



30/06/2026

Final Report



CBE JU Stakeholder Study



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1 Executive Summary

This study examines stakeholders' perceptions of the Circular Bio-Based Europe Joint Undertaking (CBE JU) regarding its delivery model and impacts, in the context of the discussions around the future of the partnership under the new Multiannual Financial Framework (MFF). The findings presented in this report are based on interviews with key stakeholders from across the bioeconomy ecosystem, a survey and a dedicated workshop.

The evidence collected points to the conclusion that CBE JU is widely regarded as one of the EU's most important instruments for advancing the bioeconomy and supporting bio-based innovation. Stakeholders consider the CBE JU as a successful example of a public-private partnership that has helped translate policy ambitions into concrete industrial projects, helping to develop technologies, infrastructure and value chains across the bioeconomy. The programme is seen as particularly valuable in addressing the transition from research to demonstration scale, with stakeholders repeatedly pointing to flagships as its most impactful feature. Flagship projects enabled companies to validate innovation at industrial scale, build first-of-a-kind facilities, attract additional investments and increase visibility within relevant networks. CBE JU beneficiaries consulted for this study further agreed that the programme's funding allowed them to develop their businesses in a way that would often not have been otherwise possible.

CBE JU and its predecessor, the Bio-Based Industries Joint Undertaking (BBI JU), are perceived as having played a major role in structuring and supporting the European bioeconomy ecosystem. The programme has brought together primary producers, SMEs, large industrial companies and research organisations, across multiple sectors and value chains. Survey results show particularly strong impacts in terms of networking, collaboration and visibility for beneficiaries. The findings further confirm the strategic importance of the partnership in an increasingly competitive global environment. Stakeholders noted that, while Europe faces growing competition in biotechnology and biomanufacturing, CBE JU has helped maintain Europe's leadership in the bioeconomy by creating the conditions for continued innovation, investment and industrial deployment.

The CBE JU delivery model received highly positive feedback across all data sources. Participants in this study emphasised the responsiveness of CBE JU staff, the quality of interactions with project officers and the flexibility shown during project implementation within the boundaries of the Horizon Europe framework. Stakeholders further highlighted the credibility of the evaluation process, the quality of stakeholder engagement mechanisms and the value of bringing together the European Commission and industry representatives in the development of call topics. While some concerns were raised from SMEs and primary producers regarding application complexity, low success rates and administrative burdens, these were generally attributed to the wider Horizon Europe framework rather than to CBE JU delivery model. Notably, the programme was recognised for achieving comparatively strong SME participation despite operating in the same conditions as other programmes.

Stakeholders also highlighted the programme's strong alignment with European policy priorities. CBE JU is viewed as a key tool for supporting the objectives of the Bioeconomy Strategy, the Clean Industrial Deal, circular economy policies and the broader competitiveness agenda. Several participants stressed that the programme does not



merely respond to policy priorities but also actively contributes to shaping them, by generating practical evidence from its projects and feeding lessons back into policymaking processes.

The study identified a number of challenges that continue to affect the development of the European bioeconomy. These include difficulties in accessing private capital after project completion, regulatory barriers, insufficient demand-pull measures for bio-based products, and challenges related to the engagement of primary producers. In this context, the creation of the Working Group on Primary Producers and the Bioeconomy Investment Deployment Group were particularly emphasised as positive developments of the CBE JU, reflecting a commitment to enhance the engagement of feedstock providers and financial actors in the bioeconomy. Stakeholders were clear that these issues extend beyond the mandate of the CBE JU and require coordinated action from the European Commission, Member States, financial actors and the industry.

Looking towards the next MFF, the findings of the CBE JU stakeholder study confirm that the programme should be regarded as a strategic asset for accelerating industrial innovation in the bioeconomy and support Europe's competitiveness, resilience and strategic autonomy. Stakeholders broadly agreed that CBE JU focus on industrial deployment should be maintained, with particular emphasis on flagship projects, and the links with financing instruments that can support commercialisation and market uptake of bio-based innovations.

2 Introduction

2.1. Objective of the stakeholder study

The objective of the CBE JU stakeholder study was to assess the stakeholder perception of the CBE JU and its added value. The study gathered evidence on how the programme is perceived in terms of delivery to stakeholders, achievements, impact and alignment with EU policy objectives. Future needs for the advancement of the bio-based sector, in the framework of the discussions about the future of the partnership under the new MFF, have also been identified. Stakeholders have been invited to reflect upon both the delivery model of this public-private partnership and its activities and project portfolio, to assess overall participant satisfaction. Additionally, the study has contributed to generate evidence on the effectiveness of the JU model in broad terms, assessing also the fitness of the CBE JU in meeting evolving needs in the current geopolitical landscape of its large stakeholder base.

2.2. Target audience

The study is mainly targeting CBE JU projects, CBE JU advisory bodies members and CBE JU founding partners, the European Commission and the Bio-based Industries Consortium (BIC). At the same time, some findings and recommendations concern a broader policy makers community with an ambition to develop the bioeconomy, such as national and regional governments.



3 Methodology

The methodology for the study consisted of three complementary components:

- Interviews
- Survey
- In-person workshop

The information collected through each of these methods has been processed and integrated into the analysis presented in this report.

3.1. Interviews

The interviews aimed at gathering in-depth perspectives around CBE JU's policy alignment, impact and added value, as well as stakeholders' experiences with the Joint Undertaking's delivery model of the programme.

A total of 17 semi-structured interviews were conducted with stakeholders across the CBE JU ecosystem, including industry representatives, beneficiaries of the programme, CBE JU governance and advisory bodies, cluster organisations, policymakers and civil society actors. Interviewees were selected to ensure a balanced representation across stakeholder types, geographical areas and bioeconomy sectors. A full list of interviewees is provided in Appendix A, while the interview questionnaire is available in Appendix B.

The qualitative data collected was analysed to identify recurring patterns, key insights and actionable stakeholder recommendations. In the present report, findings from the interviews are triangulated with survey results and with the outcome of a focus-group style workshop to ensure robustness and support evidence-based conclusions.

3.2. Stakeholder survey

This survey aimed at gathering stakeholders' views and experiences regarding CBE JU's operational performance, impact and alignment with EU policy priorities. By collecting feedback from a wide range of stakeholders, the survey sought to build a clear and balanced understanding of what is working well, where challenges remain, and how the partnership could further evolve to better respond to stakeholders' needs.

The survey was open between 03/02/2026 and 05/03/2026. All answers from the 66 respondents have been treated confidentially and in accordance with EU data protection rules. Responses have been used exclusively for the purposes of this study.

Please find the survey questions in Appendix C.

Please find the survey analysis in Appendix D.

3.3. In-person workshop

The objective of the workshop was to collect stakeholder feedback and suggestions on different aspects of the CBE JU programme implementation, such as relevance, effectiveness, efficiency and future needs. The workshop agenda is outlined in Appendix E.



The workshop complemented the two other collection methods, namely interviews and survey. Discussions involved 14 stakeholders and revolved around the findings of the interviews and the survey.

The workshop participants (Appendix F) were invited to discuss in a focus-group style based on the preliminary study findings and a workshop discussion paper (Appendix G). The workshop results were collected in a report (Appendix H) which informed, among others, the overall stakeholder consultation study.

4 Findings and recommendations

4.1. CBE JU delivery

4.1.1 *Strengths and challenges of the CBE JU delivery*

Overall, the evidence across all three data sources suggests that CBE JU's delivery is broadly well-regarded, with stakeholders consistently recognising the quality and responsiveness of the CBE JU programme office's staff, the rigour of the evaluation process and the effectiveness of its public-private governance structure.

This view was expressed consistently by the eleven interviewees who had direct experience of project application, evaluation and implementation. The survey corroborates this picture: across the nine dimensions of evaluation and project management assessed, scores ranged from 3.87 to 4.61 out of 5, with communication with CBE JU staff receiving the highest rating of 4.61. While the evaluation procedure received a comparatively lower but still positive score (3.87 out of 5), it should be noted that this largely reflects the Horizon Europe (HE) rules and CBE JU is not in a position to modify requisites and administrative procedures.

Interviewed beneficiaries were particularly consistent in praising CBE JU staff for being highly supportive and flexible during project implementation, comparing favourably to other EU-funded programmes as well as national ones. The survey reinforces this view: 22 out of 32 respondents (69%) described CBE JU project officers as highly engaged, easy to contact and genuinely supportive, with many noting that this level of hands-on assistance is less common across the broader HE landscape. Furthermore, attractiveness of CBE JU to respondents' organisations was rated at 4.4 out of 5 with 96% favourable, indicating that the programme remains highly valued by its stakeholder community.

While some challenges have been identified by stakeholders consulted, in the majority of cases these were attributed to the broader HE framework rather than to the specificity of CBE JU delivery model.

The following section outlines the main findings concerning application, evaluation of proposal, and project implementation and monitoring, as well as stakeholders' views on the programme's accessibility and flexibility.

The project application process

CBE JU performs relatively well in ensuring accessibility of the application process, particularly for SMEs, whose participation is among the highest in HE programme. Stakeholders also broadly agree that the CBE JU programme office is making considerable efforts to assist applicants within the boundaries of its mandate. While some interviewees (8 out of 17) reported that the application process can be demanding, the



most frequently mentioned issues are financial rules and cost eligibility requirements that derive from the HE framework rather than from CBE JU specific choices.

In this context, seven SMEs interviewed referred to barriers such as the administrative complexity of consortium-based proposals, co-funding requirements, the need for proposal-writing resources and the overall scale of engagement required to participate effectively in HE projects. As companies often need to contract external consultants for the preparation of their proposals, this disproportionately affects smaller organisations that lack the in-house expertise for project preparation and administration. Workshop participants further noted that widespread use of consultants may be contributing to grade inflation. For primary producers, specific challenges include the mismatch between project structures and agricultural operational realities (e.g. seasonality, smaller-scale business models, lack of human resources for EU project management). This issue stems from HE rules and CBE JU has limited room to simplify application procedures.

The survey data confirms the administrative burden related to the HE framework, with proposal complexity (23%), limited internal capacity to prepare competitive proposals (21%), and co-funding requirements (20%) identified as the three most crucial barriers to participation. A further 14% noted that the size of investments expected for flagship projects can make them inaccessible to smaller SMEs and called for more Research and Innovation Actions (RIA) and Innovation Action (IA) calls suited to smaller enterprises

Regarding the business orientation of the programme, workshop participants emphasised that CBE JU goes further than comparable HE actions in the requirements it places on applicants, including the obligation to present a business model, business case, and/or business plan, and in deploying dedicated business-profile experts specifically for Innovation Actions evaluation. This was presented as evidence that the programme is already using all available rules to the maximum possible extent, and that further improvements will require changes at the level of the HE framework.

Evaluation of project proposals

Several interviewees highlighted the rigour and quality-focus of CBE JU's evaluation process as a genuine strength. The programme was praised for its clear emphasis on excellence and the competitive pressure this creates, with interviewees all noting the positive effect this has on the quality of funded projects. The survey confirms broadly positive views on the evaluation procedure, with 74% of respondents offering a favourable assessment.

Workshop participants raised the issue of the low success rate as a genuine challenge. The programme has clearly increased proposal quality over time and now finds itself unable to fund proposals scoring 14 or even 15 out of 15. Across both interviewees and workshop participants this issue was framed as partly a function of budget and requiring solutions involving other instruments rather than CBE JU alone. This echoes a broader survey finding, where 5 out of 28 respondents (18%) felt that success rates are too low to justify the investment required to participate.

Project implementation and monitoring

Interviewees and workshop contributors acknowledged CBE JU flexibility culture during project implementation, emphasising that the programme has a clear orientation towards successful project delivery. Yet, stakeholders also noted that HE legal framework rules and related IT tools are becoming increasingly restrictive and leave little room for flexibility in practice.



Some workshop contributors also pointed out that market or technical shifts can lead to project plans changing mid-implementation, which can generate a fear of losing funding, even when the overall delivery objective remains unchanged. Intellectual property rights were further discussed as a potential issue arising from project reporting whereby project teams must demonstrate delivery of what was promised but would not want to disclose too much as other parties also have access to their reports.

The survey reflects broad satisfaction with implementation support from the programme office. Communication with CBE JU staff received the highest score across all management dimensions at 4.6 out of 5 with 91% favourable, and 69% of respondents described CBE JU project officers as highly engaged, easy to contact and genuinely supportive, with many noting that this level of hands-on assistance compares favourably to other HE programmes. Flexibility in handling project changes or amendments scored 4.0 out of 5 with 70% favourable.

Inclusiveness and stakeholder participation

The majority of interviewees considered CBE JU's delivery model to be transparent and inclusive. Elements specifically appreciated included the public-private cooperation at the core of the JU's design, the multi-stakeholder structure of governance and advisory bodies, with a particular emphasis on the roles of the Scientific Committee (SC) and states' representatives group (SRG) in aligning with Member States and guaranteeing scientific rigour. The survey is consistent with this view, with transparency and inclusiveness rated at 4.55 out of 5 and 98% of respondents offering a favourable assessment.

At the same time, five interviewees identified gaps in the current governance model, centring primarily on the limited involvement of primary producers and organisations from widening regions. The addition of the Working Group on Primary Producers is acknowledged as a positive development in both the survey and the interviews, but interviewee evidence suggests this has not yet translated into substantive influence over call design or strategic priorities.

4.1.2 Targeted recommendations to further improve CBE JU delivery model

Enhancing accessibility of the Horizon Europe architecture

The complexity and the administrative burdens of the application procedure are perceived to be linked to the broader HE architecture, with stakeholders calling on the European Commission to design simplified access pathways with lighter requirements and reduced reporting obligations. In the survey 16% of respondents mentioned the need for a review of CBE JU overhead cost caps, IKOP requirements and funding rates below 70%. Concerning primary producers, interviewees and workshop participants suggested reforming HE rules to include smaller-scale or more flexible funding instruments (e.g. vouchers) for agricultural actors.

A final structural point raised by workshop participants concerned the framing of Life Cycle Analysis (LCA). Rather than functioning as a punitive requirement that smaller companies struggle to meet, LCA should be reframed as a journey-based tool that recognises sustainability as a transition process and rewards incremental improvements rather than demanding immediate perfection. This would make sustainability requirements more proportionate and accessible, particularly for SMEs navigating the early stages of scale-up.

As for the low success rate of proposals, workshop participants discussed how explored mechanisms, such as the Seal of Excellence and the 'stack' from DigiPatch, have not proven workable in practice. A reserve unallocated budget, not tied to specific topics but used each year to fund proposals reaching the quality threshold of 15 and realisable to the following year if unspent, was proposed as one possible approach, subject to compatibility with HE horizontal rules. Workshop participants cautioned, however, that this may concentrate funding in whichever areas happen to score highest at the expense of strategically important but lower-scoring topics, and could undermine the breadth the programme is designed to cover.

In the survey, 20% of respondents recommended working to raise success rates. A two-stage application process, as used in some other HE programmes, was raised as a possible mechanism to reduce the burden on unsuccessful applicants, though workshop contributors noted this extend the timeline from proposal to project start.

Leveraging CBE JU flexibility in project management

As mentioned above, stakeholders' perception of CBE JU flexibility during project implementation was positive across all data sources. To further accommodate for the needs of innovators participating in CBE JU projects, workshop participants argued that having representatives from start-ups among reviewers could help. While these professionals may be less research-oriented, their lived experience of early-stage company development may make them more likely to recognise plan changes as a normal part of innovation.

Strengthening CSAs business orientation

When discussing the delivery model, workshop participants argued that Coordination and Support Actions (CSAs) could be more business-oriented and focused on activities that create real value for the market, rather than primarily dissemination, exploitation and communication. The Horizon Booster¹ model, involving large and important market actors in converting results into actionable outcomes, was cited as a reference point. It was further suggested that CSA evaluation scoring should specifically focus on what a project will practically do to support innovators, rather than solely on the quality of planned outputs and reports.

4.2. Contribution of CBE JU to EU policy priorities & sector needs

Across all data sources, CBE JU-funded projects were regarded as strongly aligned with current EU policy priorities, with interviews and workshop evidence pointing to the programme's role as both an implementer and an active shaper of EU bioeconomy policy. In this context, stakeholders noted that the bioeconomy needs to move from having a strategy to a clear implementation plan with defined next steps, financing tools and a defined role for CBE JU. This is particularly relevant in connection to the Environmental Council Conclusions on the Bioeconomy Strategy², the new Bioeconomy Strategy³ and the Multiannual Financial Framework (MFF) negotiations. Workshop participants stressed that the MFF represents a critical opportunity, as the bioeconomy must be reflected not only under research and innovation but also across infrastructure,

¹ <https://www.horizonresultsbooster.eu/>

² <https://www.consilium.europa.eu/en/press/press-releases/2026/03/17/bioeconomy-council-backs-moving-bio-based-innovations-from-lab-to-production/>

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52025DC0960>



logistics and investment support instruments to accelerate and support the scaling up and market deployment.

CBE JU has proven highly effective in funding innovation up to demonstration scale. As EU policy priorities increasingly centre on competitiveness and market uptake of innovation, CBE JU and the European Commission have launched a Bioeconomy Investment Deployment Group⁴. The Deployment Group is expected to provide a platform for accelerating investment in Europe's bioeconomy. Its mandate is structured around four complementary clusters: funding and financing instruments (e.g. blended finance, risk-sharing mechanisms, future EU funding frameworks); bankable project pipeline (i.e. developing clear criteria for investment-ready projects); eligibility monitoring and reporting (i.e. tracking investment flows across the sector); matchmaking to connect bio-based companies with financial institutions.

4.2.1. *Contribution of results and impacts from CBE JU to current and emerging EU policy priorities*

Alignment of the programme with EU circular and bio-economy policies

Interviewed stakeholders highlighted that CBE JU projects concretely contribute to EU circular and bio-economy objectives, particularly through bio-based alternatives to fossil-based materials and products and waste valorisation. Workshop participants reinforced this, noting that CBE JU directly supports EU competitiveness, resilience and strategic autonomy priorities, including through high SME participation rates, and provides demonstration evidence at industrial scale in support of the EU Biotech Act and EU biomanufacturing ambitions.

These qualitative assessments are strongly backed by the survey, in which 80% of respondents (32 out of 40) expressed a broadly positive view of the programme's alignment with key EU policy initiatives, including the EU Bioeconomy Strategy⁵, the Clean Industrial Deal⁶, the Circular Economy Action Plan⁷, the competitiveness compass and Horizon Europe priorities, with most referencing multiple policy objectives simultaneously.

While interviewees and survey respondents emphasised the need for stronger alignment of CBE JU with the Common Agricultural Policy⁸, the creation of the Working Group on Primary Producers⁹ within the programme was largely viewed as a positive development towards a better integration of the primary sector across all feedstock sources.

CBE JU contribution to the competitiveness agenda

The EU competitiveness agenda emphasises the role of SMEs in building up a dynamic and attractive industrial ecosystem in Europe. CBE JU counts a very high share of SME as

⁴ <https://www.cbe.europa.eu/bioeconomy-investment-deployment-group>

⁵ https://environment.ec.europa.eu/strategy/bioeconomy-strategy_en

⁶ https://commission.europa.eu/topics/competitiveness/clean-industrial-deal_en

⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>

⁸ https://agriculture.ec.europa.eu/common-agricultural-policy_en

⁹ <https://www.cbe.europa.eu/working-group-primary-producers>

beneficiaries compared to other EU funding programmes, including HE. Currently, 38% of participants in CBE JU projects are SMEs, confirming the accessibility of the programme to smaller companies.

Stakeholders interviewed acknowledged CBE JU efforts and success in involving a wide share of SMEs in the programme. A representative from the SC argued that this increases the alignment of the programme with the goal of scaling-up innovations outlined in the Bioeconomy Strategy. Nevertheless, survey respondents raised some SME-specific barriers: 14% noted that the scale of flagship projects makes them sometimes inaccessible to smaller entities and called for more RIA and IA calls.

As for regulatory and financial burdens persisting due to the broader policy context, stakeholders emphasised the need to introduce measures, such as tax breaks and research and development credit schemes, that can de-risk early-stage investment and allow companies to offset upfront costs. These interventions would assist European start-ups and scale-ups in competing with larger multinationals, thereby achieving the objectives outlined in the Bioeconomy Strategy and in the competitiveness agenda.

CBE JU as an active policy driver

Workshop participants emphasised that CBE JU does not merely follow policy but actively creates evidence via feedback collected from the funded projects that informs and shapes it, effectively acting as a front-runner that influences policy direction. The European Commission's co-design of the programme with the BIC, combined with active monitoring of project performance against strategic policy goals, ensures a direct feedback loop between programme results and policy development.

Interview participants highlighted CBE JU's role in ensuring an efficient feedback to policy loop which was underscored with the example of preparatory inputs informing the Bioeconomy Strategy. The active role of CBE JU in policymaking is reflected in the survey, where around 25% of respondents (10 out of 40) explicitly mentioning CBE JU as an active driver of EU policy, translating priorities into tangible industrial outcomes through public-private cooperation. This comes as CBE JU acts as an "industrial engine" for bio-based frameworks which helps generate policies and new trends. Respondents reflect on this as going a step further, by supporting the implementation of policy priorities through specific related actions and projects.

Strategic autonomy

Workshop participants highlighted that the programme contributes to EU strategic autonomy goals by supporting indigenous European industry based on European-grown or sourced biomass. For instance, industry representatives highlighted how CBE JU funding is helping in diversifying and renewing the European chemical sector, by supporting innovative companies and fostering the advancement of new molecules and chemicals that are directly relevant to EU strategic autonomy. More broadly, stakeholders agreed that by having a mandate in the field of bio-based innovations CBE JU inherently pertains to an area of critical strategic importance for Europe, even when compared to the other Joint Undertakings.

Impact of flagship projects on EU policy goals

Interview respondents identified flagship (first-of-its-kind biorefinery) and demonstration projects as the most impactful CBE JU instruments for delivering EU policy goals. This is

because flagships and demonstrators prioritise the industrial deployment of bio-based technologies and foster the scale-up of innovation in line with the Bioeconomy Strategy. Interviewees also argued that flagships contribute to closing the infrastructural gap and praised their geographic spread across Europe. One representative from the SRG emphasised that CBE JU flagship projects are a unique case within the HE/Horizon 2020 ecosystem and they can significantly reduce the risk for industrial deployment, in line with the objectives of the EU competitiveness agenda.

