, such as food, materials, products, energy and ecosystem services**. A total of 76% of respondents considered that risk to be important or very important (275 out of 362, see Figure 8), indicating broad recognition of the challenges posed by biomass scarcity and its potential impact on the EU bioeconomy. While a smaller share of respondents, 11% (39), remained neutral, only 10% (36) downplayed the importance of the issue, suggesting that a stable biomass supply is considered a critical factor for securing the sector's future competitiveness and sustainability.

Figure 8. Public consultation survey results on risks for the EU bioeconomy (N=362)



Recommendations put forward by stakeholders

Harmonising sustainability criteria and certification systems. Stakeholders from the call for evidence and the public consultation survey agreed on the need for EU-wide sustainability criteria and certification systems. The survey suggested that harmonisation could help resolve regulatory inconsistencies and create a level playing field for all producers. There was strong support for making the criteria clearer and more transparent, with industry representatives highlighting the importance of traceability and certification to build consumer trust. In the workshops, industry stakeholders also emphasised the need for EU-wide certification schemes to ensure sustainable biomass sourcing and eliminate regulatory confusion. They also stressed the importance of consistent traceability standards to improve supply chain transparency. NGOs argued for more rigorous sustainability criteria to protect biodiversity and avoid land degradation, stressing that the EU certification system should be aligned with climate and biodiversity targets.

Public procurement policies to stimulate demand for sustainably sourced biomass. Stakeholders in the call for evidence, the public consultation survey and the workshops recognised public procurement policies as a key mechanism to drive demand for sustainably sourced biomass. The former two consultation formats emphasised that government procurement could play a key role in creating market incentives for bio-based products. Respondents also noted that public procurement could help overcome market barriers by providing guaranteed demand for bio-based products. In the workshops, stakeholders called for EU-wide procurement policies that would create demand for bio-based products from sustainable biomass sources.

The Commission's consideration of feedback on this objective

Production systems that maintain and increase the supply of biomass while restoring and maintaining ecosystem health are to become mainstream in agriculture, forestry and aquaculture. A balance has to be struck between the functioning of ecosystems as carbon sinks and the need for an expanding bioeconomy and long-term availability of primary biomass.

The future common agricultural policy will play a catalytic role by supporting farmers who adopt bioeconomy innovation and sustainability practices and contribute to the emerging bioeconomy value chains. In the forestry sector, biomass production and supply must be offset against ecological constraints. Resilience should be built by improving sustainable forest management, restoring degraded areas and implementing low impact harvesting methods. Water efficiency and resilience considerations should also be integrated into bioeconomy development, in line with the EU water resilience strategy.

Although the demand for bioenergy remains substantial, it is limited by legislations like the Renewable Energy Directive which restrict the use of land-based biomass for energy. The Commission will improve methodologies and modelling for assessing sustainably sourced biomass availability and the cumulative impacts, on land use of different biomass uses and non-use for the provision of ecosystem services.

Public procurement can play a pivotal role in driving demand within the sector by prioritising products made from a wide range of locally available secondary raw materials, in compliance with the Union's international commitments and EU procurement legislation. The Commission will explore how bio-based materials and products can be promoted in public procurement.

3.3.4. Building on Europe’s strengths to advance a sustainable bioeconomy globally

This objective focuses on enhancing the EU's role in global bioeconomy initiatives and fostering international cooperation on sustainability through green diplomacy. It includes supporting international partnerships to scale up bio-based innovations, encourage policy alignment and promote sustainable practices in bioeconomy sectors worldwide. None of the four workshops specifically addressed this objective.