Survey findings corroborate this, with 24% of respondents (11 out of 45) calling for even greater emphasis on high-TRL projects, industrial-scale flagship biorefineries, and first-of-a-kind deployments as the single most frequently cited suggestion for improvement.

Box 2: Flagship and demonstrator examples

Concrete examples cited include the flagship and demonstrator projects:

- **AFTERBIOCHEM**¹⁰ (2020-2025), which developed the first all-in-one chemical platform for transforming the sugar industry's side streams and non-food biomass feedstocks into bio-sourced molecules and derivatives of industrial interest in France.
- **SUSTAINEXT**¹¹ (2023-2027), where the lead partner is upgrading its production plant into a multi-product biorefinery with an industrial-scale processing capacity of 20 000 tonnes a year in Spain.
- **WOODCELL**¹² (2024-2029) in which partners are designing and building an industrial-scale Microcrystalline Cellulose (MCC) production facility in Estonia.

Cross-cutting policy relevance of the bioeconomy

Workshop participants noted that the cross-sectoral nature of the bioeconomy means CBE JU impacts are felt across multiple European Commission Directorates-General, including DG RTD, DG ENV, DG AGRI, DG CLIMA, DG MARE, and DG GROW. Stakeholders called on the European Commission to improve coordination among these policy areas as the absence of coherent cross-DG policy risks fragmentation in how the bioeconomy is supported.

While CBE JU's communication plan for the current year is specifically focused on communicating results, impact and their fit within the current policy context, the cross-cutting relevance of the bioeconomy requires the programme to target their message to the different DGs.

4.2.2. Recommendations to further enhance the programme's alignment with the EU competitiveness agenda

Promoting market uptake and demand-side measures

Industry interviewees placed particular emphasis on the need for stronger alignment between CBE JU and demand-side policy. 6 out of 8 industry stakeholders who addressed

¹⁰ <https://www.cbe.europa.eu/projects/afterbiochem>

¹¹ <https://sustainext-project.com/>

¹² <https://www.cbe.europa.eu/projects/woodcell>



the question highlighted the importance of aligning the programme more closely with Green Public Procurement policies and provisions likely to establish bio-based content requirements. Stakeholders suggested a stronger focus by CBE JU on the product categories targeted in this policy context to foster the development of bio-based products with credible scale-up opportunities.

Survey findings confirm that market demand remains a widely shared concern, with 20% of respondents (9 out of 45) highlighting the need for bio-based innovation to provide stronger evidence of market adoption, off-take intent and credible scale-up roadmaps. A further 14% (6 out of 44) pointed to the difficulty of finding buyers willing to pay a green premium and suggested more calls focused on procurement, standardisation and consumer acceptance.

Leverage CBE JU as a bridge between innovators and legislators

Workshop participants identified regulatory complexity as a structural barrier to market entry and a bottleneck that CBE JU could potentially be well placed to help address. This encompassed a range of challenges, from the lack of harmonisation across Member States to the weak recognition of bio-waste in EU directives and regulations. A regulatory sandbox approach was proposed so that frameworks such as REACH and the novel food regulation support rather than obstruct bio-based innovation, with a specific IP sandbox suggested at EU or programme level to make IP rules are more flexible and promote the active exploitation of CBE JU projects. Cross-border movement of biomass was raised as an additional critical barrier: attempts to move biomass across Member State borders for use in pilot facilities have been repeatedly blocked due to waste classification rules, and workshop participants called on policymakers to develop a research-purpose designation of waste within EU-funded research projects.

Interviewees and workshop participants generally acknowledged that the structural regulatory gaps identified are outside CBE JU's direct activity scope, but several suggested that CBE JU could channel policy feedback back to the legislators. The survey reflects this expectation, with 29% of respondents (12 out of 42) calling for CBE JU to act as a bridge between innovators and EU institutions, strengthening the way evidence from funded projects feeds into policymaking.

Scaling up communication with policymakers to enhance the strategic positioning of the programme

Workshop participants discussed the strategic positioning of the programme, especially within the broader context of the Joint Undertakings. Contributors agreed on the need for strong communication with sectoral DGs of the European Commission, and particularly emphasised that these activities should be grounded in concrete project examples and real case studies, rather than general programme-level claims. In particular, the workshop discussion emphasised that Coordination and Support Actions (CSAs) could be used strategically to channel learnings from project participants back to legislators.



4.3. CBE JU impact

4.3.1. Concrete CBE JU impact on organisations and funding programme support in achieving organisational specific goals

Evidence from interviews and the workshop discussion points to a rich and varied picture of how CBE JU participation has shaped the development of organisations across the bioeconomy, with impacts ranging from technological advancement and investment de-risking to ecosystem access and sector-wide transformation. These findings are broadly corroborated by the survey, which consistently records positive scores across a range of organisational impact dimensions. Across all data sources, beneficiaries have consistently reported that participation in CBE JU-funded projects has enabled the upgrade of facilities and business models, as well as enhanced their visibility within relevant networks. Furthermore, this study finds that CBE JU impact extended even beyond individual participants, influencing national policies.

Enabling activities that would not otherwise have been possible

The most consistently reported impact across interviews was that CBE JU funding enabled activities that organisations could not have undertaken independently. Interviewees placed particular emphasis on the programme's role in de-risking investment when testing innovative technologies, with 9 out of 17 interviews describing participation in CBE JU-funded projects as crucial in moving from pilot to demonstration and industrial scale. This finding was especially consistent among those who participated in flagship projects. One beneficiary described using a CBE JU flagship as a business driver, enabling the company to upgrade its own plants and roll out the concept of a dynamic biorefinery across different business operations. Another noted that activities carried out within CBE JU projects are fully aligned and integrated into the company's core business.

Box 3: WASTE2FUNC project example

The WASTE2FUNC¹³ project was described as transformational for Amphistar¹⁴, forcing the full value chain, from feedstock providers to technology providers and end users (e.g. Ecover¹⁵), to work together and enabling the launch of a consumer prototype product. Without the project, this market launch would not have been feasible. The consortium also secured public communication from Ecover about the bio-based ingredient involved, something the large company would otherwise have avoided for competitive reasons, resulting in a publicly visible link to the product's contribution. This provided crucial proof of concept for Amphistar's subsequent fundraise of 6 million EUR, with ECBF as lead investor.

Box 4: AFTERBIOCHEM flagship example

The AFTERBIOCHEM¹⁶ project is a flagship that involves both CBE JU and a national grant. The project aims to develop the first all-in-one chemical platform transforming sugar side streams into bio-sourced molecules and derivatives of industrial interest. The AFTER-BIOCHEM project is

¹³ <https://www.cbe.europa.eu/projects/waste2func>

¹⁴ <https://amphistar.com/>

¹⁵ <https://www.ecover.com/en/uk/>

¹⁶ <https://www.cbe.europa.eu/projects/afterbiochem>

expected to enable a French bioeconomy cluster start-up to raise 600 million EUR in follow-on investment. This outcome was seen as inconceivable without CBE JU support.

The survey strongly supports these assessments. Respondents rated CBE JU's contribution to scaling up innovations from lab to demonstration or deployment at 4 out of 5, with 73% of respondents expressing a favourable view. When asked directly whether CBE JU funding allowed them to undertake activities that would not have been possible otherwise, 30% of respondents (9 out of 30) highlighted that the programme made it possible to move from lab or pilot scale to industrial validation and demonstration, with several noting that the capital expenditure and financial risk involved would have been impossible to absorb through private investment or national funding alone. One respondent noted that CBE JU has allowed their organisation to study market areas outside their scope, allowing them to test their product in previously unknown markets. Another organisation detailed how CBE JU funding enabled innovation within their supply chain to create a more cost-effective product.

20% (6 out of 30) of respondents specifically pointed to pilot plants and biorefineries that would not have been built, or would have taken significantly longer to develop, without CBE JU support. One respondent mentioned that without CBE JU support "building a demo plant would not be feasible, it would have required more time and external financing". This is further reflected in the following response, highlighting CBE JUs progressive approach:

"Most funding instruments stop at the lab "proof of concept." CBE JU provides the capital-intensive support needed to run industrial-scale machinery, which is essential for convincing Tier 1 companies to switch their supply chains."

Investment de-risking and attracting private capital

Seven interviewees out of 17 identified investment de-risking as one of the main impacts of CBE JU participation. Three beneficiaries stated specifically that the programme plays a strong role in enhancing the credibility of technical solutions proposed by their companies on the market. Representatives from BIC similarly perceived the programme as a successful example that has to some extent compensated for Europe's structural weakness in venture capital. Workshop participants reinforced this, noting that industry is co-investing in CBE JU projects, particularly those co-funded by national governments, even when it would not invest in infrastructure alone, precisely because the public co-funding reduces risk exposure. This dynamic is enabling the industry to engage more actively in bioeconomy scale-up. A beneficiary from a national research centre pointed to the collaboration with the industry as the core benefit of participating in CBE JU projects, arguing that this was crucial to scale-up technologies and move beyond the lab stage.

The programme's seven-year stability was identified as a success factor by workshop participants, sending a positive signal to the market, creating investor confidence, and enabling companies to build long-term strategies. Stakeholders warned that funding gaps and abrupt programme closures would undermine investors' confidence in the European bioeconomy ecosystem, arguing that the stability and long-term visibility of CBE JU is essential for all bio-based companies to remain attractive for private capital.

Beyond Europe, the programme has contributed to changing the global paradigm for bioeconomy investment: in 2022, the United States launched a comprehensive strategy



to maintain global leadership in biotechnology and biomanufacturing, aiming to expand domestic production capabilities, secure biological IP and train the workforce. The US executive order¹⁷ was argued to be partially inspired by BBI JU and CBE JU by stakeholders, who also pointed that international companies are reported to now be considering investing in Europe.

Survey respondents rated CBE JU's contribution to reducing financial risks associated with innovation at 3.79 out of 5, with 65% (28 out of 43) expressing a favourable view. Scores for increasing organisational attractiveness to private investors were more modest at 3.24 out of 5 and 41% (17 out of 41) favourable, reflecting the pre-commercial and demonstration-oriented nature of most funded activities.

Business development and product innovation

Six interviewees spoke specifically about CBE JU's impacts in terms of business model development and product innovation. These interviewees explained that CBE JU funding has often been pivotal in building core aspects of their businesses, allowing them to experiment in a de-risked environment and enhance their credibility with larger industrial partners. Below are some examples of how participation in CBE JU projects allowed companies to upgrade their facilities, integrate innovative concepts into their business model, build long-lasting collaboration across sectors and enhance their visibility within the bioeconomy ecosystem.

Box 5: FIRST2RUN project impact on beneficiaries

The FIRST2RUN project was funded by CBE JU predecessor, BBI JU. It demonstrated the environmental and economic benefits of an integrated biorefinery, where low inputs and underutilised crops are valorised for the extraction of vegetable oils. The oils were further converted into bio-monomers and used for high added value bioproducts such as bio-lubricants, cosmetics and bioplastics. The FIRST2RUN biorefinery is located in Porto Torres (Sardinia, Italy), involving the industrial reconversion of a former petrochemical site.

A representative from Novamont explained that the company's role in the FIRST2RUN project was crucial in shaping a broader biorefinery business model. Indeed, the project enabled the testing and validation of an integrated biorefinery that linked agriculture and chemical sectors while also fostering industrial regeneration and rural value creation. Nowadays Novamont defines FIRST2RUN as a demonstrator and a practical example of a new business model that combines technological innovation with the positive social impacts of the bioeconomy.

Box 6: SUSTAINEXT project impact on beneficiaries

The SUSTAINEXT¹⁸ project is a CBE JU flagship that started in 2023 as result of the first CBE JU call. The goal of SUSTAINEXT is to transform the production plant of lead partner, Natac, at Hervás (Spain) into a multi-product biorefinery with an industrial-scale. The plant is based on the concept of dynamic biorefining, where both feedstock composition and the processing of raw materials are continuously adapted to allow optimisation for commercial needs. This notion had already been tested in earlier BBI JU-funded projects and thanks to private investments, however CBE JU funding is now allowing for further scaling and industrial implementation.

The SUSTAINEXT consortium includes 20 partners across the value chain, showcasing the importance of collaboration in the circular bioeconomy. SUSTAINEXT members span across the

¹⁷ Executive Order 14081 (2022)

¹⁸ <https://www.cbe.europa.eu/news/breaking-ground-circular-economy-sustainext-biorefinery-construction-begins>

entire value chain, from primary producers to engineering companies and end-users that can validate the developed products.

A representative from Natac explained that the SUSTAINEXT project directly enabled the company to upgrade their infrastructure, turning it into a highly digital and sustainable botanical extract manufacturing plant. This allowed to sustain two new production lines, as well as testing the use of medicinal-aromatic plants (e.g. chamomile, rosemary) and agri-food side streams (e.g. olives, artichokes). Further, the CBE JU promotion of SUSTAINEXT enhanced Natac's visibility in the bioeconomy ecosystem.

Box 7: SWEETWOODS and WOODCELL impact on beneficiaries

Fibenol is an Estonian SME, part of the larger Fibenol Group, that coordinated two flagship projects: SWEETWOODS¹⁹ and WOODCELL²⁰. These two projects are now fully integrated into Fibenol's core business. In particular, they have been helpful in building up cross-value chain collaboration. A representative from Fibenol²¹ reported that their industrial partners in CBE JU projects have since then applied raw materials provided by Fibenol in their packaging and products. Further, the projects' visibility also drove up Fibenol's popularity and attractiveness within the regional bioeconomy ecosystem.

- The **SWEETWOODS** project (2018-2024) developed a first-of-its-kind biofractionation flagship plant in Estonia that uses sustainable hardwood biomass. The plant, which uses wood processing residues as a feedstock, produces wood-based biomaterials on an industrial scale for the first time.
- The **WOODCELL** project (2024-2029) builds on the experience of the SWEETWOODS flagship to enable the production of micro-scale specialty Microcrystalline Cellulose (MCC). The aim is to use the hardwood residues to produce lignin and wood sugars for novel functional bio-based primary raw materials to be used in the materials and chemical industry.

Box 8: CBE JU impact on beneficiaries' business models and facilities

Workshop participants offered a further example: one Irish SME that began as a biomass analysis service provider was able, through sustained participation in BBI JU and CBE JU projects, to expand its workforce, develop new skills, open a subsidiary in the United States and begin developing its own technology for market.

The survey records favourable but nuanced scores in this area. Respondents rated CBE JU's contribution to positively impacting the organisation's business model and to developing new products or services at 3.8 out of 5 in both cases, with 68% (30 out of 44) and 67% (30 out of 45) favourable ratings respectively. Contributions to market uptake and commercialisation of bio-based solutions scored somewhat lower at 3.5 out of 5 and 45% favourable, with 40% of respondents neutral on this dimension, reflecting the structural gap between demonstration-scale success and full commercial deployment that was a recurring theme across all three data sources.

Ecosystem access, visibility, and network building

Eight interviewees mentioned that CBE JU improved the visibility of their organisations, as well as ecosystem access. Industry representatives frequently noted that collaboration within CBE JU projects enables companies to network and reinforces the European

¹⁹ <https://www.cbe.europa.eu/projects/sweetwoods>

²⁰ <https://www.cbe.europa.eu/projects/woodcell>

²¹ <https://fibenol.com/>

ecosystem around the bioeconomy. Those who participated in flagship projects particularly emphasised how project promotion provided greater visibility to larger industrial players (see Box 6 and Box 7). One industry representative argued that CBE JU has had a strong impact in advancing bio-based manufacturing, enabling the creation and growth of an ecosystem. Policymakers and representatives from CBE JU advisory bodies similarly highlighted the ecosystem-building impact of demonstrators and flagships.

The survey records the highest scores across all impact dimensions in precisely this area. CBE JU's contribution to increasing networking opportunities was rated at 4.61 out of 5 with 91% (42 out of 46) favourable and strengthening collaborations with other key actors in the EU bioeconomy landscape at 4.59 out of 5 with 91% (42 out of 46) favourable responses. Increasing organisational visibility in the bioeconomy ecosystem at EU level was rated at 4.46 out of 5 and increasing credibility at EU and international level at 4.41 out of 5, both with 93% (43 out of 46) and 83% (38 out of 46) favourable ratings respectively. These are among the strongest satisfaction scores recorded across the entire survey. Several organisations point to the CBE JU as tool that increased the visibility of their organisation on the European level. Furthermore, CBE JU strengthened the innovation capabilities of multiple organisations, through networking and developing into previously unexplored markets. One respondent shared:

"We believe that our participation will aid in improving our collaboration with industry, expand our technical capabilities in renewable gas technologies, and increase our visibility as a reference RTO in gasification, anaerobic digestion and residual gas valorisation. It has also facilitated access to new value chains and accelerated the deployment of innovative pilot and demo scale solutions."

National and sector-level spillover effects

Workshop participants highlighted examples of CBE JU's impact extending well beyond individual project participants to influence national policy and sector development. It was reported that CBE JU participation triggered a national-level snowball effect in Ireland: the government observed the benefits of a flagship project, including the large number of SMEs and research-performing organisations, and responded by increasing both capital and project funding nationally. The government pre-funded infrastructure specifically to prepare Irish researchers and companies to compete in upcoming CBE JU calls, and a national bioeconomy research centre was subsequently established, provoking a sector-building effect that extends well beyond the direct participants of any single project.

Box 9: The ROBOCOOP-EU project

The ROBOCOOP-EU²² project (2023-2027) was cited as a concrete example of CBE JU spillover effects at the sector level. The project proposes circular regional business models for the use of waste streams from three agricultural sectors: grape, olive and stone fruit cultivation. It targets key geographical areas for the development of cooperative business models in the agricultural bioeconomy: Extremadura, Spain; Apulia, Italy; and West Macedonia, Greece.

Stakeholders pointed to the projects' impact in fostering cooperative and farmer-led models, promoting the role of farmer structures in bringing primary producers together. The ROBOCOOP-EU project was highlighted as an example of how CBE JU funding can have a relevance that extends beyond individual countries.

²² <https://www.cbe.europa.eu/projects/robocoop-eu>

Workshop participants also noted that CBE JU has given new direction to primary production, aiming for the sector to become more attractive to a younger generation, and that the programme has successfully raised awareness of the distinct concept of circular bioeconomy, differentiating it clearly from broader circular economy and green economy narratives. In the interviews, an interviewed policymaker highlighted a sector-specific impact, noting that CBE JU's inclusion of topics on aquatic feedstock in its calls has supported companies in exploring underdeveloped opportunities, for example developing bio-based solutions based on algae. Finally, workshop participants noted that CBE JU-funded projects are helping to diversify and renew the European chemical sector by supporting new companies and new molecules, directly relevant to Europe's open strategic autonomy agenda.

The survey reflects the breadth of these ecosystem-level impacts, with 27% of respondents (12 out of 45) highlighting CBE JU as instrumental in creating a critical mass of collaboration across the EU, and 22% (10 out of 45) describing the programme's impact as transformative, noting that CBE JU has shifted the bioeconomy from a research concept to a tangible industrial sector with real physical infrastructure, first-of-a-kind biorefineries and commercial products on the market. Respondents reflect on how "CBE JU allowed companies to invest in the bio-based sector, achieving important results and capitalising these results at industrial level, overcoming the first valley of death", going further to say that "alongside the 2012 Bioeconomy Strategy, CBE JU and BBI JU have been one of the main contributors to allowing bioeconomy to enter the mainstream in many EU countries". The general consensus appears to be that, because of the efforts of the CBE JU and its predecessor, "the bio-based economy is no longer just about research papers; it is about physical infrastructure and market competitiveness."

4.3.2. *Untapped potential in the European bioeconomy: CBE JU's enabling role for infrastructural development and broader sectoral inclusion*

Whilst the survey results paint an overall picture of strong stakeholder satisfaction, with CBE JU's overall impact rated at 4.38 out of 5 and 93% of respondents offering a favourable assessment, qualitative evidence from interviews and the workshop discussion reveals a set of untapped opportunities that, if addressed, could significantly amplify the programme's impact in the next MFF phase.

These opportunities for improvement often concern the system as a whole and do not necessarily fall within CBE JU's mandate to address. The legality and suitability of action is to be additionally explored.

Technological Infrastructure: unlocking cross-border access

One of the most concrete opportunities identified during the workshop discussion concerns the cross-border use of pilot and demonstration infrastructure. Despite the existence of over 130 open-access pilot and demo facilities across Europe, innovators remain largely restricted by national and regional funding schemes that prohibit using grants to access facilities in other countries. As a representative of the CBE JU-funded Pilots4U project noted, in 96% of the cases they surveyed among pilot and demo infrastructure operators, regional funding could not be used cross-border. The workshop participants argued that CBE JU is uniquely positioned to unlock this potential by

designing calls that explicitly incentivise cross-border infrastructure use, for example through travel vouchers, the organisation of pilot and demo infrastructure fairs in underserved regions and facilitated open days. Activities of this kind were piloted under the CBE JU-funded Copilot project but need to be mainstreamed at a larger and ongoing scale.

This finding is consistent with survey evidence: 5 out of 32 respondents (16%) called for easier access to shared pilot and demo infrastructure, specifically to enable SMEs and smaller innovators to validate technologies without bearing the full capital investment themselves.

A related recommendation from the workshop participants, is that the link between CBE JU and open-access facilities should be made more systematic, to help projects transition from lower to higher TRLs without needing to invest in physical infrastructure at intermediate stages. This would reduce redundant 'steel' investment and better exploit existing European capacity.

Box 10: Pilots4U and Copilot projects

Through the Pilots4U²³ and Copilot²⁴ projects, CBE JU has brought together a Europe-wide community of open-access pilot and demonstration infrastructures, directly anticipating the goals of the new EU Research and Technology Infrastructures Strategy²⁵. The Copilot project has already achieved four of the six elements anticipated in the forthcoming EU Charter of Access to Industrial Uses of Technology Infrastructures²⁶, covering increased visibility, transparency, quality of services, EU company priority and cross-infrastructure cooperation.