Main topics of interest and issues raised in all consultation activities

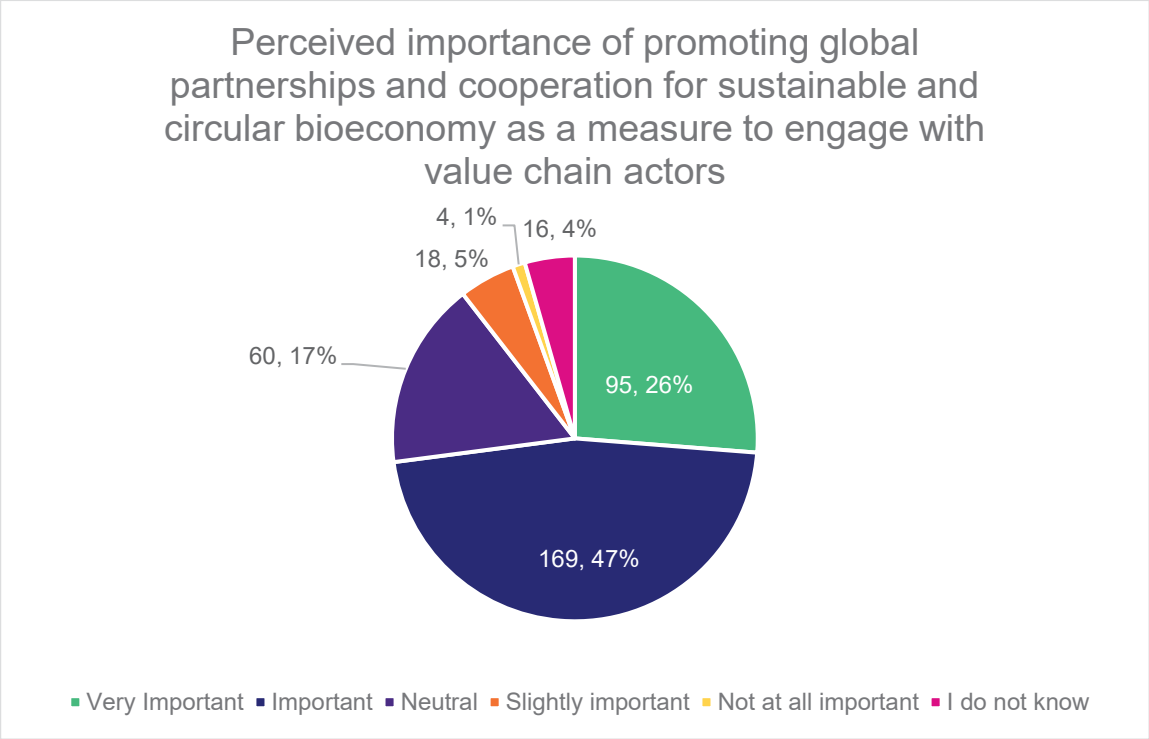
International partnerships and trade. Both the call for evidence and the public consultation survey emphasised the importance of international partnerships for supporting global expansion of the bioeconomy. The survey stressed that international cooperation is crucial for scaling up bio-based innovations and addressing global challenges such as climate change and resource scarcity. Stakeholders also pointed out the need for trade agreements to facilitate the exchange of sustainable bio-based products while complying with environmental standards. Many respondents stressed the potential for working with developing economies to promote green growth and knowledge transfer. Industry representatives called for alignment of global supply chains and policy coordination to avoid trade barriers.

Green diplomacy and global bioeconomy leadership. The call for evidence and the public consultation survey recommended that the EU should position itself as a global leader in green diplomacy to promote sustainable bioeconomy practices worldwide. The survey emphasised that the EU has a unique opportunity to use its policy frameworks and technological expertise to foster international cooperation on bioeconomy issues. There was broad support for the EU participating more actively in international forums, such as the UN and the World Trade Organization, to promote sustainable practices and encourage the adoption of bio-based solutions globally. Industry representatives specifically called

for global market access for bio-based products and support for international cooperation aligned with EU sustainability targets.

The public consultation survey showed **strong support for promoting global partnerships and cooperation for a sustainable and circular bioeconomy**, with 73% of respondents rating it as important or very important. This reflects a clear consensus on the need for international cooperation to strengthen the bioeconomy and support its sustainability goals. However, 17% of respondents (60) were neutral, and a smaller share, 6%, either downplayed its importance or were unsure, suggesting some difference of opinion on how urgent global partnerships are for – and what impact they have on – the bioeconomy.

Figure 9. Public consultation survey results on the importance of promoting global partnerships (N=362)



Recommendations put forward by stakeholders

Strengthening global bioeconomy governance and trade agreements. Both the respondents from the call for evidence and the public consultation survey called on the EU to strengthen its global bioeconomy governance through trade agreements and policy coordination. Industry representatives who completed the survey emphasised the importance of trade partnerships supporting bio-based products and encouraging mutual recognition of sustainability standards. There was also support for international regulatory alignment to ensure a level playing field and increase the competitiveness of bio-based solutions in global markets. The survey suggested that the EU should actively engage in multilateral trade agreements to promote the bioeconomy's role in climate action.

The Commission's consideration of feedback on this objective

Through free trade and partnership agreements, regulatory dialogues and diplomatic engagement, the EU will partner up with non-member EU countries to create shared

benefits for a sustainable global bioeconomy, supporting new feedstocks and increasing access to further the biotechnology and bio-based products in those countries. The Global Gateway strategy provides a key framework for advancing the objectives of the EU Bioeconomy Strategy by linking sustainable investments in resilient supply chains with innovation ecosystems. The EU will also participate more actively in the main international forums where the international playing field for the bioeconomy is set and its rules and principles are laid down. One of EU's priorities will be to launch a flagship research and innovation initiative deploying sustainable bioeconomy solutions in high-potential regions. The initiative will raise capital, strengthen industrial ecosystems beyond the EU's borders and ensure that all actions are supported by robust environmental and social safeguards.