Conversion of stranded industrial assets

The workshop discussion also highlighted an underexploited opportunity in the conversion of existing and often stranded industrial assets, particularly in the chemical sector. Repurposing existing European industrial infrastructure is both more cost-effective and strategically important than greenfield construction, and petrochemical partners with spare capacity could serve as hosts for start-ups seeking scale-up facilities. Better visibility on available industrial capacity, potentially channelled through the Critical Chemicals Alliance's²⁷ working group on critical molecules and critical sites, would facilitate this. The survey offers some additional evidence of this view, with 7% of respondents (3 out of 44) calling for flagship actions targeting the conversion of existing industrial sites into modern biorefineries.

The TLR focus of CBE JU funding

The question of TRL focus emerged as one of the most contested themes across all three data sources. The workshop discussion surfaced a clear divergence of views: Europe's chemical industry's position is that CBE JU's instruments should be sharpened towards high TRLs (6 and above), on the grounds that lower TRL activities are better addressed by other Horizon Europe instruments, and that a more focused programme would attract greater

²³ <https://biopilots4u.eu/>

²⁴ <https://www.cbe.europa.eu/projects/copilot>

²⁵ https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/our-digital-future/european-strategy-research-and-technology-infrastructures_en

²⁶ https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/commission-seeks-feedback-future-charter-access-industrial-users-research-and-technology-2025-11-13_en

²⁷ https://single-market-economy.ec.europa.eu/sectors/chemicals/critical-chemicals-alliance_en

engagement from large industrial companies, currently in a 'waiting mode.' This was directly challenged by other participants who argued that TRL 4 to 6 projects remain essential and must not be abandoned, as a structural gap persists in that space as elaborated earlier in the text.

The survey reveals that this tension is widely felt amongst stakeholders. Whilst 8 out of 38 respondents (21%) welcomed the shift towards more Innovation Actions and flagship projects, an equal number, 8 out of 38 (21%), flagged insufficient support for mid-range TRLs 5 to 7 as a significant gap, warning that the piloting, validation and industrial integration stages are currently underweighted. A further 5 out of 38 respondents (13%) cautioned that excessive focus on higher TRLs risks starving the early-stage pipeline, reducing the flow of breakthrough ideas entering the system. The survey finding that 11 out of 45 respondents (24%) called for greater emphasis on high-TRL projects, the most frequently cited single suggestion in that section, does not resolve the debate but does indicate that the pressure to shift upwards in TRL is a dominant stakeholder concern. The conclusion is that CBE JU should use its governance mechanisms to launch a debate on TRL focus and on distribution of funding between different TRL levels. At the same time, alignment with other funding mechanisms, including the future ECF and Horizon programme, should be explored to ensure funding in all stages of the innovation cycle.

Underrepresented sectors: blue bioeconomy and primary producers

Stakeholders converged on a clear message: certain sectors and actor types remain marginal within CBE JU range of beneficiaries. This refers mainly to the aquatic sector and primary producers. Across all data sources, participants in the study recognised that such underrepresentation structurally belongs to the current stage of development of the bioeconomy. In this context, stakeholders called on European policymakers to scale up sectoral investment to scale up skills in both agricultural and marine areas of the bioeconomy. These interventions should aim at generating a human capital pipeline that can engage with programmes such as CBE JU.

Interviewees and workshop participants positively noted CBE JU efforts to attract actors systematically underrepresented in the bioeconomy. In particular, the Working Group on Primary Producers²⁸ was emphasised as a positive example. Whilst underlining that a simplification of Horizon Europe requirements would be needed to unlock the accessibility of the programme to entities operating in marine and agricultural bioeconomy, stakeholders also noted that CBE JU calls could further be strengthened to target such actors. Indeed, 16% of survey respondents called for a stronger inclusion of farmers, cooperatives, agroindustry and forestry actors. Workshop participants similarly argued that call topics could be designed more specifically, to respond to the needs of primary producers.

Four interviewees also called for a more targeted approach to outreach when it comes to underrepresented actors. Suggestions mainly consisted of further developing initiatives such as sector-specific seminars and workshops for underrepresented actors, communication strategies directed at primary producers.

Among underrepresented beneficiaries, the gap in organisations from Eastern Europe was also discussed by workshop contributors. In this context, the main suggestion was to scale up the current travel grant system (provided through the NCP_WIDERA.NET project²⁹) that covers travel and accommodation costs for HE applicants from widening

²⁸ <https://www.cbe.europa.eu/working-group-primary-producers>

²⁹ <https://ncpwideranet.eu/>



countries and regions to participate to information days about calls and dedicated training/workshops for applicants.

4.3.3. *Addressing the funding gap after project completion: how can CBE JU support commercial uptake of bio-based innovations*

The funding gap that opens at the end of a CBE JU project was often identified across interviews and the workshop discussion as one of the factors limiting the programme's overall ultimate impact. Whilst CBE JU has proven effective in supporting from innovation to demonstration scale, the transition to commercial deployment requires more ambitious financing architectures. For this reason, the Joint Undertaking together with the European Commission, has launched a Bioeconomy Investment Deployment Group which is expected to address most of the findings presented in this section.

Strengthening CBE JU links with private investors

A recurring theme across interviews and the workshop was the insufficiency of private capital for the development of a strong European bioeconomy. Workshop participants highlighted that investor appetite for co-investment at higher TRLs remains inadequate. For example, at TRL 4 to 7, despite the availability of pilot infrastructure and a large pool of European innovators, demand for scale-up services at open-access infrastructures is reported to have decreased in 2023 and 2024, as private investors remain unwilling to absorb technology risk at these TRL levels.

Across all data sources, beneficiaries noted that CBE JU's impact could be enhanced by strengthening its links with investors, to the extent possible within CBE JU's mandate. A majority of interviewees (8 out of 14 who addressed the question) suggested to strengthen CBE JU's links with financial institutions, including the European Investment Bank (EIB) and national banks. Similarly, workshop contributors also called on policymakers to explore ways to coordinate CBE JU funding and post-project financing instruments.

In the survey 'contribution to market uptake and commercialisation of bio-based solutions', received one of the lowest scores across impact dimensions (score of 3.5 out of 5), alongside the 'increase attractiveness to private investors'. This partially reflects the programme's acknowledged pre-commercial orientation, but it also points to stakeholders' perception of a gap in post-project support. To address it, 16% (6 out of 38) of respondents called on European policymakers for staged or blended funding, OPEX support and market creation incentives.

Workshop contributors went further in proposing a more structured architecture at the EU-level, to guarantee that CBE JU funds prioritise pre-commercialisation stages. Participants suggested that the **European Innovation Council**³⁰ (EIC) and the **Scaleup Europe Fund**³¹ play a more defined role at high TRLs (8 and 9), with a preferential channel established between CBE JU-backed projects and EIB investment tools such as the **EU Tech Champions Initiative**³².

³⁰ https://eic.ec.europa.eu/index_en

³¹ https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/jobs-and-economy/eu-startup-and-scaleup-strategy_en

³² <https://www.eif.org/flagship-initiatives/european-tech-champions-initiative/overview>



Workshop participants also suggested that financial institutions and agriculture-focused cooperative banks may be integrated into CBE JU processes at a much earlier stage, rather than being approached only at the commercialisation stage. The survey reflects this view, with 11% of respondents (5 out of 45) recommending stronger connections with the EIB, Structural Funds and national and regional funding initiatives, and 17% (7 out of 42) calling for clearer follow-on routes to blended finance mechanisms as their primary expectation for future support.

Increase dissemination of project results to mitigate investors' risk aversion

While the lack of private capital in Europe was agreed to represent a systemic challenge beyond CBE JU activities, interviews and the workshop stakeholders emphasised how the programme can contribute to a better communication and dissemination of success cases. This can contribute to shifting the perception of bio-based investment as excessively risky, particularly among more risk-averse financial actors such as pension funds whose participation is essential to mobilise large-scale capital. The survey reflects this concern, with respondents arguing that insufficient offtake commitments are key reasons for investor reticence. As bio-based products struggle to displace fossil-based alternatives, 23% of respondents (10 out of 44) highlighted a lack of procurement signals, unclear standards and limited certification frameworks are key issues. Some participants in the study even suggested to work on the possibility of reviewing the CBE JU mandate to provide the programme with the opportunity to certify project results in order to improve their attractiveness for external investors.

A gap was also identified for companies wishing to access markets via contract or toll manufacturing rather than building dedicated industrial plants. This is a pathway that is particularly relevant for high-value biotech products but is not adequately supported by current CBE JU instruments.

Address the funding gap in flagship projects

A prominent structural challenge identified by participants in the study is the scale of the funding gap between CBE JU project grants and the full cost of industrial scale investment for bio-based companies. Flagship projects receive up to 20 million EUR in grants, yet the total investment required to reach industrial scale can reach 200 million EUR, leaving project coordinators to secure the remaining finance largely on their own. In addition, workshop participants were clear that, whilst CBE JU has achieved its objective of demonstrating capacity at technological and industrial scale, companies must subsequently mobilise substantial additional capital to construct and operate their first large scale commercial plant. This means that the second valley of death is not yet adequately addressed from a policy, political or budgetary perspective, and companies, especially SMEs, often fail to make it through as a result.

Hence, there is a need for further CBE JU support after project completion. During the interviews, 6 out of 8 industry stakeholders who addressed the question emphasised the importance of a stronger focus on pre-commercialisation and demonstration-to-market transition stages, specifically TRLs 7 to 9. The survey corroborates this, with 24% of respondents (11 out of 45) calling for greater emphasis on high-TRL projects and industrial-scale flagship biorefineries, and a further 16% (6 out of 38) specifically flagging the second valley of death as an area where CBE JU support is needed.

Several workshop participants also advocated for the introduction of a voucher-type system, drawing on models such as BioBase4SMEs³³ and SuperBio³⁴ from the FP7. Stakeholders suggested small bilateral grants enabling companies or pilot facilities to carry out targeted scale-up activities, Life Cycle Assessment studies, patent development, certification or product testing without needing to assemble a full consortium. The Flemish VLAIO 'Scale-Ready' scheme³⁵ was cited as a model for a faster and lighter funding mechanisms, where a project application can be approved within four months which avoids losing momentum around bio-based innovations. In this context, stakeholders also mentioned that some companies might prefer to use existing facilities instead of building new pilot plants and suggested to reflect on developing a more agile system to enable more agility.

Reward project continuity

Interviewees highlighted that follow-up projects are currently treated as entirely new applications, even when they build on technologies already proven through CBE JU funding. As this might create unnecessary inefficiencies, beneficiaries interviewed suggested the creation of a dedicated budget for replication and follow-up projects.

A further recommendation was to put forward structured mechanism that rewards continuity, for example through additional evaluation points for follow-up proposals or a simplified application track for projects with a demonstrated prior track record. Nevertheless, CBE JU still needs to move within the boundaries of Horizon Europe rules.

4.3.4. Potential for strengthening CBE JU role in project result capitalisation and replication

Scaling up the current dissemination infrastructure and knowledge transfer

Workshop participants noted that whilst project result repositories, such as Zenodo³⁶ exist, they are not sufficiently visible or coordinated well enough to serve as effective knowledge transfer tools. A more visible and curated repository of CBE JU project results would increase dissemination, build credibility with financial and industrial actors and improve knowledge transfer to industry actors who were not part of the original consortium. One interviewee suggested that CBE JU should produce a structured synthesis of products developed, technology readiness levels reached and environmental benefits achieved, serving both as a dissemination tool and as a resource to inform the shaping of relevant regulations and future funding frameworks.

Workshop participants also highlighted that Pilot and Demonstration Infrastructures (PDI) fairs, matchmaking events, study visits and open days, as piloted through the Copilot project, are practical mechanisms for disseminating project results and connecting them with potential replicators and investors. These activities were described as only a small-scale exercise and need to be possible on a larger and ongoing basis.

³³ <https://www.bbeu.org/projects/biobase4sme/>

³⁴ <https://www.bbeu.org/projects/superbio/>

³⁵ <https://www.vlaio.be/en/subsidies/scale-ready>

³⁶ <https://zenodo.org/>

In the survey, 10% of respondents (4 out of 42) called for a wider communication of the tangible outcomes of CBE JU-funded projects, including products brought to market and plants developed, to build public awareness, attract political support and demonstrate the real-world value of the bioeconomy to a broader audience.

4.3.5. *Improvement of synergies between CBE JU and national and regional funds*

Synergies between CBE JU and national and regional funding programmes was a cited area for improvement across all three data sources. Whilst the issue did not emerge as a dominant theme in the survey, with only 5 out of 45 respondents (11%) explicitly recommending stronger connections with European Structural and Investment Funds and national and regional funding initiatives, the depth and specificity of the evidence from interviews and the workshop discussion suggests that the challenge is more significant than aggregate survey scores might imply. It is a topic on which those with direct experience have clear and actionable views.

Emerging models of national and EU co-funding

The workshop discussion surfaced several concrete and replicable models for improving funding synergies, drawing on existing practice at national level.

Box 11: The double dossier approach

Some French flagship projects have adopted a 'double dossier' approach, submitting simultaneously to CBE JU for operational expenditure (OPEX) and to the national investment agency for capital expenditure (CAPEX). In this model, CBE JU acts as co-funder for operational costs whilst the national instrument funds the physical infrastructure, combining the strengths of both funding streams in a complementary and non-duplicative way. It was argued that this model deserves to be explored and formalised at EU level as a replicable co-funding structure.

A related proposal concerned the European Innovation Council (EIC)³⁷. It was noted that if biomanufacturing technologies were approved as EIC 'step technologies', a parallel submission to both EIC and CBE JU for the same investment could become a systematic co-funding structure for companies in the scale-up phase, with CBE JU covering operational expenditure and EIC addressing capital expenditure. This would address structural gaps in the current funding landscape, namely the absence of a coherent public instrument that covers both the operational and capital dimensions of industrial-scale deployment simultaneously.

A further model was proposed: a co-fund arrangement with Member States, whereby CBE JU provides a portion of funding for a specific call and Member States are required to match the remainder. However, this must be carefully designed to avoid disadvantaging smaller Member States with less matching capacity, with stakeholders suggesting that differential co-funding rates for SMEs versus multinationals could help address this imbalance. The survey provides some indirect support for the ambition underlying this proposal, with 7 out of 42 respondents (17%) calling for better integration with financial instruments and blended finance, and for clearer follow-on routes to EIB, EIC and national funding schemes.

³⁷ https://eic.ec.europa.eu/index_en

Alignment with regional priorities and the widening participation challenge

The interview evidence adds an important territorial dimension to the synergies question. Five out of seventeen interviewees addressing this point, raised the issue of limited alignment between CBE JU and national and regional funding programmes, framing it as a missed opportunity to strengthen bioeconomy development in countries and sectors that are currently underrepresented in the programme's portfolio. Three of those interviewees specifically called for CBE JU to develop coordinated funding approaches with Structural Funds and national programmes aligned to bioeconomy priorities.

On the specific question of widening participation countries, interviewees with relevant expertise acknowledged that the lack of infrastructure and financial capacity for bioeconomy development in Central and Eastern European (CEE) regions constitutes a challenge that CBE JU alone cannot resolve. Nevertheless, a representative of a relevant cluster emphasised that Eastern Europe's potential as a biomass supply region makes its fuller integration into the CBE JU ecosystem strategically important, and not just a matter of equity. One interviewee put forward a concrete recommendation that flagship projects be implemented outside of advanced regions, explicitly to encourage the building of plants with concrete industrial applications in underrepresented countries.

The survey data reflects awareness of this gap. The CBE JU's dedicated Widening Participation Strategy³⁸ is acknowledged positively in survey responses on transparency and inclusiveness. At the same time, the structural barriers identified by interviewees, including insufficient infrastructure, limited financial capacity and weak alignment between EU and national funding priorities, suggest that the strategy as currently designed may not be sufficient to address the underlying causes of underrepresentation.

³⁸ chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.cbe.europa.eu/system/files?file=2023-09/CBE-JU-widening-strategy.pdf

5. Summary of recommendations and possible actions

5.1. Recommendations for the CBE JU programme

The recommendations below address the current CBE JU Programme and are relevant to the CBE JU Programme Office, BIC and the European Commission.

Challenge	Recommendation	Possible Actions
The second “valley of death”	Strengthen support for high-TRL and industrial-scale deployment in the bioeconomy	Increase focus on flagship biorefineries and high-TRL projects
	Develop financing pathways for innovations developed within EU-funded projects	Build on the Bioeconomy Investment Deployment Group to enhance access to soft loans, EIB partnerships and blended finance instruments
Lack of private capital	Enhance the interest and confidence of financial institutions and private investors in bio-based products and technologies	Build on the Bioeconomy Investment Deployment Group to better engage/involve banks and financial institutions in projects from early stages
		Leverage the excellence reputation of the CBE JU programme to promote project results to investors
		Contribute to communicating and disseminating success stories so to help shifting the perception that investments in the bioeconomy are too risky
	Strengthen EU innovation financing ecosystem	Use the Deployment Group to develop/strengthen structured links with the EIB, EIC and national schemes. This may include facilitating preferential channels between CBE JU and other instruments
Weak demand for bio-based products	Strengthen the demand-side pull for bio-based alternatives	Align CBE JU calls with the product categories targeted by Green Public Procurement policies and bio-based content requirements
	Improve standards and certification for bio-based products to support their market uptake	Include call topics explicitly targeting standardisation and consumer acceptance of bio-based chemicals, materials and products
	Focus on market-relevant products to support commercial and industrial deployment of bio-based solutions	In the topics selection/design to target product categories with strong scale-up potential, further improving the alignment with the lead markets identified in the EU Bioeconomy Strategy
Regulatory and policy challenges around the bioeconomy (e.g. waste classification, REACH)	Strengthen policy feedback loops between bioeconomy practitioners and policymakers	Strengthen feedback to policymaking, further improving engagement with sectoral DGs. Crucially, communication with policymakers should always be grounded in evidence provided by project results

		Use further CSAs to channel project learnings to European policymakers
	Address regulatory fragmentation across Member States	Further strengthen the communication of project results with SRG members representing the Member States as SRG representatives can feed back relevant results from CBE JU-funded projects into their national ministries.
	Review national and European rules constraining research and market development across bioeconomy sectors	Strengthen the policy dialogue with policymakers to advocate for overcoming policy constraint to cross-border biomass movement and biomass applications providing concrete examples from CBE JU funded projects
Governance inclusiveness limitations		EC to increase formal participation of sectoral DGs in the CBE JU relevant to the bioeconomy
Misalignment between funding cycles and industrial timelines	Support a more timely research-to-market transition	Reduce as much as possible the time between the evaluation stage and the start of the project
Cross-border collaboration barriers	Promote shared infrastructure use to support the development of a European bioeconomy ecosystem	Incentivise cross-border use of pilot/demo facilities
		Support cross-border knowledge exchange through infrastructure fairs, open days and other similar activities
Limited alignment between EU-wide with national and regional funding schemes	Improve coordination across different funding schemes	Work towards the development of complementary funding approaches with national and structural Funds
Lack of infrastructure for the bioeconomy	Prioritise the reuse of existing industrial assets in Europe	Incentivise in the topics, particularly flagship, projects to contribute to the conversion of pre-existing industrial sites into biorefineries and other infrastructures relevant for the bioeconomy'
Limited role of primary producers in the European bioeconomy	Increase incentives for the inclusion of primary producers in bioeconomy-related business models	Design calls targeting primary producer needs
	Improve communication, knowledge exchange and support capacity-building targeting potential biomass suppliers	Continue to advance the work of the Working Group on Primary Producers, strengthening sub-sectors' representation and its advisory role within CBE JU governance
		Continue targeting underrepresented regions and sectors in communication and outreach strategies
Limited capitalisation of	Increase visibility of projects' results and support their	Develop a structured project result repository, illustrating what has been achieved and potential economic

CBE JU projects' results	market adoption through targeted activities	benefits for interested industries and financial institutions
		Continue and scale-up the organisation of PDI fairs, matchmaking, site visits and similar activities to contribute to the dissemination of projects' results
		Strengthen project results dissemination to sectoral DGs
Regional disparities, particularly in Central and Eastern Europe	Improve geographical balance among CBE JU applicants	Explore possibilities to support flagships core infrastructure located in widening participation countries
High number of unfunded high-quality proposals presented to CBE JU annually	Improve funding efficiency	Maintain the reserve lists with allocated reserve budget for top proposals reaching the score of 15 when possible
		Consider two-stage evaluation process to minimise burden for unsuccessful applicants
	Review call design	Design more specific topics for CBE JU calls to minimise the re-submission of proposals across different calls
Widen the accessibility to CBE JU funding	Increase interest in the primary producers	Strengthen activities such as information days and webinars for project application to assist entities that are less experienced in EU grants and EU project management

5.2. Other recommendations

Challenge	Recommendation	Possible Actions
The second “valley of death”	Develop financing pathways for innovations developed within EU-funded projects	EIB and national banks develop within the Bioeconomy Investment Deployment Group tailored financing tools
Lack of private capital	Enhance the interest and confidence of financial institutions and private investors in bio-based products and technologies	EC/national bodies expand guarantees and design co-investment tools to support the scale-up of business models in the bioeconomy field National policymakers to work on tax break and research and development credit schemes that can further de-risk early-stage investment and allow companies to offset upfront costs when moving towards industrial deployment
	Strengthen EU innovation financing ecosystem	EC to strengthen innovation funding architecture in Europe (e.g. Scaleup Europe Fund) and align EIC, EIB and Tech Champions Initiative
Regulatory and policy challenges around the bioeconomy (e.g. waste classification, REACH)	Simplify regulatory requirements, particularly for SMEs and smaller actors	EC to develop support platforms (REACH, Novel Food) and support mechanisms at the framework or programme level
	Promote regulatory and IP sandboxes to support innovation in the bioeconomy	EC and national bodies to develop regulatory and IP sandboxes
	Address regulatory fragmentation across Member States	EC and national governments to work on the harmonisation of standards and regulations relevant to the development of a strong European bioeconomy ecosystem
	Review national and European rules constraining research and market development across bioeconomy sectors	EC to introduce “research-purpose” designation for biomass movement EC and national bodies to work on overcoming policy challenges due to conflicting waste classifications and other limiting rules hampering the development of the bioeconomy
Mismatch between funding cycles and industrial timelines	Support a more timely research-to-market transition	EC to develop more flexible and agile funding schemes to shorten the time between the project application and its implementation
Administrative and financial burdens for SMEs across bioeconomy sectors	Improve SME access and participation to bioeconomy-related research and market experimentation	EC to enable more flexible in-kind contributions within HE to improve SMEs access to flagships
	Adapt requirements to SME capacity	EC to simplify sustainability requirements (e.g. LCA) within HE rules for SMEs and smaller actors