4. OTHER CONSULTATION ACTIVITIES

On 16 May 2025 European Commissioner Jessika Roswall welcomed stakeholders from industry and civil society to a meeting on shaping a forward-looking bioeconomy strategy. Various topics were discussed at the meeting, including:

- **competitiveness**: the need to address regulatory and financial shortcomings, simplify permitting procedures and promote a circular economy;
- **sustainability**: the importance of ensuring sustainability in biomass sourcing, addressing the biomass gap and promoting regenerative practices;
- **regulatory considerations**: the need for simplification, predictability and strategic alignment across policy frameworks;
- **funding**: the crucial role of funding in surviving 'valleys of death' in the bioeconomy and biotech sectors, and the need for public-private partnerships and revised funding rules;
- **sustainability criteria and cascading use**: the need to firmly implement the cascading principle and to build on existing frameworks for sustainability criteria;
- **context-specific research**: supporting context-specific research, innovative support and tailored expertise to adapt to climate conditions.

It was also emphasised that the new bioeconomy strategy should prioritise resource optimisation, production diversification, circularity, nature restoration and regenerative practices.

Stakeholders generally agreed that the bioeconomy has significant potential for their specific sectors and the broader EU economy, e.g. by replacing fossil-based resources and increasing EU resilience and competitiveness.

In addition to the responses from the call for evidence and the public consultation survey, the European Commission also received **ad hoc contributions** from 20 organisations after the consultation period had ended. The contributions came from stakeholders who had not been able to respond within the designated time frame due to technical issues or for other reasons. Table 3 lists the names and further details of the organisations who submitted the additional ad hoc contributions.

Table 3. Ad hoc contributions

Organisation name	Member State	Stakeholder type
Austrian Biomass Association	Austria	Non-governmental organisations and civil society

European Plant Science Organisation	Belgium	Academic/research institutions
European Biogas Association	Belgium	Non-governmental organisations and civil society
Municipal Waste Europe, European Biogas Association and European Compost Network	Belgium	Non-governmental organisations and civil society
Circular Bio-Based Europe Joint Undertaking (CBE JU)	Belgium	Public authorities
Environmental Coalition on Standards	Belgium	Non-governmental organisations and civil society
Bulgarian and Romanian governments	Bulgaria, Romania	Public authorities
CONCITO	Denmark	Non-governmental organisations and civil society
European Biosolutions Coalition	Denmark	Industry representatives (primary producers and associations)
Finnish government	Finland	Public authorities
Stora Enso	Finland	Industry representatives (primary producers and associations)
GFBiochemicals	France	Industry representatives (primary producers and associations)
Stefan Köhler MEP	Germany	Public authorities
BASF	Germany	Industry representatives (primary producers and associations)
German Ministry of Economic Affairs and Energy	Germany	Public authorities
German Ministry of the Environment, Climate Action, Nature Conservation and Nuclear Safety	Germany	Public authorities
Baden-Württemberg Ministry of Food, Rural Affairs and Consumer Protection	Germany	Public authorities
Eni S.p.A.	Italy	Industry representatives (primary producers and associations)
Stockholm Exergi	Sweden	Industry representatives (primary producers and associations)
The Protein Project	UK	Academic/research institutions

The ad hoc contributions outline a wide-ranging debate on the future direction of sustainable production and resource use. Although perspectives differ, there is consensus that economic transformation and ecological responsibility must go hand in hand. Industry contributions emphasise competitiveness, innovation and the conditions necessary to secure investment. These include predictable regulatory frameworks, simplified authorisation processes, incentives for scaling first-of-a-kind plants and recognition of new categories of products such as bio-attributed materials. The business sector highlights its role in technological transformation – from biorefineries and advanced fertilisers to biotechnology and digital farming tools – arguing that Europe risks losing global leadership if supportive frameworks are not put in place.

Environmental and civil society actors, by contrast, focus attention on ecological boundaries. They underline the risks of overexploiting biomass, which could erode biodiversity, carbon sinks and ecosystem services. Their proposals call for binding material footprint targets, robust sustainability standards applied across biomass uses, and stronger monitoring systems to prevent rebound effects or greenwashing. The ‘cascading use’ principle is considered critical for ensuring that biomass is prioritised for high-value and circular applications rather than short-lived. The contributions also express concern that undefined terms such as ‘regenerative practices’ may obscure rather than enforce ecological safeguards.

National and regional authorities and sectoral organisations often position themselves between these perspectives. Some highlight the importance of stable supply chains, rural development and regional infrastructure for scaling up innovative practices, particularly in

agriculture, forestry and waste management. Others stress that industrial growth must be carefully aligned with local ecosystems to avoid scarcity and degradation. Research and innovation communities add yet another layer, focusing on plant factories, microbiome applications and new biotechnologies that could provide solutions for food security, health and materials, while acknowledging challenges of scalability, regulation and consumer acceptance.