Cross-border collaboration barriers	Promote shared infrastructure use to support the development of a European bioeconomy ecosystem	EC and national governments to harmonise bioeconomy-related rules and promote shared infrastructure use to strengthen Europe's bioeconomy ecosystem
Limited alignment between EU-wide with national and regional funding schemes	Enable co-funding pathways	EC to foster alignment between future mechanisms (e.g. JUs and EIC). This may involve the development of an OPEX (supported by JU) vs CAPEX (supported by EIC) funding model
	Improve coordination across different funding schemes	EC/MS create co-investment schemes for the bioeconomy
		EC to explore framework for enabling parallel JU and national funding applications
Limited role of primary producers in the European bioeconomy	Increase incentives for the inclusion of primary producers in bioeconomy-related business models	EC improve project evaluation criteria of HE framework to guarantee a multi-actor approach and be able to assess when primary producers are involved as genuine contributors to the project while reducing at the same time the administrative burden
	Improve communication, knowledge exchange and support capacity-building targeting potential biomass suppliers	Public investments from the EU and/or Member States towards the development of bioeconomy-related skills
Limited scale-up capacity for companies in the bioeconomy	Improve access to manufacturing infrastructure	EC to support access to CDMOs and toll manufacturing
	Introduce flexible access mechanisms especially to support start-up and micro SMEs	EC to develop voucher/cascade funding schemes and small bilateral grants for scale-up support
Limited capitalisation of CBE JU projects' results	Reward continuity through supporting follow-up projects	EC to develop mechanism to allocate a dedicated budget for follow-up proposals through simplified application pathways
Regional disparities, particularly in Central and Eastern Europe	Incentivise entities from Central and Eastern European countries to engage in the bioeconomy to untap biomass supply potential	Policymakers to address the structural reasons for low bioeconomy development in CEE and other Widening Countries, including the lack of infrastructure and conflicting policy priorities
High number of unfunded high-quality proposals presented to CBE JU annually	Improve funding efficiency	EC to review the mechanism of financial allocation with the objective of supporting a larger number of valuable projects
	Review evaluation criteria	EC to review the set of project evaluation criteria to enhance the focus on industrial relevance and market-relevant track record of project applicants. This may allow to strengthen the focus on pre-commercialisation



Widen the accessibility to CBE JU funding	Simplify the application processes for SMEs	EC to introduce lighter application and reporting requirements for actors that are currently underrepresented among CBE JU beneficiaries
	Review project implementation rules to enhance accessibility to non-traditional actors	EC to adapt financial reporting rules to the cooperative models common in the agricultural and fisheries sectors

Appendix A. List of interviewees

Interview number	Organisation	Stakeholder type
N1	SME in the bioeconomy sector	CBE JU beneficiary
N2	CBE JU SRG	CBE JU governance actor
N3	Regional bioeconomy cluster	Regional organisation
N4	European institution	European policymaker
N5	Primary Producer Association	Primary sector representative
N6	Bio-based chemicals company	CBE JU beneficiary
N7	Macro-regional bioeconomy initiative	Regional organisation
N8	Industry association	Industry
N9	European institution	European policymaker
N10	National Bioeconomy Cluster	Regional organisation
N11	Industry association	Industry
N12	CBE JU working group on primary producers	CBE JU governance actor
N13	Bio-based materials and bioplastic company	CBE JU beneficiary
N14	CBE JU Scientific Committee	CBE JU governance actor
N15	Environmental NGO	Civil society
N16	SME in the bioeconomy sector	CBE JU beneficiary
N17	SME in the bioeconomy sector	CBE JU beneficiary

Appendix B. Interview questions

○ Respondent profile

- Could you briefly describe your organisation and its main activities?
- What has been your involvement with CBE JU (e.g. project-level, governance-level, etc.)?

○ Alignment of CBE JU with EU policy priorities

- In your view what are the most important EU policies for the bioeconomy development and do you consider that the activities of CBE JU are aligned with these policy objectives?
- Looking ahead, are there emerging or evolving EU policies that could shape Europe's bioeconomy in the future? How can CBE JU operation be further aligned with the evolving policy landscape?
- What are the main factors (operational, legislative, financial, etc.) hampering the scaleup of biobased supply chains and the market uptake of biobased solutions?
- What are your thoughts on the topics of CBE JU calls for proposal? Do they match the need of bio-based sectors in Europe?
- Could you provide an example of a CBE JU project you are/were involved in that contributes to EU policy goals?

○ Alignment of CBE JU activities with beneficiaries' needs

- How do you assess the balance of TRLs covered in CBE JU call topics? Do the TRLs match the needs of the sector?
- How well does the current governance model enable strategic steering of the programme?
- In your opinion, is CBE JU funding accessible for SMEs? Have you observed challenges SMEs face in implementing projects?

For non-beneficiaries:

- Have you considered applying to CBE JU? If not, why?
- If you applied unsuccessfully, how did you find the clarity of call requirements and the feedback?
- What could make CBE JU more attractive or accessible to you?

○ CBE JU impact

- From your perspective, what has been CBE JU's main impact?
- Has participation in the CBE JU partnership impacted your business model? Can you give examples of projects that helped you develop innovative products or services, or attract market interest?
- Did CBE JU funding allow you to undertake activities that would not have been possible otherwise?

- Has your participation in the CBE JU partnership helped you better understand the bioeconomy ecosystem and connect with other stakeholders?
- In your experience, what has been the main benefit of engaging with CBE JU (e.g. R&I funding, networking, visibility etc.)?
 - o Satisfaction with CBE JU delivery model
- How would you evaluate your experience with project administration (e.g. application, reporting, monitoring)? Are there any areas where administrative efficiency could be improved?
- Based on your experience in engaging with the partnership, do you consider CBE JU's governance process transparent and inclusive?
- Do you feel the partnership gives sufficient opportunities for stakeholders to communicate needs and challenges?
 - o Challenges and future needs
- Based on your involvement in the bioeconomy, what are the main innovation gaps and challenges that persist in Europe?
- What forms of support do you expect from CBE JU in the future to help tackle such barriers ?
- Overall, what key recommendations would you address to the partnership to help improve its impact and effectiveness?
- Based on your experience in engaging with the partnership, do you consider CBE JU's governance process transparent and inclusive?
- What three key recommendations would you give to improve CBE JU's impact, effectiveness, and stakeholder engagement?

Appendix C. Survey questions

o Respondent profile

1.1.	For all	Name of the respondent organisation	
1.2.	For all	Type of organisation	<ul style="list-style-type: none"> • European Commission • Public administration • Industry association • Cluster organisation • Large company • Research organisation/University • Small and Medium-sized Enterprise • Not-for-profit • Primary producer • Other. Please describe
1.3.	For all	In which part(s) of the bioeconomy is your organisation primarily active?	<p>Please indicate all options that apply.</p> <ul style="list-style-type: none"> • Policy making • Biomass production (agriculture, forestry, aquaculture etc) • Biomass processing and conversion • Waste valorisation and recovery • Bio-based materials and/or chemicals • Bio-based products and their applications • Enabling technologies and digital solutions for the bioeconomy • Other. Please add.

1.3.	For all	Please indicate your involvement with CBE JU	<ul style="list-style-type: none"> • Project coordinator/leader • Project partner • Applicant to a CBE JU call (not funded) • Member of a CBE JU advisory body: <ul style="list-style-type: none"> ◦ States' Representatives Group ◦ Scientific Committee ◦ Working Group • Member of the CBE JU Governing Board • Other. Please describe
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○ Alignment of CBE JU with EU policy priorities

2.1.	For all	To what extent are the activities of CBE JU aligned with the most relevant recent and upcoming EU policy initiatives and policy objectives (e.g. the EU Bioeconomy Strategy, the Clean Industrial Deal, Competitiveness Compass, circular economy, etc.?)	Please rank from 1 to 5, 1 being 'not at all aligned' and 5 – 'fully aligned' Please elaborate
2.2.	For all	Looking ahead, several upcoming or evolving EU policies shape the future of the European bioeconomy (e.g. Clean Industrial Deal, Bioeconomy Strategy, etc). How can CBE JU contribute to and further align its operations with these policy developments in the near future?	Please elaborate
2.3.	For all	Do the CBE JU calls for proposals match the needs of the bio-based sectors in Europe?	Please rank from 1 to 5, 1 being 'do not match at all' and 5 – 'fully match' Please elaborate
2.4.	For all	What important priority topics could be added or strengthened within the calls for proposals, and why?	Please elaborate
2.5.		Are there any changes to CBE JU's funding model or rules that could increase its impact in the coming years?	Please elaborate

○ Alignment of CBE JU activities with beneficiaries' needs

Before the start of this section, respondents will be asked whether they have ever benefitted from CBE JU funding and/or their organisation represent CBE JU beneficiaries. Only respondents providing a positive answer will have access to this section.

3.1.	For all recipients	How do you assess the balance of TRLs covered in CBE JU call topics? Do the TRLs match the needs of your sector?	Please rank from 1 to 5, 1 being 'do not match at all' and 5 – 'fully match' Please elaborate
3.2.	For all recipients	Are there any additional specific beneficiaries' needs which CBE JU should address even more?	Please elaborate
3.3.	For all except policy makers	In your opinion, is CBE JU funding accessible for your type of organisation?	Please rank from 1 to 5, 1 being 'fully accessible' and 5 – 'not at all accessible'
3.4	For all beneficiaries and applicants who have not received funding	If you believe that funding is not sufficiently accessible for your organisation, what are the main challenges you face in applying and implementing projects and how can these be overcome?	Please select all option that apply: <ul style="list-style-type: none"> • Complexity of proposal requirements • Co-funding requirements • Evaluation criteria are too complex • Limited internal capacity or resources to prepare competitive proposals • Difficulty in finding relevant partners and forming a strong consortium • Lack of knowledge and awareness of CBE JU calls • Lengthy time-to-grant • Other <ul style="list-style-type: none"> • Please elaborate

3.5.	For all except policy makers	In your opinion, is CBE JU attractive for your type of organisation?	Please rank from 1 to 5, 1 being 'very attractive' and 5 – 'not at all attractive'
3.6.	For all except policy makers	What could make CBE JU more attractive for you?	Please elaborate

o CBE JU impact

4.1.	For all recipients	From your perspective, how significant has been CBE JU's overall impact?	Please rank from 1 to 5, 1 being 'negligible' and 5 – 'very significant' Please elaborate
4.2.	For all recipients	From your perspective, what are the main features or characteristics that make CBE JU an effective instrument for supporting the European bio-based sector?	Please elaborate
4.3.	For policy makers, Member States, SRG, SC, primary producers	If you believe CBE JU has had tangible impact, what exactly has it been from your perspective?	Please elaborate

4.4.	For all beneficiaries	<p>Has participation in CBE JU-funded projects helped your organisation to:</p> <ul style="list-style-type: none"> • Impact positively on the organisation's business model • Develop a new product and/or service • Advance the organisation's technological know-how • Reduce financial risks associated with innovation • Improve the organisation's environmental performance • Scale up innovations from the lab to demonstration or deployment • Access new markets or customer segments • Contribution to market uptake and commercialisation of bio-based solutions • Increase the organisation's networking opportunities • Strengthen collaborations with other key actors in the EU bioeconomy landscape • Increase the organisation's attractiveness to private investors • Enhance the organisation's internal skills and capabilities with respect to bio-based innovation • Increase the organisation's visibility in the bioeconomy ecosystem at EU level • Increase the credibility of the organisation at EU and international level 	<p><i>(for each of them assess individually)</i></p> <p>Please rank from 1 to 5, 1 being 'not at all' and 5 – 'very much so'</p> <p>Please elaborate</p>
4.5.	<i>For all beneficiaries</i>	Can you give examples of specific CBE JU funded projects that	Please elaborate

		helped you develop innovative products or services, or attract market interest and briefly describe how it has happened?	
4.6.	For all beneficiaries	Did CBE JU funding allow you to undertake activities that would not have been possible otherwise?	Yes/no Please elaborate
4.7.	For all recipients	Has your involvement in or collaboration with CBE JU helped you better understand the bioeconomy ecosystem and connect with its stakeholders?	Please rank from 1 to 5, 1 being 'not at all' and 5 – 'very much so' Please elaborate

o CBE JU delivery

5.1.	To policy makers, MS, advisory bodies	How well does the current CBE JU governance model enable strategic steering of the programme?	Please rank from 1 to 5, 1 being 'not well at all' and 5 – 'very well' Please elaborate
5.2.	For all beneficiaries	How satisfied are you with the following: <ul style="list-style-type: none"> • Application procedure • Evaluation criteria • Reporting requirements • Time-to-grant (from submission to grant signature) • Monitoring procedures • Dissemination and promotion of projects' results by the CBE JU • Communication with CBE JU staff • Support from CBE JU during project implementation • Time and predictability of payments • Flexibility in handling project changes or amendments 	Please rank from 1 to 5, 1 being 'not at all' and 5 – 'fully satisfied'

		Is the support from CBE JU during project implementation effective and solution oriented?	
5.3.	For all beneficiaries	Are there any areas where administrative efficiency could be improved?	Please elaborate
5.4.	For all beneficiaries	Based on your experience in engaging with the partnership, do you consider CBE JU to be transparent and inclusive?	Please rank from 1 to 5, 1 being 'not at all' and 5 – 'very much so' Please elaborate
5.5.	For all recipients	Do you feel the partnership gives sufficient opportunities for stakeholders to communicate needs and challenges?	Please rank from 1 to 5, 1 being 'not at all' and 5 – 'very much so' Please elaborate

o Challenges and future needs

- 6.1. For all recipients Based on your involvement in the bioeconomy, what are the main innovation gaps, barriers and challenges that persist in Europe? Please elaborate
- 6.2. For all recipients What forms of support do you expect from CBE JU in the future to help tackle innovation gaps, barriers and challenges in the European bio-based sector? Please elaborate

CBE JU Mid-Term Stakeholder Workshop

Workshop report

Survey objectives and agenda

This survey aimed at gathering stakeholders views and experiences regarding CBE JU's impact, governance, operational performance and alignment with EU policy priorities. By collecting feedback from a wide range of stakeholders, the survey sought to build a clear and balanced understanding of what is working well, where challenges remain, and how the partnership could further evolve to better respond to stakeholders' needs.

The questionnaire comprises closed and open questions. All answers have been treated confidentially and in accordance with EU data protection rules. Responses have been used exclusively for the purposes of this study. The survey was open between 03/02/2026 and 05/03/2026.

o Participants

Table 1 List of Responding Organisation

List of Responding Organisations	Type of Organisation
SINTEF AS	Research Organisation/University
SOPREMA	Large Company
FUNDACIO CENTRE TECNOLOGIC EN BIODIVERSITAT, ECOLOGIA I TECNOLOGIA AMBIENTAL I ALIMENTARIA	Research Organisation/University
Danish Agriculture & Food Council	Farmers organisation
Starch Europe	Industry Association
CLIB - Cluster Industrial Biotechnology	Cluster Organisation
Fibenol Imavere	Large Company
Alginor ASA	Primary Producer
Fundación CIRCE	Research Organisation/University
European Bioeconomy Bureau asbl	Not-for-Profit
Cefic	Industry Association
Tecnopackaging	Small and Medium-Sized Enterprise
EuropaBio	Not-for-Profit
Wageningen University	Research Organisation/University
SINTEF AS	Research Organisation/University
CIRCE - Technology Center	Not-for-Profit

European institution	European policymaker
Universidade de Vigo	Research Organisation/University
ITENE	Research Organisation/University
Ministry of Education and Science of Republic of Latvia	Government/ministry organization
Food & Bio Cluster Denmark	Cluster Organisation
A4F - Algafuel S.A	Small and Medium-Sized Enterprise
Moses Productos S.L.	Small and Medium-Sized Enterprise
University of Mons	Research Organisation/University
TECNOPACKAGING	Small and Medium-Sized Enterprise
Novamont	Large Company
Biosphere S.R.L.	Small and Medium-Sized Enterprise
AITIIP Technology Centre	Research Organisation/University
CHIMAR HELLAS S.A.	Small and Medium-Sized Enterprise
TIMAC AGRO Italia S.p.A.	Large Company
Estonian Ministry of Regional Affairs and Agriculture	Public Administration
i-Foria	Small and Medium-Sized Enterprise
Technical University of Munich, Werner Siemens-Chair of Synthetic Biotechnology	Research Organisation/University
CIRCE	Technology centre
BODEGA MATARROMERA S.L.	Small and Medium-Sized Enterprise
Versalis S.p.A.	Large Company
PATURPAT SCOOP.	Small and Medium-Sized Enterprise
Solmeya	Small and Medium-Sized Enterprise
AINIA	Research Organisation/University
Natural Resources Institute Finland	Research Organisation/University
cres	Research organisation
Gate2Growth / NorthMoore	Small and Medium-Sized Enterprise
Patrick Barrett	Public Administration
AFYREN	Small and Medium-Sized Enterprise
University of Minho	Research Organisation/University
Bio Base Europe Pilot Plant	Not-for-Profit
RISE Research Institutes of Sweden	Research Organisation/University
Dirk Carrez	Industry Association
CLUSTER FOOD+i	Cluster Organisation
University of Primorska	Research Organisation/University
ICOS	Co-operative Representative Body

Novonesis	Large Company
Research Council of Lithuania	Public Administration
Fachagentur Nachhaltige Rohstoffe e.V. (Agency for Renewable Resources)	Public Administration
Munster Technological University	Research Organisation/University
University of Perugia	Research Organisation/University
TECNALIA	Research Organisation/University
University of Alicante	Public Administration
IDENER R&D AIE	Research Organisation/University
Confederation of European Forest Owners (CEPF)	Industry Association
Administration of the Flemish Region, Belgium	Public Administration
Cluster of Bioeconomy and Environment of Western Macedonia, Greece (CluBE)	Cluster Organisation
ENCO srl	Small and Medium-Sized Enterprise
Danish Agency for Higher Education and Science	Public Administration
VTT Finland	Research Organisation/University
Avantium	Small and Medium-Sized Enterprise

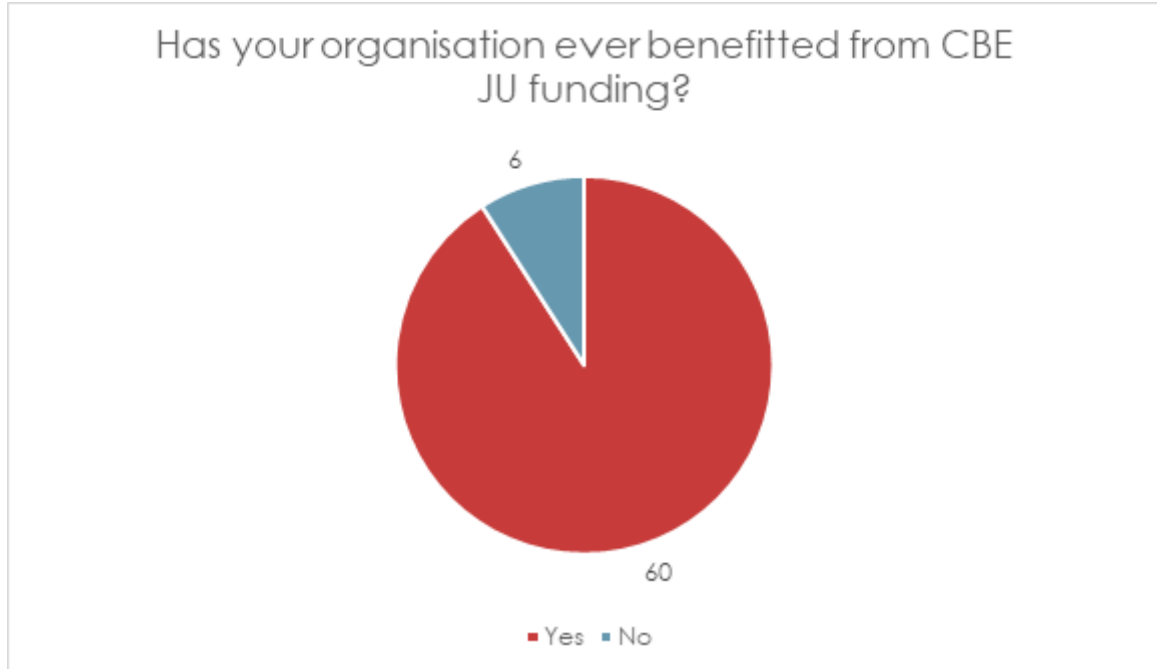
o Respondent Profile

Type of Organisation

Type of Organisation	Count	Percentage
Research Organisation/University	22	33.33
Small and Medium-Sized Enterprise	13	19.70
Public Administration	7	10.61
Large Company	5	7.58
Cluster Organisation	4	6.06
Industry Association	4	6.06
Not-for-Profit	4	6.06
Research organisation	1	1.52
Technology centre	1	1.52
Government/ministry organization	1	1.52
European institution	1	1.52
Farmers organisation	1	1.52
Primary Producer	1	1.52

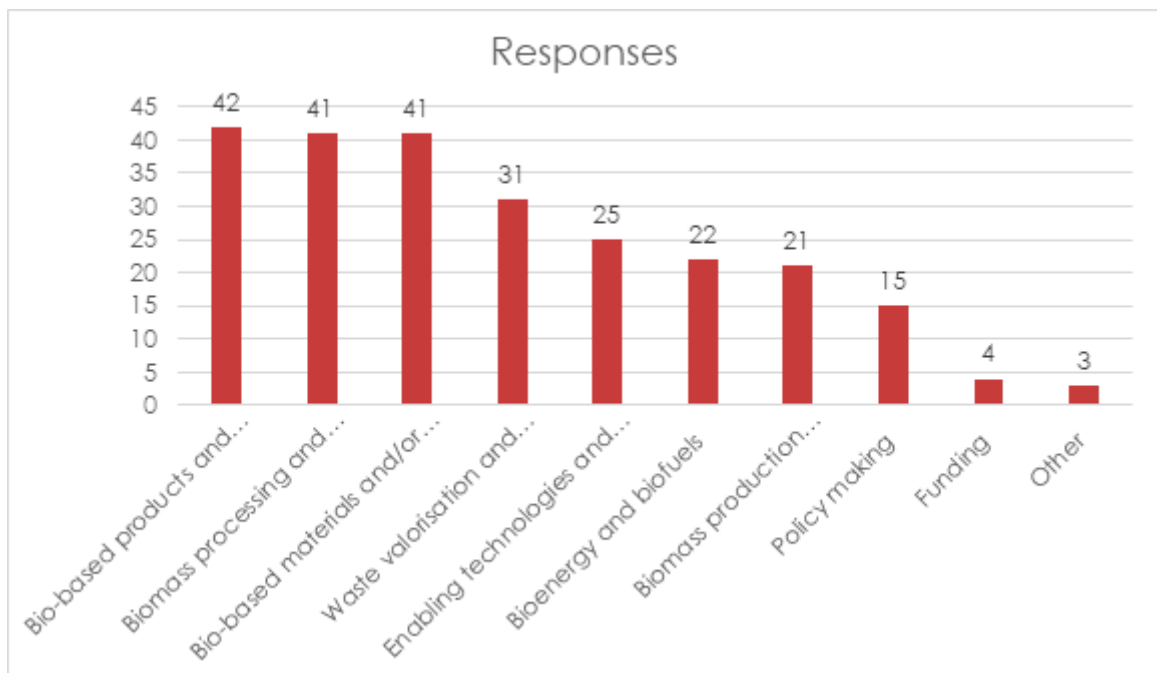
Co-operative Representative Body	1	1.52
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Has your organisation ever benefitted from CBE JU funding?

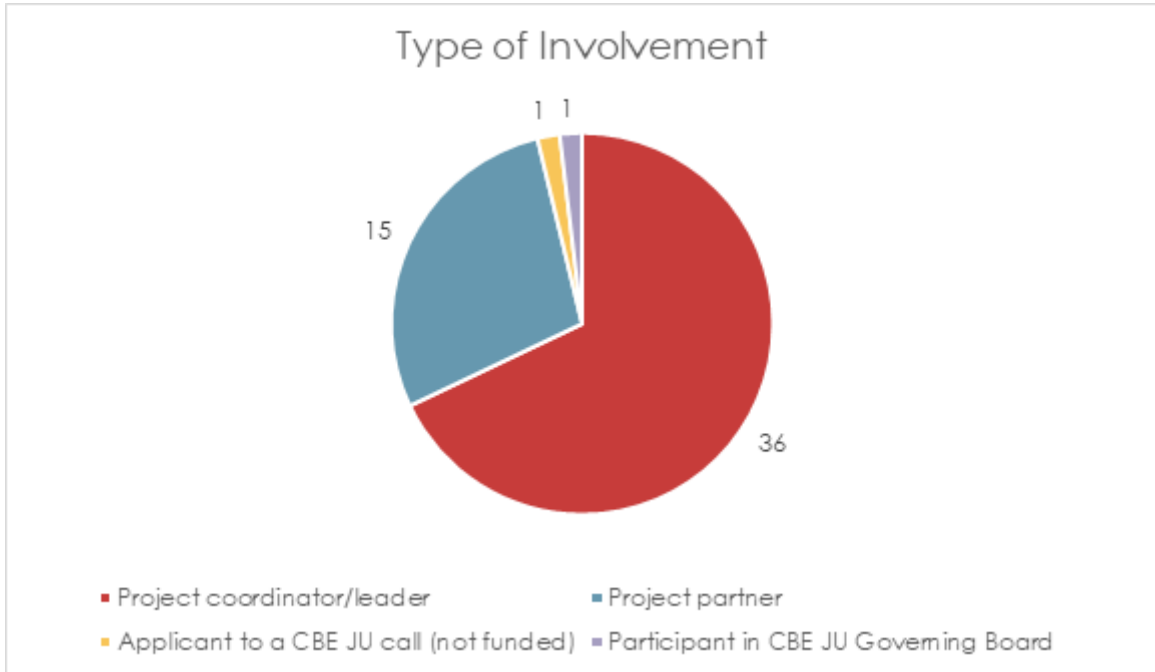


60 of the respondents (91%) said they had received CBE JU funding. 6 respondents (9%) have not.

In which part(s) of the bioeconomy is your organisation primarily active?



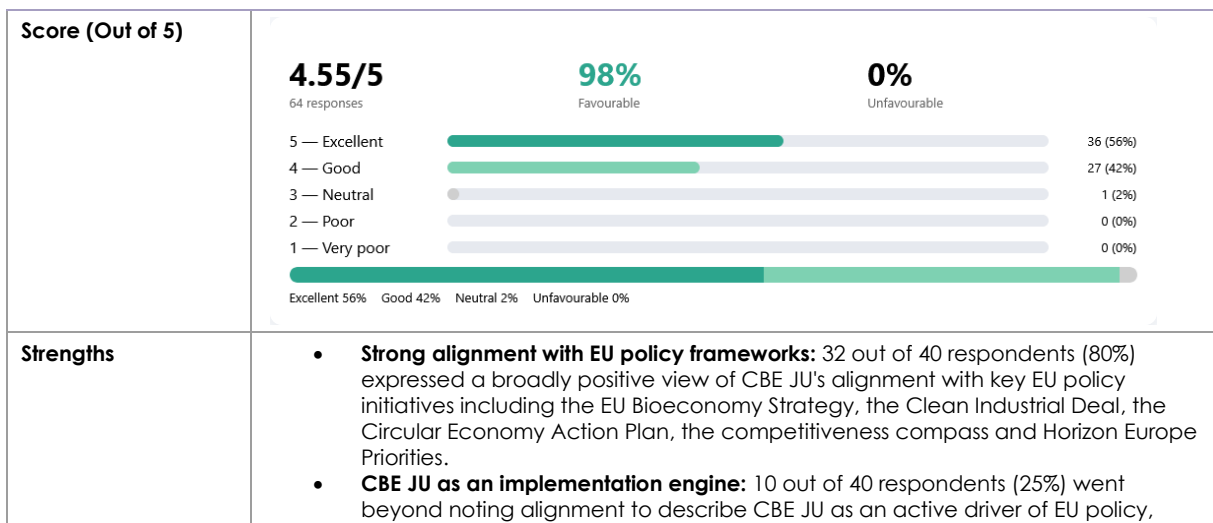
All 66 participants responded to this question, with the vast majority being active in several areas of the bioeconomy. As we can observe in the graph above, nearly a third of participants were actively involved in bio-based products and their applications, bio-based materials and/or chemical and/or biomass processing and conversion. A minor selection of respondents said that they actively fund projects in the bio-economy, all of which identified themselves as public administrations. Please indicate your involvement with CBE JU



Of the respondents, 36 (68%) were involved as project coordinators, 15 (28%) as project partners and 1 (2%) as an unfunded applicant and a participant in the CBE JU governing board respectively.

o Alignment of CBE JU with EU Policy Priorities

Are the activities of CBE JU aligned with the most relevant recent and upcoming EU policy initiatives and policy objectives?



	<p>translating priorities into tangible industrial outcomes through public-private cooperation.</p> <ul style="list-style-type: none"> • Broad sectoral and strategic relevance: Most positive respondents referenced multiple policy goals simultaneously, including decarbonisation, sustainable biomass use and circular value chains, positioning CBE JU as a central instrument for Europe's transition to a bio-based economy.
Challenges	<ul style="list-style-type: none"> • Gaps in policy coverage: 4 out of 40 respondents (10%) pointed to underrepresented areas including the Common Agricultural Policy (CAP), agri-food policy, biodiversity, side stream valorisation and AI integration. (Technology Centre, Cooperative Representative Body, Research Organisations) • Over-reliance on production-focused approaches and scope concerns: 2 out of 40 respondents (5%) felt CBE JU either places too much emphasis on production transformation or tries to align with too many policy areas rather than focusing on the core bioeconomy strategy. (Public Administration, Research Organisation) • Need for stronger trendsetting and primary sector integration: 2 out of 40 respondents (5%) felt CBE JU should be more proactive in shaping policy rather than following it, and that integration with primary production sectors remains insufficient. (Research Organisation, SME)
Suggestions	<ul style="list-style-type: none"> • Scale up and focus on higher TRLs: 11 out of 45 respondents (24%) called for greater emphasis on high-TRL projects, industrial-scale flagship biorefineries and first-of-a-kind deployments, making this the most frequently cited suggestion. • Strengthen market uptake and impact: 9 out of 45 respondents (20%) highlighted the need for clearer pathways from innovation to market, including stronger evidence of adoption, off-take intent and credible scale-up roadmaps, with market uptake treated as a core KPI. • Play a more active role in policy development: 9 out of 45 respondents (20%) suggested CBE JU should move beyond alignment and actively engage with policymakers, contributing to legislative developments such as Biotech Act II, the Circular Economy Act and the Common Agricultural Policy. • Improve integration with financial instruments and funding schemes: 5 out of 45 respondents (11%) recommended stronger connections with EIB, Structural Funds and national and regional funding initiatives. • Broaden feedstock and sectoral scope: 6 out of 45 respondents (13%) suggested expanding feedstock coverage and widening application sectors. • Embed AI and digitalisation as strategic priorities: 3 out of 45 respondents (7%) called for AI and digital tools to be treated as cross-cutting priorities across all calls. • Make safe-and sustainable-by design a mandatory criterion: 3 out of 45 respondents (7%) suggested embedding SSbD requirements consistently across project design alongside stronger circularity requirements. • Improve stakeholder engagement and communication: 4 out of 45 respondents (9%) called for more continuous dialogue with policymakers and better communication of project results and impacts.

Do the CBE JU calls for proposals match the need of bio-based sector in Europe?

Score (Out of 5)	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>4.29/5</p> <p>56 responses</p> </div> <div style="text-align: center;"> <p>96%</p> <p>Favourable</p> </div> <div style="text-align: center;"> <p>4%</p> <p>Unfavourable</p> </div> </div> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">5 — Excellent</td> <td style="width: 80%;"><div style="width: 36%; height: 10px; background-color: #28a745;"></div></td> <td style="width: 10%; text-align: right;">20 (36%)</td> </tr> <tr> <td>4 — Good</td> <td><div style="width: 61%; height: 10px; background-color: #28a745;"></div></td> <td style="text-align: right;">34 (61%)</td> </tr> <tr> <td>3 — Neutral</td> <td><div style="width: 0%; height: 10px; background-color: #6c757d;"></div></td> <td style="text-align: right;">0 (0%)</td> </tr> <tr> <td>2 — Poor</td> <td><div style="width: 4%; height: 10px; background-color: #dc3545;"></div></td> <td style="text-align: right;">2 (4%)</td> </tr> <tr> <td>1 — Very poor</td> <td><div style="width: 0%; height: 10px; background-color: #6c757d;"></div></td> <td style="text-align: right;">0 (0%)</td> </tr> </table> <p style="font-size: small; margin-top: 5px;">Excellent 36% Good 61% Neutral 0% Unfavourable 4%</p>	5 — Excellent	<div style="width: 36%; height: 10px; background-color: #28a745;"></div>	20 (36%)	4 — Good	<div style="width: 61%; height: 10px; background-color: #28a745;"></div>	34 (61%)	3 — Neutral	<div style="width: 0%; height: 10px; background-color: #6c757d;"></div>	0 (0%)	2 — Poor	<div style="width: 4%; height: 10px; background-color: #dc3545;"></div>	2 (4%)	1 — Very poor	<div style="width: 0%; height: 10px; background-color: #6c757d;"></div>	0 (0%)
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1 — Very poor	<div style="width: 0%; height: 10px; background-color: #6c757d;"></div>	0 (0%)														
Strengths	<ul style="list-style-type: none"> • Strong overall alignment with sector needs: 22 out of 40 respondents (55%) broadly agreed that CBE JU calls match the needs of the European bio-based sector, with topics covering scale-up, sustainable technologies, waste and side-stream valorisation, circular value chains and industrial deployment. 															

	<ul style="list-style-type: none"> • Effective co-design with industry: 8 out of 40 respondents (20%) specifically highlighted the involvement of BIC in shaping calls as a key strength, ensuring that funding targets real-world technical and economic challenges and reflects the strategic priorities of the bio-based industry. • Focused on bridging the valley of death: 7 out of 40 respondents (18%) explicitly recognised that calls are deliberately designed to address the gap between R&D and commercial deployment, supporting high-TRL projects, demonstration activities and market-ready innovations.
Challenges	<ul style="list-style-type: none"> • Underrepresentation of certain sectors and feedstocks: 8 out of 40 respondents (20%) noted that renewable gases, renewable aquatic biomass, agri-food, primary production, crops and the food sector receive insufficient attention, meaning parts of the bio-based sector must look elsewhere for funding. • Need for stronger market pull and deployment support: 7 out of 40 respondents (18%) felt that calls could do more to incentivise real market uptake, including off-take agreements, bankability, demand-side instruments and regulatory or certification readiness for novel bio-based products. • Limited openness to high-risk innovation and societal dimensions: 5 out of 40 respondents (13%) felt calls are too oriented toward existing strategies and processes, leaving room for more open, bottom-up or high-risk calls, as well as greater integration of digitalisation, AI, societal factors and regional development perspectives.
Suggestions	<ul style="list-style-type: none"> • Expand into CCU and alternative carbon sources: 7 out of 44 respondents (16%) called for dedicated topics on Carbon Capture and Utilisation, biogenic CO₂, syngas and biotechnological conversion of residual gases into high-value molecules, making this one of the most frequently cited suggestion. • Better integrate primary producers and the agri-food sector: 7 out of 44 respondents (16%) called for stronger inclusion of farmers, cooperatives, agroindustries and forestry actors, along with more topics covering industrial and non-food crops and biodiversity. • Strengthen support for industrial biotechnology and fermentation: 6 out of 44 respondents (14%) highlighted the need for greater emphasis on synthetic biology, precision fermentation, microorganisms, enzymes and biomanufacturing across all TRL levels. • Address demand-side barriers and market uptake more directly: 6 out of 44 respondents (14%) pointed to the difficulty of finding buyers willing to pay a green premium and suggested calls focused on procurement, standardisation and consumer acceptance. • Embed AI and digitalisation as strategic priorities: 5 out of 44 respondents (11%) called for AI and digital tools to be treated as cross-cutting priorities across all calls.

Are there any changes to CBE JU's funding model or rules that could increase its impact in the coming years?

Suggestions	<ul style="list-style-type: none"> • Increase funding rates and align with Horizon Europe standards: 8 out of 38 respondents (21%) called for raising funding rates for IAs and flagship projects from 60% to 70%, with higher rates specifically for SMEs, to better reflect the financial realities of industrial scale-up and reduce barriers to participation. • Allow full equipment and CAPEX costs as eligible expenditure: 7 out of 38 respondents (18%) highlighted that funding flagship infrastructure through depreciation alone is inadequate, and that direct CAPEX eligibility, indexing funding ceilings to inflation and OPEX support would significantly increase the viability and impact of large-scale projects. • Reduce administrative burden and simplify rules: 7 out of 38 respondents (18%) consistently called for streamlined reporting templates, simplified cost-eligibility rules, clearer KPI requirements and faster time-to-grant, particularly to make participation more accessible for SMEs and RTOs. • Address the second valley of death from demonstration to commercial scale: 6 out of 38 respondents (16%) feel CBE JU currently stops short of supporting full commercialisation, and suggest introducing mechanisms such as staged or blended funding, OPEX support and market creation incentives to bridge the gap from demo to market.
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o Alignment of CBE JU activities with beneficiaries' needs

How do you assess the balance of TRLs covered in CBE JU call topics? Do the TRLs match the needs of your sector?

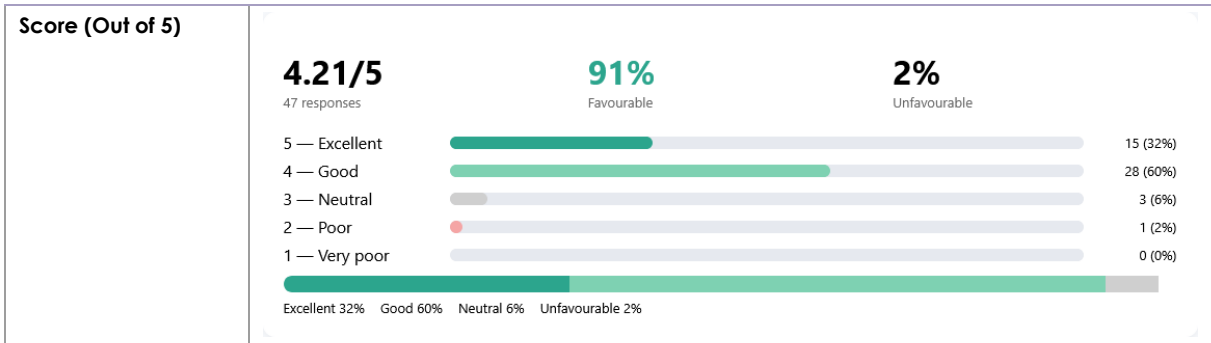
<p>Score (Out of 5)</p>	<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>4.3/5 46 responses</p> </div> <div style="text-align: center;"> <p>96% Favourable</p> </div> <div style="text-align: center;"> <p>2% Unfavourable</p> </div> </div> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Score</th> <th>Description</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Excellent</td> <td>17</td> <td>37%</td> </tr> <tr> <td>4</td> <td>Good</td> <td>27</td> <td>59%</td> </tr> <tr> <td>3</td> <td>Neutral</td> <td>1</td> <td>2%</td> </tr> <tr> <td>2</td> <td>Poor</td> <td>1</td> <td>2%</td> </tr> <tr> <td>1</td> <td>Very poor</td> <td>0</td> <td>0%</td> </tr> </tbody> </table>	Score	Description	Count	Percentage	5	Excellent	17	37%	4	Good	27	59%	3	Neutral	1	2%	2	Poor	1	2%	1	Very poor	0	0%
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3	Neutral	1	2%																						
2	Poor	1	2%																						
1	Very poor	0	0%																						
<p>Strengths</p>	<ul style="list-style-type: none"> • Broad TRL coverage meets diverse sector needs: 18 out of 38 respondents (47%) expressed that CBE JU's TRL range from 3 to 8 is broadly appropriate, with the spread of RIAs, IAs and flagships seen as well matched to the needs of different types of organisations including universities, RTOs, SMEs and large industry. • Right emphasis on high TRLs and market deployment: 8 out of 38 respondents (21%) specifically welcomed the shift toward more IAs and flagship projects, seeing this as appropriate for addressing the valley of death between research and industrial deployment and for accelerating market entry and competitiveness. • Strong alignment driven by industry involvement: 4 out of 38 respondents (11%) highlighted BIC's active role in defining call topics as a key reason why TRL coverage is well matched to sector needs, ensuring calls reflect real industrial priorities and development stages. 																								
<p>Challenges</p>	<ul style="list-style-type: none"> • Insufficient support for mid-range TRLs 5 to 7: 8 out of 38 respondents (21%) highlighted that the piloting, validation and industrial integration stages are underweighted, creating a gap in the transition from R&I to market-ready deployment that is particularly problematic for SMEs and newer technology areas such as renewable gases. • Risk of starving the early-stage pipeline: 5 out of 38 respondents (13%) warned that the strong focus on high TRLs may reduce the flow of breakthrough ideas entering the system, calling for more RIA calls and low-TRL topics to ensure a continuous pipeline of future innovations, particularly for emerging bioeconomy technologies. • Uneven coverage across sub-sectors and actor types: 7 out of 38 respondents (18%) noted that the TRL balance works better for large companies than for SMEs, who face significant financial burdens, while certain sectors such as renewable gases remain underserved at higher TRLs and the programme lacks sufficient flexibility between TRL ranges and continuity from demonstration to commercial deployment. 																								

Are there any additional specific beneficiaries' needs which CBE JU should address even more?

<p>Suggestions</p>	<ul style="list-style-type: none"> • Greater support for late-stage scale-up and market entry: 8 out of 32 respondents (25%) consistently highlighted the need for stronger financial and practical support at TRL 6 to 8, including direct CAPEX eligibility for equipment and infrastructure rather than depreciation only, and dedicated funding to help biorefineries reach profitability in a competitive market context. • Easier access to shared pilot and demo infrastructure: 5 out of 32 respondents (16%) called for CBE JU to support shared pilot facilities that allow SMEs and smaller innovators to validate technologies under real industrial conditions without bearing the full capital investment themselves, alongside stronger cross-border value chain clusters connecting innovators with off-takers and feedstock providers. • Active regulatory support and compliance guidance: 5 out of 32 respondents (16%) pointed to complex EU regulations such as REACH, Novel Foods and the
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	<p>Waste Framework Directive as major barriers to market entry, and called for more active support for regulatory compliance, pre-normative research and faster pathways for reclassifying bio-based residues and side streams.</p> <ul style="list-style-type: none"> • Stronger focus on primary producers and commercialisation incentives: 4 out of 32 respondents (13%) highlighted the need for clearer financial incentives to encourage primary producers to adopt new value chains, alongside support mechanisms that extend beyond project completion to help beneficiaries bring products to market and secure offtake agreements.
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In your opinion, is CBE JU funding accessible for your type of organisation?

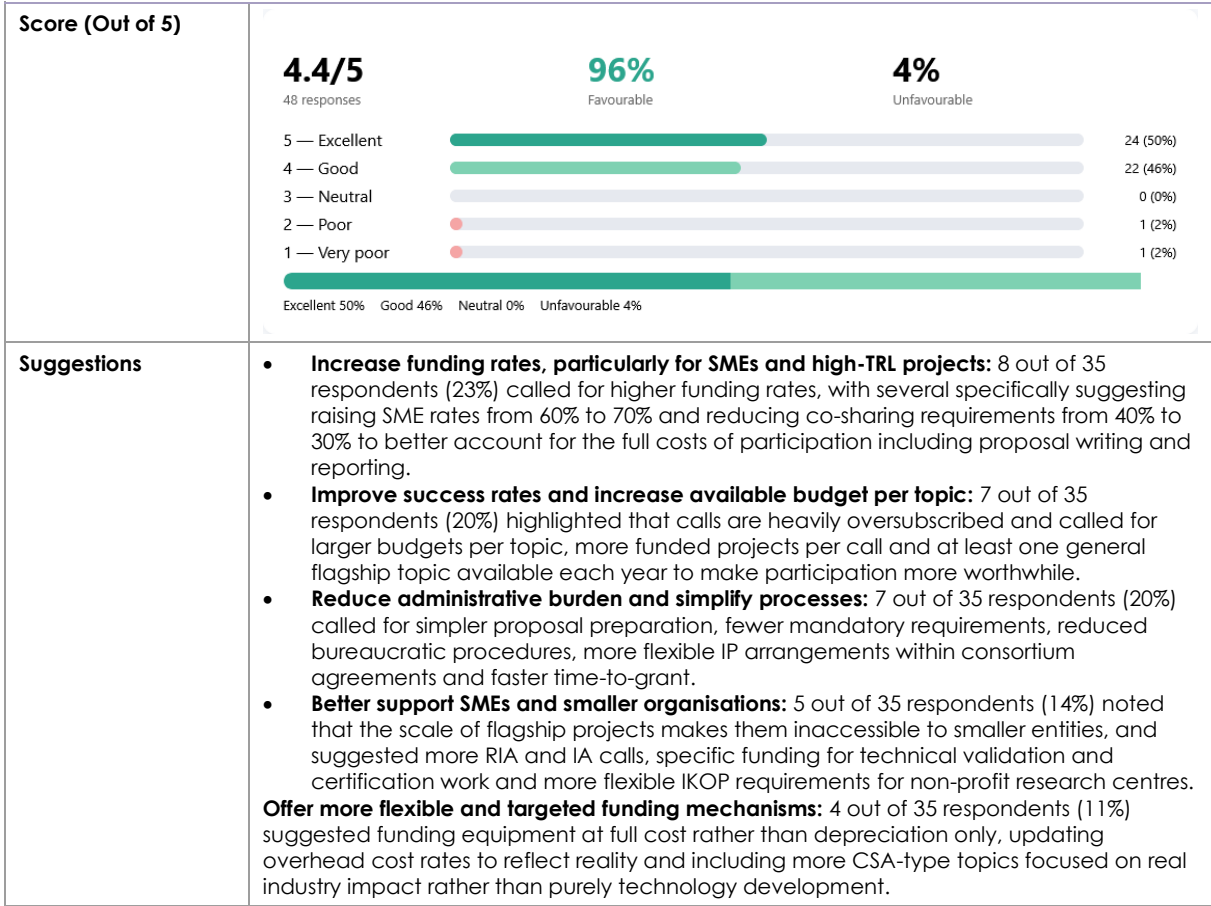


If you believe that funding is not sufficiently accessible for your organisation, what are the main challenges you face in applying and how can these be overcome?

Main Challenge	Count	Percentage
Complexity of proposal requirements	15	22.73
Limited internal capacity or resources to prepare competitive proposals	14	21.21
Co-funding requirements	13	19.70
Other	10	15.15
Difficulty in finding relevant partners and forming a strong consortium	9	13.64
Lack of knowledge and awareness of CBE JU calls	5	7.58
Evaluation criteria are too complex	4	6.06
Lengthy time-to-grant and payment delays	3	4.55
Complexity of proposal requirements	15	22.73

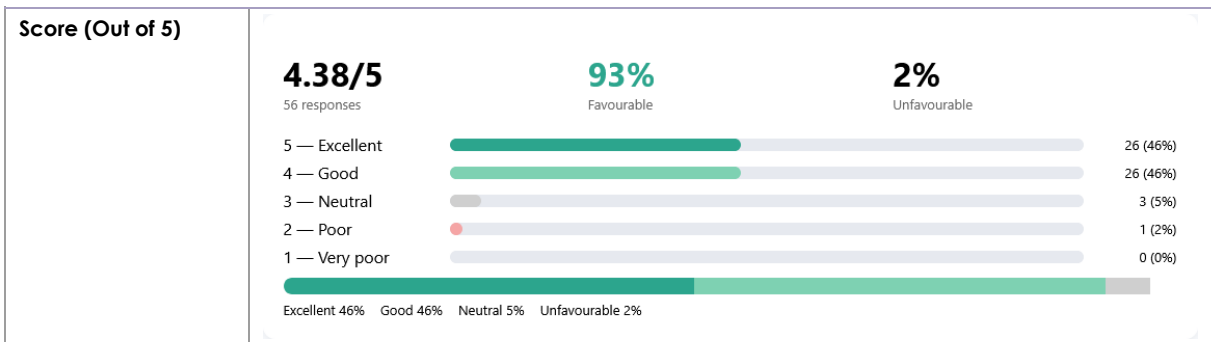
- **High co-funding requirements are the most cited barrier:** 7 out of 28 respondents (25%) flagged co-funding requirements, particularly the 40% rate in Innovation Actions, as a significant obstacle, with several calling for a reduction to 30% and higher funding rates for SMEs to make participation financially viable.
- **Proposal preparation is excessively burdensome:** 8 out of 28 respondents (29%) highlighted that preparing competitive proposals requires several months of work and significant staff resources, with lengthy environmental and business assessments required even at submission stage, making the process particularly difficult for SMEs and start-ups.
- **Success rates are too low:** 5 out of 28 respondents (18%) stated that success rates are too low to justify the investment required to participate, with several noting that calls are heavily oversubscribed and that the current system results in a significant waste of time and resources across the sector.

In your opinion, is CBE JU attractive for your type of organisation?



o CBE JU Impact

From your perspective, how significant has been CBE JU's overall impact?



To what extent do you believe the CBE JU partnership helps stakeholders better understand the bioeconomy ecosystem and connect with its stakeholders? What tangible impacts can you name?

<p>Responses</p>	<ul style="list-style-type: none"> • Building a large and connected pan-European bioeconomy community: 12 out of 45 respondents (27%) highlighted that CBE JU has been instrumental in creating a critical mass of collaboration across the EU, bringing together researchers, industry players, SMEs, RTOs and primary producers who would otherwise have had limited interaction.
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	<ul style="list-style-type: none"> • Moving bio-based innovation from niche to industrial reality: 10 out of 45 respondents (22%) described the programme's impact as transformative, noting that CBE JU has shifted the bioeconomy from a research concept to a tangible industrial sector with real physical infrastructure, first-of-a-kind biorefineries and commercial products on the market. • Expanding individual organisations' knowledge, networks and visibility: 9 out of 45 respondents (20%) noted that involvement in CBE JU has significantly broadened their understanding of broader value chains, market trends and regulatory landscapes, with smaller organisations and regional SMEs in particular gaining access to major industrial players and strategic partnerships they could not have reached through traditional channels. • Accelerating scale-up and reducing technical and financial risk: 8 out of 45 respondents (18%) highlighted the development and validation of bio-based technologies at pilot, demonstration and flagship scale as a key tangible outcome, with the programme seen as one of the most effective public instruments for bridging the valley of death across multiple value chains. • Raising the profile of the bioeconomy in policy and public discourse: 6 out of 45 respondents (13%) credited CBE JU with helping to bring the bioeconomy into the mainstream across many EU Member States, influencing national funding priorities and growing awareness that bio-based solutions are a near-term industrial reality rather than a distant aspiration.
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From your perspective, what are the main features or characteristics that make CBE JU an effective instrument for supporting the European bio-based sector?

Responses	<ul style="list-style-type: none"> • Industry-driven governance that keeps calls grounded in real needs: 14 out of 43 respondents (33%) identified the public-private partnership model and the close integration with BIC as a defining strength, ensuring that call topics reflect genuine industrial bottlenecks rather than purely academic priorities and that funded projects are closely aligned with market realities. • Unique focus on bridging the valley of death: 12 out of 43 respondents (28%) described CBE JU as one of the few EU instruments explicitly designed to fund the hard middle ground between research and commercial deployment, supporting pilot, demo and flagship activities where bio-based technologies most often fail due to CAPEX risk and lack of industrial proof. • Value chain integration as a structural requirement: 10 out of 43 respondents (23%) highlighted that calls typically require consortia to connect the entire chain from feedstock through conversion to end-user and market, which is seen as essential for creating realistic business models and ensuring that scale-up is grounded in secured inputs, offtake and product specifications. • De-risking investment and enabling access to private capital: 8 out of 43 respondents (19%) noted that CBE JU support makes projects more investable by funding demonstrators and early deployment steps that unlock follow-on private capital, with the programme seen as a market-builder that increases the attractiveness of bio-based innovation to venture capital and private equity. • Cross-sector and cross-border ecosystem building: 7 out of 43 respondents (16%) credited the programme with reliably bringing together SMEs, large industry, RTOs and research institutions from across Europe, creating repeatable collaboration patterns and building an EU-wide capability base that individual organisations could not develop on their own. • Sustainability and circularity built into programme design: 4 out of 43 respondents (9%) appreciated that the programme's framing encourages circular and sustainability-credible solutions, aligning funded projects with EU policy direction and reducing downstream regulatory and market risk for participants. • Strong reputation, communication and sector visibility: 4 out of 43 respondents (9%) pointed to CBE JU's good reputation, engaged team, accessible communication style and active presence at policy events as important strengths that have helped raise the profile of the bioeconomy and attract growing interest in its calls over time.
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Has participation in CBE JU-funded projects helped your organisation –

Impact positively on the organisation's business model	3.80
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Develop a new product and/or service	3.80
Advance the organisation's technological know-how	4.22
Reduce financial risks associated to innovation	3.79
Improve the organisation's environmental performance	3.26
Scale-up innovations from the lab to demonstration or deployment	3.96
Access new markets or customer segments	3.57
Contribution to market uptake and commercialisation of bio-based solutions	3.50
Increase the organisation's networking opportunities	4.61
Strengthen collaborations with other key actors in the EU bioeconomy landscape	4.59
Increase the organisation's attractiveness to private investors	3.24
Enhance the organisation's internal skills and capabilities with respect to bio-based innovation	4.17
Increase the organisation's visibility in the bioeconomy ecosystem at the EU level	4.46
Increase credibility of your organisation at EU and international level	4.41
<ul style="list-style-type: none"> • Strengthening technical capabilities and supporting scale-up: 4 out of 13 respondents (31%) highlighted that CBE JU participation has expanded their technical know-how, strengthened capabilities in specific technology areas and supported the progression from lab to pilot and demonstration scale. • Building networks and enabling collaboration: 6 out of 13 respondents (46%) identified improved collaboration with industry, access to new value chains and stronger links with national and international partners as the most significant benefit of participation, making this the most frequently cited outcome. • Transformative impact on organisational positioning: 2 out of 13 respondents (15%) described CBE JU as having been instrumental in their evolution from regional organisations into recognised European players, with participation raising their profile and increasing their attractiveness to private investors. • Opening new market applications and product development: 2 out of 13 respondents (15%) noted that CBE JU acted as an accelerator allowing them to explore new market applications and develop innovative sustainable products across multiple sectors. 	

Positive Impact on the Organisation business Model

3.8/5

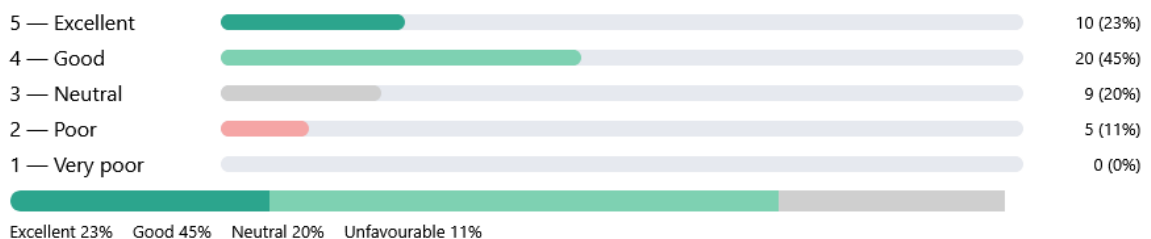
44 responses

68%

Favourable

11%

Unfavourable



Develop a new product and/or service

3.8/5

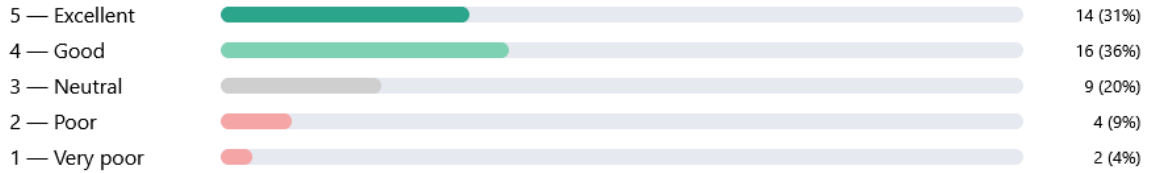
45 responses

67%

Favourable

13%

Unfavourable



Excellent 31% Good 36% Neutral 20% Unfavourable 13%

Advance the organisation's technological know-how

4.2/5

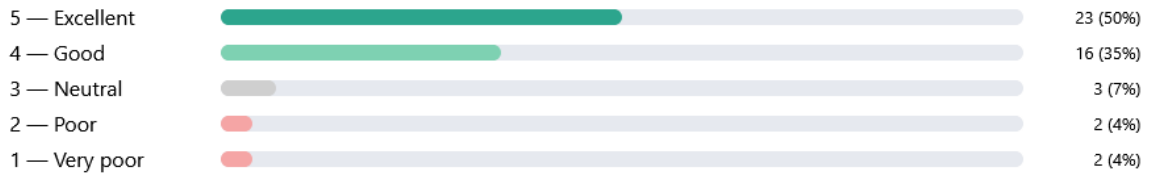
46 responses

85%

Favourable

9%

Unfavourable



Excellent 50% Good 35% Neutral 7% Unfavourable 9%

Reduce financial risks associated to innovation

3.8/5

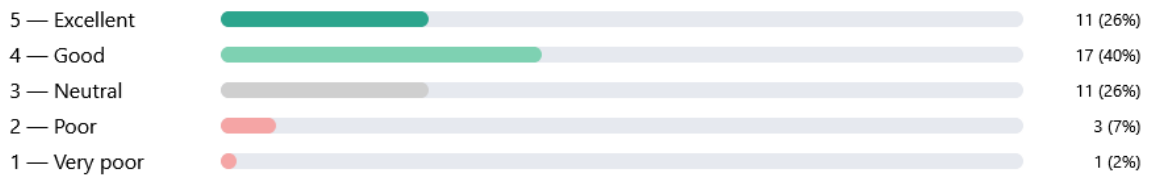
43 responses

65%

Favourable

9%

Unfavourable



Excellent 26% Good 40% Neutral 26% Unfavourable 9%

Improve the organisation's environmental performance

3.3/5

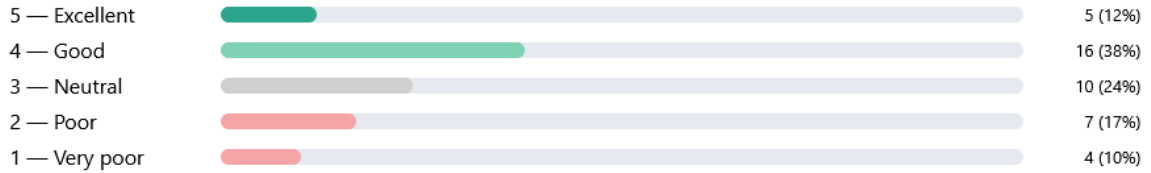
42 responses

50%

Favourable

26%

Unfavourable



Excellent 12% Good 38% Neutral 24% Unfavourable 26%

Scale-up innovations from the lab to demonstration or deployment

4/5

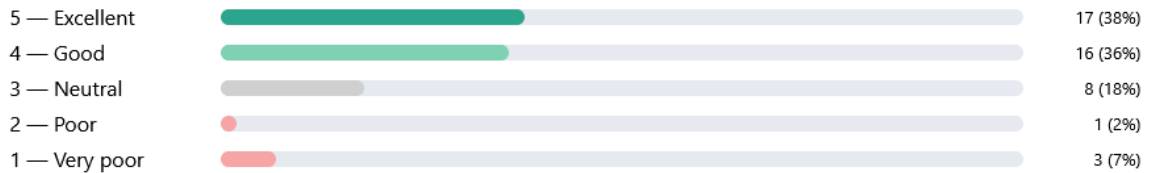
45 responses

73%

Favourable

9%

Unfavourable



Excellent 38% Good 36% Neutral 18% Unfavourable 9%

Access new markets or customer segments

3.6/5

44 responses

50%

Favourable

16%

Unfavourable



Excellent 25% Good 25% Neutral 34% Unfavourable 16%

Contribution to market uptake and commercialisation of bio-based solutions

3.5/5

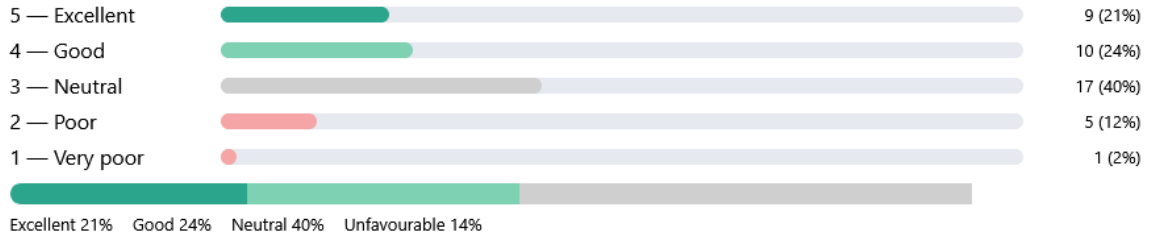
42 responses

45%

Favourable

14%

Unfavourable



Increase the organisation's networking opportunities

4.6/5

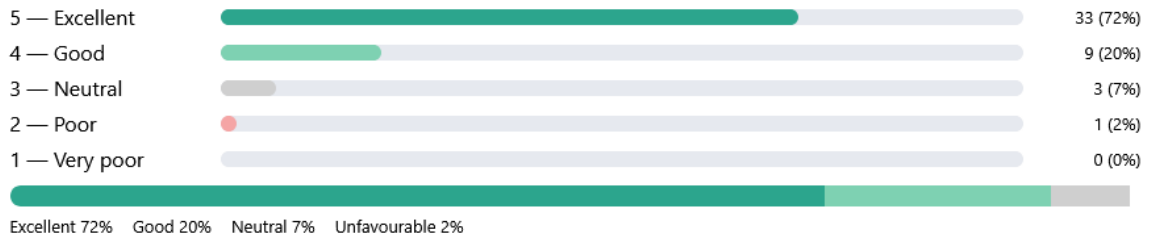
46 responses

91%

Favourable

2%

Unfavourable



Strengthen collaborations with other key actors in the EU bioeconomy landscape

4.6/5

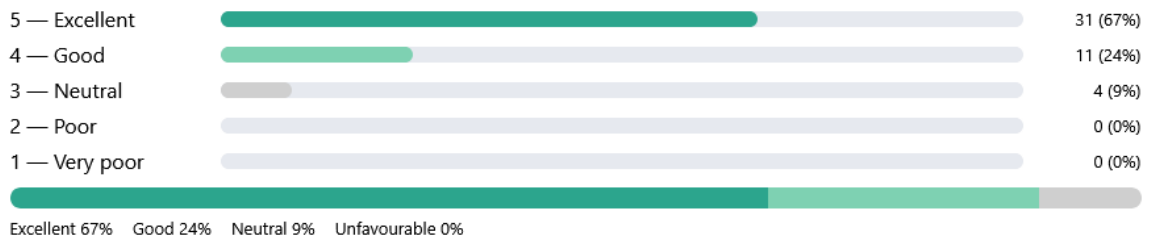
46 responses

91%

Favourable

0%

Unfavourable



Increase the organisation's attractiveness to private investors

3.2/5

41 responses

41%

Favourable

32%

Unfavourable



Excellent 27% Good 15% Neutral 27% Unfavourable 32%

Enhance the organisation's internal skills and capabilities with respect to bio-based innovation

4.2/5

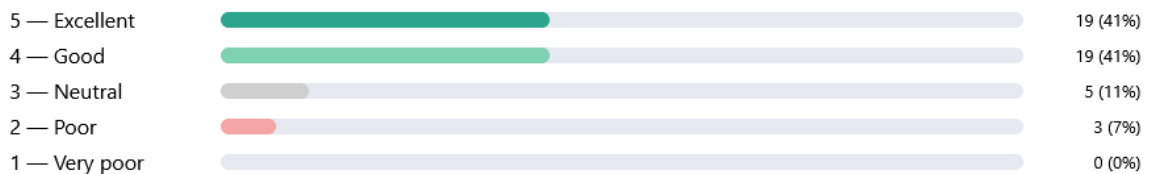
46 responses

83%

Favourable

7%

Unfavourable



Excellent 41% Good 41% Neutral 11% Unfavourable 7%

Increase the organisation's visibility in the bioeconomy ecosystem at the EU level

4.5/5

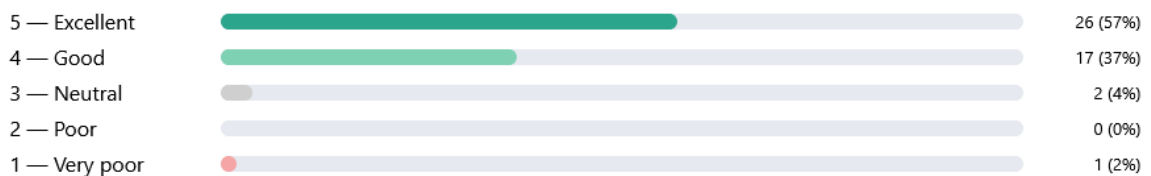
46 responses

93%

Favourable

2%

Unfavourable



Excellent 57% Good 37% Neutral 4% Unfavourable 2%

Increase credibility of your organisation at EU and international level

4.4/5

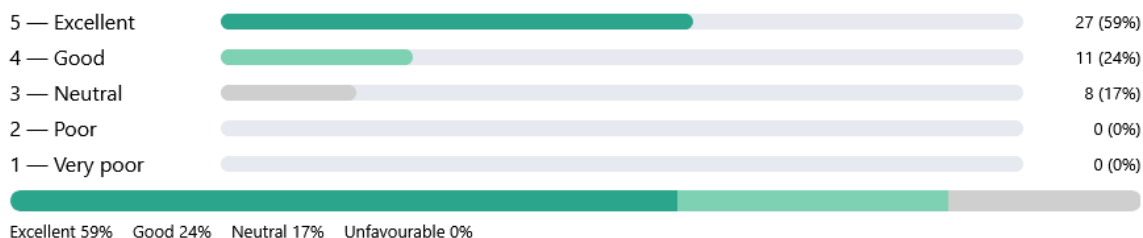
46 responses

83%

Favourable

0%

Unfavourable



The responses show that the CBE JU has had an overall positive effect on participating organisations. Especially in terms of visibility, networking and credibility, the vast majority of respondents acknowledge the positive impact that CBE JU has had on their business. Some of the lower scores can be attributed to a lower level of impact that participation had for some organisations in terms of securing private capital or aiding in market uptake. Nevertheless, the responses described genuine progress achieved through the CBE JU.

Can you give examples of specific CBE JU-funded projects that helped you develop innovative products or services, or attract market interest and briefly describe how it has happened?

Responses	
	<ul style="list-style-type: none"> • Scale-up of technologies from lab to industrial reality: 8 out of 35 respondents (23%) described how CBE JU projects enabled them to progress through the innovation cycle, with examples including MULTISTR3AM leading to the installation of a demonstration-scale biorefinery, ICARUS scaling technology to demo level and attracting venture capital funding, and SWEETWOODS and WOODCELL driving new product development and production scale-up. • Development of breakthrough materials and bio-based products: 7 out of 35 respondents (20%) cited specific projects that enabled the development of novel products, including BIZENTE and VIBES for enzyme-based thermoset degradation, BARBARA for industrial-grade 3D printing filaments from agricultural waste and BRILLIAN for validating technologies across ten different bio-applications including biostimulants, bioplastics and animal feed. • Building complete value chains from waste to market-ready product: 6 out of 35 respondents (17%) highlighted projects such as TERRIFIC, RELEAF and First2Run as enabling the connection of entire value chains from feedstock to end-user, moving solutions from lab to pre-industrial scale across packaging, agriculture and bio-based chemicals. • Opening new markets and attracting commercial interest: 5 out of 35 respondents (14%) pointed to specific commercial outcomes, including the development of the bio-based packaging market in Spain and Portugal through the Usable Packaging project, commercialised protein-based and MFC-based adhesives through PRO-ENRICH and EXILVA, and new IP being considered for protection through REDYSIGN. • Strengthening organisational capabilities and networks: 9 out of 35 respondents (26%) highlighted projects such as MPowerBio, BIO-INSPIRE and the BBEPP portfolio of IA and FLAG projects as having built institutional expertise, expanded sector portfolios and created lasting collaborative networks that continue to generate follow-on commercial opportunities.

Did CBE JU funding allow you to undertake activities that would not have been possible otherwise?

Responses	
	<ul style="list-style-type: none"> • Enabling scale-up that private funding alone could not support: 9 out of 30 respondents (30%) highlighted that CBE JU funding made it possible to move from lab or pilot scale to industrial validation and demonstration, with several noting that the high capital expenditure and financial risk involved would have been impossible to absorb through private investment or national funding alone.

	<ul style="list-style-type: none"> • Building demonstration and flagship infrastructure: 6 out of 30 respondents (20%) pointed to specific plants and biorefineries that would not have been built, or would have taken significantly longer to develop, without CBE JU support, including farm-scale biorefineries, demonstration biorefinery setups and first-of-a-kind industrial facilities. • Funding high-risk and interdisciplinary innovation: 5 out of 30 respondents (17%) noted that CBE JU supported research directions that conventional national or general research funds would not have backed, including high-risk multi-disciplinary work and novel applications such as designer enzymes for dissolving thermosets and testing purple bacteria for food and feed applications. • Facilitating full value chain collaboration and stakeholder engagement: 5 out of 30 respondents (17%) highlighted that the consortium structure required by CBE JU calls enabled connections across the entire value chain, from agro-food processors and chemical engineers to end-users and manufacturers, a level of integration that most other funding instruments do not incentivise. • Expanding organisational scope and capabilities: 5 out of 30 respondents (17%) noted that CBE JU projects allowed them to explore market areas, feedstocks and technologies outside their usual scope, building complementary knowledge, spin-off companies and new bilateral commercial relationships.
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Has your involvement in or collaboration with CBE JU helped you better understand the bioeconomy ecosystem and connect with its stakeholders?

<p>Score (Out of 5)</p>	<p>The chart shows a score of 4.55/5 based on 49 responses. The distribution is as follows:</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Category</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Excellent</td> <td>27</td> <td>55%</td> </tr> <tr> <td>4</td> <td>Good</td> <td>22</td> <td>45%</td> </tr> <tr> <td>3</td> <td>Neutral</td> <td>0</td> <td>0%</td> </tr> <tr> <td>2</td> <td>Poor</td> <td>0</td> <td>0%</td> </tr> <tr> <td>1</td> <td>Very poor</td> <td>0</td> <td>0%</td> </tr> </tbody> </table> <p>Summary: 100% Favourable, 0% Unfavourable.</p>	Score	Category	Count	Percentage	5	Excellent	27	55%	4	Good	22	45%	3	Neutral	0	0%	2	Poor	0	0%	1	Very poor	0	0%
Score	Category	Count	Percentage																						
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3	Neutral	0	0%																						
2	Poor	0	0%																						
1	Very poor	0	0%																						
<p>Suggestions</p>	<ul style="list-style-type: none"> • Building networks and connecting with key stakeholders: 13 out of 28 respondents (46%) identified network building as the primary benefit of CBE JU involvement, noting that participation provided access to key players across the bioeconomy including primary producers, industrial end-users, RTOs and policymakers that would otherwise have been inaccessible, particularly for regional SMEs. • Broadening understanding of the bioeconomy ecosystem: 10 out of 28 respondents (36%) highlighted that involvement significantly expanded their knowledge beyond their immediate area of expertise, providing insight into broader value chains, market trends, regulatory expectations and emerging applications, with several noting a shift from narrow sector expertise to a comprehensive view of the circular bio-based system. • Raising organisational profile and creating new opportunities: 5 out of 28 respondents (18%) noted that participation increased their visibility, helped them find new partners for spin-out projects and opened access to opportunities and developments they would not otherwise have been aware of. • Strengthening policy engagement and advocacy: 4 out of 28 respondents (14%) highlighted that CBE JU involvement supported their engagement with strategic documents, policy discussions and EU-level advocacy, with the programme referenced as an integral part of positive narratives around the bioeconomy at institutional level. • Practical alignment of technical development with market realities: 3 out of 28 respondents (11%) highlighted that the multi-actor approach pushed them beyond a purely technical mindset, helping them better understand real market constraints, customer requirements and scaling challenges and making their work more commercially relevant. 																								

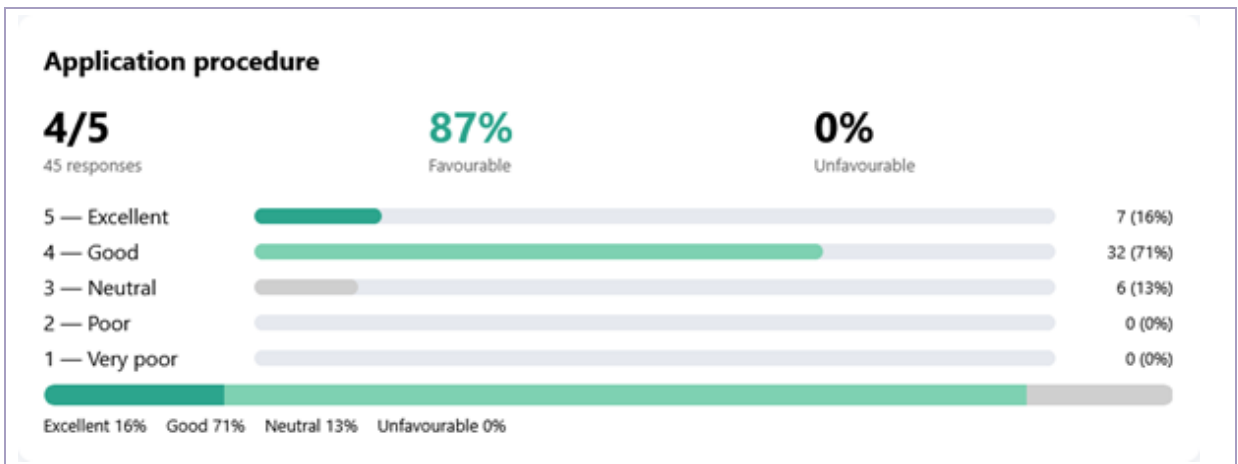
o CBE JU Delivery

How well does the current CBE JU governance model enable strategic steering of the programme?

Responses	The responses to this question are limited, with many respondents indicating they are not sufficiently familiar with the governance model to comment meaningfully. Among those who did respond, the general view is that the existing governance structure is broadly adequate and inclusive, with the various committees such as the scientific committee, SRG and board seen as functioning well. The addition of the Primary Producers Working Group is welcomed as a positive development. The main suggestions for improvement centre on extending the role of Member States and better interlinking the governance model with the RIA programme through a shared SRIA, while some respondents note that certain communities such as ocean-related sectors feel underrepresented in the current structure.
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How satisfied are you with CBE JU evaluation and project management (out of 5)?

1	Application procedure	4.02
2	Evaluation procedure	3.87
3	Time-to-Grant: from submission to grant signature	4.13
4	Monitoring requirements	4.17
5	Reporting requirements	4
6	Timeliness of payments	4.24
7	Flexibility in handling project changes or amendments	4
8	Dissemination and promotion of projects' results by the CBE JU	4.11
9	Communication with CBE JU staff	4.61



Evaluation criteria

3.9/5

46 responses

74%

Favourable

2%

Unfavourable



Excellent 15% Good 59% Neutral 24% Unfavourable 2%

Time-to-grant

4.1/5

45 responses

78%

Favourable

2%

Unfavourable



Excellent 40% Good 38% Neutral 20% Unfavourable 2%

Monitoring procedures

4.2/5

46 responses

87%

Favourable

0%

Unfavourable



Excellent 30% Good 57% Neutral 13% Unfavourable 0%

Reporting requirements

4/5

46 responses

76%

Favourable

0%

Unfavourable



Excellent 24% Good 52% Neutral 24% Unfavourable 0%

Timeliness of payments

4.2/5

46 responses

87%

Favourable

0%

Unfavourable



Excellent 37% Good 50% Neutral 13% Unfavourable 0%

Flexibility

4/5

46 responses

70%

Favourable

2%

Unfavourable



Excellent 33% Good 37% Neutral 28% Unfavourable 2%



Responses were resoundingly positive with scores standing at a 3.9/5 or higher. This suggests that mechanisms and processes that are put in place to support the CBE JU Delivery are working effectively. This is especially reflected in the fact that only a single response noted dissatisfaction across all metrics.

Is the support from CBE JU during project implementation effective and solution oriented?

<p>Strengths</p>	<ul style="list-style-type: none"> • Consistently responsive and solution-oriented project officers: 22 out of 32 respondents (69%) described CBE JU project officers as highly engaged, easy to contact and genuinely supportive, with many noting that this level of hands-on assistance compares favourably to other Horizon Europe programmes where such direct engagement is less common. • Flexibility in accommodating real-world research challenges: 5 out of 32 respondents (16%) highlighted that CBE JU support is effective precisely because it recognises the unpredictable nature of R&D, providing the flexibility needed to adapt technical work plans and facilitate Grant Agreement amendments when projects encounter unexpected challenges. • Industry-centric and pragmatic approach: 4 out of 32 respondents (13%) appreciated that project officers tend to bridge technical and business perspectives, treating funded projects as business ventures rather than purely academic exercises and pushing consortia to ensure that scientific outputs are integrated into real products and market applications.
<p>Challenges</p>	<ul style="list-style-type: none"> • Administrative processes can slow down procedures: 2 out of 32 respondents (6%) noted that the volume of administrative requirements sometimes slows down project implementation, and that project officers are not always sufficiently technical to provide substantive guidance on complex issues, occasionally leading to delays in receiving relevant information. • Long gap between proposal submission and project start: 1 out of 32 respondents (3%) highlighted a structural inefficiency whereby proposals submitted in September do not start until the following June, meaning that

	technical challenges identified during preparation take over a year to address, which can affect momentum and relevance of planned work.
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Are there any areas where administrative efficiency could be improved?

Responses	<ul style="list-style-type: none"> • Reporting requirements are too dense and complex: 9 out of 28 respondents (32%) flagged that KPI reporting has become increasingly burdensome over time, with multiple individual tools and obligatory deliverables, financial audit requirements that go into unnecessary detail and templates that could be significantly leaner without compromising accountability. • Amendment processes are too slow and inflexible: 7 out of 28 respondents (25%) identified the time required to process project amendments, cited at three to six months, as a significant inefficiency, calling for greater flexibility, quicker turnaround and longer response times for consortium partners to better reflect the realities of managing complex industrial projects. • Overall experience is broadly positive: 6 out of 28 respondents (21%) reported no significant issues with administrative efficiency, with several noting that tight control and regular reporting is understood and accepted given that public funds are involved.
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Based on your experience in engaging with the partnership, do you consider CBE JU to be transparent and inclusive?

Score (Out of 5)	<p>4.55/5 47 responses</p> <p>98% Favourable</p> <p>0% Unfavourable</p> <table border="1"> <thead> <tr> <th>Score</th> <th>Description</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>Excellent</td> <td>27</td> <td>57%</td> </tr> <tr> <td>4</td> <td>Good</td> <td>19</td> <td>40%</td> </tr> <tr> <td>3</td> <td>Neutral</td> <td>1</td> <td>2%</td> </tr> <tr> <td>2</td> <td>Poor</td> <td>0</td> <td>0%</td> </tr> <tr> <td>1</td> <td>Very poor</td> <td>0</td> <td>0%</td> </tr> </tbody> </table> <p>Excellent 57% Good 40% Neutral 2% Unfavourable 0%</p>	Score	Description	Count	Percentage	5	Excellent	27	57%	4	Good	19	40%	3	Neutral	1	2%	2	Poor	0	0%	1	Very poor	0	0%
Score	Description	Count	Percentage																						
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4	Good	19	40%																						
3	Neutral	1	2%																						
2	Poor	0	0%																						
1	Very poor	0	0%																						
Strengths	<ul style="list-style-type: none"> • Strong overall transparency in processes and communications: 12 out of 22 respondents (55%) regarded CBE JU as one of the more transparent partnerships within the Horizon Europe framework, highlighting the open development of the Annual Work Programme, clear evaluation criteria, detailed Evaluation Summary Reports and transparent communication of call priorities and expectations. • Genuinely inclusive by design: 7 out of 22 respondents (32%) noted that CBE JU has moved away from the closed-club perception often associated with industrial partnerships, with tools such as public consultation on the SRIA, a dedicated Widening Participation Strategy for Central and Eastern Europe and structured networking opportunities helping to open the programme to a diverse range of actors including SMEs, RTOs and universities. • Constructive and accessible engagement: 5 out of 22 respondents (23%) appreciated the availability of FAQs, info days, NCP training and stakeholder events, with many feeling that questions are answered openly and that the programme's direction is visible well in advance, allowing organisations to plan their participation effectively. 																								
Challenges	<ul style="list-style-type: none"> • Limited inclusiveness for SMEs and smaller organisations: 3 out of 22 respondents (14%) felt that smaller enterprises face higher barriers to meaningful participation, and that fully benefiting from the programme requires active networking and engagement with BIC, which can disadvantage those with fewer resources or less established connections. • Underrepresentation of certain sectors in strategic discussions: 2 out of 22 respondents (9%) felt that inclusiveness could be improved by ensuring a broader range of sectors, particularly renewable gas technologies, have visibility in strategic planning processes. • Insufficient attention to societal dimensions: 2 out of 22 respondents (9%) noted that the programme's focus remains heavily technology-driven, and that greater 																								

	inclusion of societal readiness perspectives would make it more comprehensively inclusive beyond purely technical and industrial actors.
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Do you feel the partnership gives sufficient opportunities for stakeholders to communicate needs and challenges?

<p>Score (Out of 5)</p>	<p>4.47/5 51 responses</p> <p>100% Favourable</p> <p>0% Unfavourable</p> <table border="1"> <tr> <td>5 — Excellent</td> <td>24 (47%)</td> </tr> <tr> <td>4 — Good</td> <td>27 (53%)</td> </tr> <tr> <td>3 — Neutral</td> <td>0 (0%)</td> </tr> <tr> <td>2 — Poor</td> <td>0 (0%)</td> </tr> <tr> <td>1 — Very poor</td> <td>0 (0%)</td> </tr> </table> <p>Excellent 47% Good 53% Neutral 0% Unfavourable 0%</p>	5 — Excellent	24 (47%)	4 — Good	27 (53%)	3 — Neutral	0 (0%)	2 — Poor	0 (0%)	1 — Very poor	0 (0%)
5 — Excellent	24 (47%)										
4 — Good	27 (53%)										
3 — Neutral	0 (0%)										
2 — Poor	0 (0%)										
1 — Very poor	0 (0%)										
<p>Strengths</p>	<ul style="list-style-type: none"> • Multiple effective channels for stakeholder input: 12 out of 28 respondents (43%) broadly acknowledged that CBE JU provides meaningful opportunities to communicate needs and challenges through BIC consultations, info days, brokerage events, thematic workshops and the annual SRIA update process, with many feeling these channels are well established and genuinely influence call design. • Responsive and flexible engagement at project level: 5 out of 28 respondents (18%) highlighted that CBE JU project officers are understanding of the challenges projects face and willing to work collaboratively to resolve them, reflecting a partnership culture that goes beyond formal consultation processes. • Public-private governance keeps priorities grounded in reality: 4 out of 28 respondents (14%) noted that the partnership structure is a strength, with the involvement of industry in shaping the Annual Work Programme helping to keep the agenda connected to real market needs and sector bottlenecks. 										
<p>Challenges</p>	<ul style="list-style-type: none"> • Channels could be more structured, frequent and continuous: Whilst there is a unanimous consensus among respondents that CBE JU provides sufficient opportunities for communicating challenges and feedback, 7 out of 28 respondents (25%) provided constructive comments. One respondent highlighted that events were choreographed and suggested that open debate would be useful for partners to express views. Another respondent suggested that current mechanisms (info days, advisory groups and direct interaction with project officers) are very useful, but could be more structured and frequent, ensuring that emerging priorities are fully captured. • Lighter and more accessible formats needed for SMEs: 4 out of 28 respondents (14%) mentioned that smaller organisations often lack the time and resources to engage fully with heavy consultation processes, and respondents suggest that shorter, simpler input formats would make participation more equitable and increase the quality of feedback received. • GPotential in capturing emerging and niche sector priorities: 3 out of 28 of respondents (11%) from renewable gas and other underrepresented areas feel that opportunities exist, but, as one respondent put it, should be more structured to better capture evolving technical priorities in gasification and residual-gas valorisation. More systematic feedback loops would help align future calls more closely with sector needs. 										

o Challenges and Future Needs

Based on your involvement in the bioeconomy, what are the main innovation gaps, barriers and challenges that persist in Europe?

<p>Responses</p>	<ul style="list-style-type: none"> • The scale-up valley of death remains the central challenge: 18 out of 44 respondents (41%) identified the gap between pilot and industrial-scale deployment, particularly at TRL 6 to 8, as the most persistent barrier, with high CAPEX requirements, long timelines and a European venture capital ecosystem
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	<p>that favours software over hardware-intensive industries meaning that many promising technologies stall before reaching commercial scale or migrate to the US and China.</p> <ul style="list-style-type: none"> • Regulatory complexity is holding back commercialisation: 15 out of 44 respondents (34%) cited fragmented regulations across Member States, lengthy permitting processes and outdated frameworks such as the Waste Framework Directive and Animal By-Products Regulation as major obstacles, with novel product categories such as alternative proteins and CCU-derived materials facing particularly severe regulatory burdens. • Weak demand-side pull limits market uptake: 10 out of 44 respondents (23%) highlighted a lack of procurement signals, unclear standards, limited certification frameworks and insufficient offtake commitments as key reasons why investors hesitate and bio-based products struggle to displace fossil-based alternatives. • Feedstock availability, logistics and supply chain fragmentation: 7 out of 44 respondents (16%) pointed to geographically dispersed and seasonal biomass, high logistics costs, inconsistent quality of circular feedstocks and a lack of pre-treatment infrastructure at farm level as significant barriers to biorefinery viability. • Insufficient late-stage finance and fragmented funding landscape: 7 out of 44 respondents (16%) noted a shortage of growth capital beyond demonstration stage, combined with incoherent bioeconomy priorities across Member States and unequal government support creating significant disparities in the innovation ecosystem across EU regions. • High energy costs and infrastructure bottlenecks: 5 out of 44 respondents (11%) identified elevated electricity and heat costs as a structural disadvantage relative to competing regions, alongside limited access to shared pilot and demo facilities and qualified scale-up personnel, particularly for SMEs. • Low public awareness and social acceptance: 3 out of 44 respondents (7%) highlighted that public understanding of the bioeconomy remains limited, and that greater societal engagement will be necessary to generate the consumer demand and political will needed to drive the transition forward.
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What forms of support do you expect from CBE JU in the future to help tackle innovation gaps, barriers and challenges in the European bio-based sector?

<p>Responses</p>	<ul style="list-style-type: none"> • Scale-up support and bridging the valleys of death: 16 out of 42 respondents (38%) identified stronger financial and practical support at TRL 5 to 8 as the most pressing expectation, including more dedicated calls for pilots, demos and first-of-a-kind plants, direct CAPEX eligibility, access to shared pilot infrastructure and stage-gated funding mechanisms that help innovations cross both the research-to-demo and demo-to-commercial valleys of death. • Active role in regulatory harmonisation and policy translation: 12 out of 42 respondents (29%) called for CBE JU to act as a bridge between innovators and EU institutions, systematically feeding evidence from funded projects into policy recommendations, engaging with DG GROW and Member States and helping resolve certification, standards and permitting barriers that currently slow market entry. • Stronger demand-side and market pull mechanisms: 8 out of 42 respondents (19%) highlighted the need for CBE JU to help shape green public procurement criteria, sustainable product requirements and industrial decarbonisation incentives, and to fund work packages dedicated to offtake readiness and commercial pathway development so that supply-side innovation can actually reach buyers. • Better integration with financial instruments and blended finance: 7 out of 42 respondents (17%) called for clearer follow-on routes to EIB, EIC and national funding schemes, including matched funding, guarantees and blended finance mechanisms, to ensure successful projects can transition from grant funding to deployment capital without stalling. • Greater support for SMEs, cooperatives and primary producers: 6 out of 42 respondents (14%) called for lighter administrative processes, easier access to pilot facilities, more RIA and IA calls suited to smaller organisations and stronger outreach to primary producers and cooperatives who face the greatest practical barriers to bringing bio-based products to market. • Enhanced stakeholder connectivity and matchmaking: 5 out of 42 respondents (12%) called for CBE JU to expand info days, brokerage events and networking activities, and to play a more active role in connecting project consortia with
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	<p>financial actors, policymakers and industrial partners, particularly around a focused set of successful biorefinery blueprints ready for replication.</p> <ul style="list-style-type: none">• Improved communication of impacts and success stories: 4 out of 42 respondents (10%) called for better communication of the tangible outcomes of CBE-funded projects, including products brought to market and plants developed, to build public awareness, attract political support and demonstrate the real-world value of the bioeconomy to a broader audience.
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Appendix E. Workshop agenda

Time	Agenda item	Moderators	Discussion points
9.30 – 9.45	Welcome by CBE JU and project team, presenting the workshop objectives, structure and methodology.	Ruslan Zhechkov & Marika Moreschi	
9.45 – 10.45	Session 1: Contribution of CBE JU results and impacts to EU policy priorities and sector needs	Ruslan Zhechkov	<p>How to better respond to evolving EU priorities through tailored calls for proposals (e.g. Bioeconomy Strategy, Clean Industrial Deal, etc.)?</p> <p>How do results and impacts from CBE JU-funded projects contribute to current and emerging EU policy priorities (e.g. EU Bioeconomy Strategy, Clean Industrial Deal, industrial competitiveness, climate objectives)?</p> <p>How to better respond to the market needs of the sector for a better scale-up?</p> <p>Based on your involvement in the bioeconomy, what key innovation gaps or structural challenges persist in Europe that CBE JU could better address in the future?</p> <p>What forms of support do you expect from CBE JU in the future to help tackle such barriers ?</p>
10.45 – 11.45	Session 2: CBE JU impact	Ruslan Zhechkov	<p>From your stakeholder perspective (e.g. project participant, industry, policymaker, governance body, civil society, what was CBE JU's main impact/benefit from your point of view?</p> <p>Which impacts are already tangible and which are still emerging?</p> <p>Where do you see untapped potential to further increase impact?</p>
11.45 – 12.45	Session 3: CBE JU delivery model	Marika Moreschi	

			<p>How does the current governance framework support the achievement of CBE JU objectives.</p> <p>From your experience, how well does CBE JU's delivery model work in practice (call design, evaluation procedures, project follow-up, stakeholder interaction)?</p> <p>What concrete suggestions would you have to improve:</p> <ul style="list-style-type: none"> • accessibility to funding? • efficiency and clarity of processes? • interaction between CBE JU and its stakeholders?
12.45 - 13.00	Wrap-up	CBE JU	

Appendix F. Workshop participants

Organisation	Role
CBE JU	CBE JU representative
CBE JU	CBE JU representative
CBE JU	CBE JU representative
Technopolis Group	Study Lead
Technopolis Group	Moderator
Technopolis Group	Note taker
Agrotech Innovations	Participant
University College Dublin / CBE JU Scientific Advisory Committee Chair	Participant
Pilots4U / Bio Base Europe Pilot Plant	Participant
CEFIC – European Chemical Industry Association	Participant
French Bioeconomy Cluster / Bioeconomy for Change	Participant
AFYREN / AfterChem Project	Participant
Bio-based Industries Consortium – BIC	Participant
COPA and COGECA	Participant
Bio Base Europe Pilot Plant	Participant
European policymaker	Participant
Amphistar	Participant

Appendix G. Workshop discussion paper. Preliminary findings

Objective: This discussion paper aims at providing context for, and preliminary findings from, the CBE JU Stakeholder Consultation Study. The background paper is meant to inform the stakeholder consultation workshop which will take place on 11th March 2026, Brussels at the CBE JU premises.

Sources: The preliminary findings are based on a set of interviews (15-20) with stakeholders and a targeted survey (50+ answers).

- Contribution of CBE JU results and impacts to EU policy priorities and sector needs

CBE JU activities and topics are perceived as strongly aligned with the EU bioeconomy and circular economy objectives. The adoption of the EU Bioeconomy Strategy is consistently seen as a key milestone, providing a solid policy basis and CBE JU should contribute to translating it into action.

Individual stakeholders drew the attention to possible future synergies with policies in Green Public Procurement (GPP) in construction, infrastructure and packaging as they are seen as critical for creating larger demand for bio-based products. Some stakeholders proposed establishing closer connections with the European Investment Bank (EIB) and the transition to the European Competitiveness Fund in the future.

Several stakeholders consider that while currently CBE JU focuses mostly on available feedstock and biomass valorisation pathways, in order to attract more interest from the market, in the future it could potentially also pay attention to molecules/products which the market needs. While current TRL coverage is seen as overall balanced, a number of stakeholders believe that there is a need to channel more funding to higher TRL levels (5-7) with shorter time-to-market. This would ensure better synergies with the European Competitiveness Fund which is expected to focus on TRL 8.

Forward looking, stronger and proactive engagement of CBE JU in policy dialogue especially around the very relevant upcoming Biotech Act and Circular Economy Act is seen as potentially beneficial.

CBE JU could also play a role in some strategy-linked initiatives such as the Bio-based Alliance, Regulators and Innovators Forum and the Competitiveness Coordination Tool (CCT) pilot.

Discussion points:

- ✓ How do results and impacts from CBE JU-funded projects contribute to current and emerging EU policy priorities? Can you share some successful examples of impacts?
- ✓ What recommendations could be put forward to better respond to the market needs of the sector in view of supporting the scale up and promoting market uptake following the completion of CBE JU funded projects? What key innovation gaps or structural challenges persist in the bioeconomy in Europe and how can CBE JU contribute to addressing them?

- CBE JU impact

CBE JU is perceived by different types of stakeholders as playing a crucial role in Europe for early-stage R&D and scale-up. CBE JU is seen, especially by companies, as enabling activities that would not be feasible through private funding alone.

Flagship projects are systematically considered as especially impactful in contributing to EU policy goals, e.g. the link between valorisation of residual wood, development of longer-lasting construction materials and direct contribution to circular economy and renewable resource use. Flagships also enable public-private and cross-value-chain collaboration.

Support to bio-based chemistry has been critical and CBE JU is perceived as the best example on how the EU could help support this new technology road and stay ahead of Asia, US and South America.

Several stakeholders expressed concern that CBE JU-funded projects often lead to new products with limited market visibility and uptake and remaining at the pilot or demonstration level. While stakeholders realise that this is not directly in CBE JU's remit, they acknowledge that limited market uptake is an obstacle to attracting investors' interest and commercialisation. Forward looking, CBE JU may explore ways of contributing to the overcoming of this obstacle.

Some stakeholders from Central and Eastern Europe and widening countries noted that their region remains underrepresented in CBE JU projects and that the gap with other parts of Europe appears to be widening. This is largely seen as a structural issue linked to differences in innovation capacity, investment levels and industrial ecosystems across Europe. Addressing these imbalances would therefore require broader, systemic efforts. Within this context, and where relevant to its mandate, CBE JU could contribute by facilitating technology transfer to regions with lower participation, encouraging the development of demonstration facilities in CEE countries, and supporting capacity-building activities. Strengthening synergies with primary producers can further enhance CBE JU impact. Stakeholders positively welcomed the creation of a dedicated working group, however expressed that CBE JU should pursue the efforts for exploring synergies with primary producers who cannot benefit enough from the funding as there is not enough infrastructure to collect biomass or incentives for the businesses to be attractive enough to develop businesses in rural areas.

In addition, stakeholders suggest that in the future CBE JU can play a more important role in project result capitalisation and replication. Synergies between CBE JU and other national and regional funds could also be improved.

Discussion points:

- ✓ What concrete impact has CBE JU had on your organisation and how has participation in the CBE JU funding programme supported you in achieving your specific goals?
- ✓ Where do you see untapped potential to further increase CBE JU's impact and how can this be done? What targeted recommendations would you propose for further improvement?
- ✓ How can CBE JU play a more important role in project result capitalisation and replication?
- ✓ How can synergies between CBE JU and national and regional funds be improved?
- ✓ After having financed the riskiest part of a project, can CBE JU play a role in providing a bridge to less risky follow-up scale-up financing after the end of the projects?

○ CBE JU delivery model

CBE JU delivery model is largely perceived as efficient, transparent and inclusive. It provides sufficient space for stakeholder input.

During application stage, the process is transparent and well-managed; evaluation is objective. SMEs have their chances vis-à-vis big companies but they need a third-party support

for the application process. At the same time, the fact that competition during proposal stage is very high leads to very good proposals remaining unfunded.

During project implementation, CBE JU flexibility is very much appreciated, especially for long and very scientific R&D projects. Reporting burden is perceived as proportional to the funding size and CBE JU staff is seen as very helpful and supportive.

The Bio-based Industries Consortium (BIC) plays an important role in feeding industry needs into CBE JU calls. Potentially, there could be more clusters in BIC due to their increasing importance.

Stakeholders identified several margins for improvement, namely improving communication to sectoral DGs on funded projects to allow for synergies and to avoid duplication of efforts.

Discussion points:

- ✓ Are there any aspects of CBE JU delivery requiring improvement?' How can communication to sectoral DGs on funded projects be improved to allow for synergies and to avoid duplication of efforts

Appendix H. Workshop report

The below section is not a verbatim transcript of the workshop but a structured presentation of different topics discussed. Some of the interventions represent acknowledgement of success while others include elements of recommendations for the future which are not necessarily targeted at CBE JU but also concern other important actors in the bioeconomy mainly the European Commission.

o Contribution of CBE JU to EU Policy Priorities & Sector Needs

Question 1 How do results and impacts from CBE JU-funded projects contribute to current and emerging EU policy priorities? Can you share some successful examples of impacts?

CBE JU contributes to concrete EU policy implementation

- CBE JU projects directly support **EU competitiveness priorities** (including through high SME participation rates), **the implementation of the EU Biotech Act, and the achievement of EU biomanufacturing ambitions** by providing demonstration evidence at industrial scale - involving both biology and chemistry.
- The programme is contributing to **EU strategic autonomy goals** by building indigenous European industry based on biomass grown or sourced in Europe - a forward-looking position that preceded current geopolitical pressures.
- Through Pilots4U and Copilot, the programme has created a Europe-wide community of open-access pilot and demo infrastructures, directly anticipating and **fulfilling goals of the new EU Research and Technology Infrastructures Strategy**³⁹.
- The Copilot project has already achieved four of six elements in the **forthcoming EU Charter of Access to Industrial Uses of Technology Infrastructures** (increased visibility, transparency and quality of services, EU company priority, and cross-infrastructure cooperation).
- The cross-sectoral nature of the bioeconomy means that CBE JU impacts are felt across multiple DGs (RTD, ENV, AGRI, CLIMA, MARE, GROW), and **better coordination among these policy areas is needed to fully capture programme value.**

CBE JU creates evidence for EU and national policy making

- Rather than simply following policy, **CBE JU actively creates evidence that informs and shapes EU policy**, effectively acting as a front-runner that influences policy direction rather than being driven by it.

³⁹ https://research-and-innovation.ec.europa.eu/strategy/strategy-research-and-innovation/our-digital-future/european-strategy-research-and-technology-infrastructures_en#documents

- CBE JU **serves as a platform that creates the dynamic ecosystem needed to support adaptive, long-term EU policy**, especially as policy itself must evolve from linear to circular bioeconomy frameworks.
- The European Commission co-writes the programme with BIC and actively monitors project performance relative to strategic policy, ensuring **a direct feedback loop between programme results and policy development**.
- **Bioeconomy policy itself has evolved significantly** — from a 2012 linear bio-based replacement model to the current circular bioeconomy ambition — and CBE JU projects are key evidence generators for this evolving framework.
- A policymaker pointed out that **learning from failures** — not just successes — **is essential for evidence-based policymaking** and called for quantitative data and figures to support future policy choices.
- **Quantitative evidence on the impacts of CBE JU remains insufficient for policymakers:** more robust figures and data are needed to make the case for continued and expanded investment in the sector.

From strategy to implementation

- The **bioeconomy needs to move from having a strategy to having a clear implementation plan** with defined next steps, financing tools, and a role for CBE JU — particularly ahead of the Environmental Council conclusions on the Bioeconomy Strategy and MFF negotiations.
- **The upcoming Multiannual Financial Framework (MFF) is a critical opportunity:** bioeconomy must be reflected not only under research and innovation but also across infrastructure, logistics, and investment support instruments.

Question 2 What recommendations could be put forward to better respond to the market needs of the sector in view of supporting the scale-up and promoting market uptake following the completion of CBE JU-funded projects?

Funding

- A key structural recommendation is to **explore financial support beyond project closure**, for example through soft loans or partnerships with the European Investment Bank to help companies navigate the capital-intensive ramp-up phase after a CBE JU project ends.
- **Reintroducing a voucher-type system**, similar to past schemes such as BioBase4SMEs and SuperBio in FP7, was strongly recommended: small bilateral grants to companies or pilot facilities for specific, targeted scale-up activities or LCA studies, without requiring a full consortium. Voucher systems should be available at multiple stages of development - not only for scale-up, but also for patent development, certifications, product testing, refinement, and engineering services — to accelerate access to funding.
- **Faster and lighter funding mechanisms are needed.** The Flemish regional scheme (VLAIO 'Scaleup Ready') was cited as a model where a project application was

written, defended within two months, and approved two months later, creating immediate momentum.

- **Financial institutions**, banks (including agriculture-focused cooperative banks), and investment institutions **should be integrated into CBE JU processes at a much earlier stage**, rather than only being approached at the commercialisation stage.
- The **European Innovation Council (EIC) and the Scaleup Europe Fund should play a stronger role at TRL 8 and TRL 9**, and a structured preferential channel between CBE JU-backed projects and EIB investment tools (e.g., EU Tech Champions Initiative) should be explored.
- **A TRL-differentiated financing architecture was proposed**: open-access facilities and vouchers for early TRLs; Horizon Europe for TRL 6–7; EIC/Scale-Up Europe Fund for TRL 8; and EIB loans and guarantees for TRL 9 replication and commercialisation.
- For companies - especially biotech firms producing high-value ingredients - that do not wish or need to build their own flagship plant, **contract/toll manufacturing pathways should be explicitly supported** within CBE JU or successor programmes.
- **The BPI France model** (an 800 MEUR capital fund for industrial start-ups post-TRL 7, holding stakes for up to 15 years) **was proposed as a model the EC** could replicate at EU level through EIC or EIB mechanisms.

Overcoming regulatory and administrative barriers and IP issues

- **Specialised development platforms should be established early in the development process to prepare companies for market authorisations** (e.g., REACH, EFSA, novel food regulation) rather than encountering these regulatory barriers only after scale-up.
- **A regulatory sandbox approach is needed** so that REACH, EFSA, and other regulatory frameworks support rather than obstruct bio-based innovation, and so that SMEs in particular are not disproportionately burdened. For example, **an IP sandbox should be created at EU or programme level** to make IP rules more flexible and promote IP exploitation, ensuring that IP generated through CBE JU projects is actively translated into economic value rather than remaining unused. **REACH regulation is a major structural barrier for companies using circular, waste, and side-stream feedstocks** - a core part of what CBE JU funds. The ECHA regulatory framework is not designed to handle heterogeneous bio-based waste streams where the output chemical is identical regardless of feedstock origin. CBE JU should channel learnings from companies facing these barriers back to legislators via CSAs, so the system can be adapted to promote circular bioeconomy.
- **EU-wide or national IP protocols should be established** so that all research-performing organisations and industrial partners have clear, pre-agreed terms on IP ownership within project consortia. Ireland's national IP protocol is a good example for that.
- **Cross-border movement of biomass is a critical regulatory barrier** for CBE JU projects. Policy needs to ensure that, through a research-purpose designation, biomass can move freely across borders within EU research projects. Waste is very regionally regulated - CSA work should address this directly.
- **State aid rules and bureaucratic red tape stifle innovation at the national and regional level.** A specific example: designing a pilot-scale facility in collaboration with industry is classified as state aid because it is perceived as 'helping industry', even when the purpose is academic and infrastructure development. An untapped potential exists in the large number of people who want to scale up but cannot access funds due to

these constraints - this is part of the wider ecosystem problem that CBE JU cannot solve alone.

Question 3 What key innovation gaps or structural challenges persist in the bioeconomy in Europe and how can CBE JU contribute to addressing them?

Funding gap and de-risking mechanisms

- **The most persistent structural challenge is the funding gap:** flagship CBE JU projects receive up to 20 MEUR in grants, but the total investment required for industrial scale can reach 200 MEUR - leaving coordinators to find the remaining finance largely on their own.
- **Abrupt programme closures or gaps in funding create serious disruption for the bioeconomy ecosystem;** stability and long-term visibility of the programme are essential for businesses to make multi-year investment commitments.
- **Investor appetite for de-risked co-investment at TRL 4–7 (pilot and demo scale) remains insufficient:** despite the availability of pilot infrastructure and a large pool of European innovators, demand for scale-up services at open-access infrastructures decreased in 2023–24 because private investors are not yet willing to take technology risk at these TRL levels. **Public de-risking mechanisms at TRL 4–7 are urgently needed** - for example through voucher schemes, as elaborated earlier in the text.
- **Tax break and R&D credit schemes should be developed to de-risk early-stage investment** — allowing companies to offset upfront costs and incentivise investment beyond the first valley of death.
- **Better communication and dissemination of success cases is needed to shift the perception of bio-based investment as excessively risky,** particularly among more risk-averse financial actors such as pension funds - whose participation is essential to mobilise large-scale capital.
- **The European bioeconomy strategy is ambitious (over 70 actions) and requires a much more concrete implementation plan with clear financing instruments, responsible actors, and timelines** - especially given the central role of agriculture and forestry, sectors that are perceived as high-risk by investors.
- **SME-specific instruments are needed at the programme level:** the regulatory and financial burden on SMEs (including start-ups and scale-ups) is disproportionately high compared to multinationals, and existing SME instruments within the programme need to be strengthened.
- **If financial institutions are integrated into project tracking from an early stage - rather than approached cold after project completion - they will be familiar with the technology and team by the time a bridge financing opportunity arises.** The certification mechanism would make this integration more structured.

Second valley of death

- The public-private partnership model of CBE JU is itself seen as a structural innovation that enables industry, researchers, and universities to dialogue on equal footing with

matched EU investment - **but its fitness for purpose in addressing both valleys of death simultaneously must be continually reviewed.**

- The objective of demonstrating capacity at technology and industrial scale - the first valley of death - has been achieved; however, **the second valley of death (commercialisation, market entry, and replication) is not yet properly addressed from a policy, political, and budget point of view**, and companies - especially SMEs - are not making it through as a result.
- On the other hand, **there is a risk that policy attention shifts too far towards the second valley of death (commercialisation)**, neglecting the first valley - which would recreate the pre-2008 situation where Europe had no strategic approach to scale-up infrastructure.
- **The sustainability of ecosystem-building projects (such as Pilots4U and Copilot) after project closure is a structural challenge:** activities such as PDI fairs, matchmaking, and open days require continuous resources and cannot simply stop when a project ends.
- **A gap exists for companies that want to access markets via contract/toll manufacturing rather than building dedicated industrial plants**, yet current CBE JU instruments do not adequately address this pathway, which is particularly relevant for high-value biotech products.
- **CBE JU could serve as a perfect laboratory to identify why companies fail after project completion** - distinguishing between market, financial, and company restructuring causes - and to solve those problems; and the evaluators were encouraged to document failures alongside successes in the study.

Others

- **The 20-year timeline from lab to running factory (in the best case 15 years) must be embedded in policy and programme design:** short-term thinking, short funding cycles, and pressure for quick returns are fundamentally misaligned with the timescale of bioeconomy industrialisation.
- The **fossil vs. bio-based subsidy imbalance is a structural challenge** that CBE JU alone cannot solve but should actively advocate to address: a globally uneven playing field (\$6 subsidy for fossil vs. \$1 for bio-based) continues to disadvantage the entire sector. Hence, a level playing field between bio-based and fossil-based products must be created through policy: fossil-based products should face the same regulatory scrutiny as bio-based.
- **Life cycle analysis (LCA) should be reframed from a punitive stick into a journey-based tool** - recognising that sustainability is a transition process and rewarding incremental improvements rather than demanding immediate perfection.
- **Food-grade biomass for non-food applications has been a persistent barrier:** neither EIB nor some member state funders have been willing to finance projects using food-category biomass for industrial applications, causing good flagship proposals to never be submitted. This is reported to be close to resolution, but until officially confirmed and published, it remains a significant untapped potential.

- CBE JU Impact

Question 1 What concrete impact has CBE JU had on your organisation and how has participation in the CBE JU funding programme supported you in achieving your specific goals?

- **The Pilots4U and Copilot projects created a European community of open-access pilot and demo infrastructures** - one of the most concrete and lasting impacts of CBE JU. **The programme produced data insights on European infrastructure capacity:** 12 technology areas, 50 different technologies, and a clear picture of what exists and what is lacking - information that exists nowhere else on the planet for bioeconomy pilot and demo infrastructure.
- For Amphistar (GramBioStar), the Waste2Funk project was transformational. By forcing the full value chain - feedstock providers, processing technology, and end users like Ecover - to work together, **the project enabled the launch of a consumer prototype product** (an Ecover cleaning product box). Without the project, this market launch would not have been feasible. The consortium also secured communication from Ecover about the bio-based ingredient - something the large company would otherwise have avoided for competitive reasons - resulting in a publicly visible QR code linking to the product contribution. This provided crucial proof-of-concept for Amphistar's subsequent fundraise of 6 MEUR, with ECBF as lead investor.
- **CBE JU participation triggered a national-level snowball effect in Ireland. Government observed the benefits of a CBE JU flagship project** - the large number of SMEs, research-performing organisations, and others - and responded by increasing both capital and project funding nationally. Government pre-funded infrastructure in advance specifically to prepare Irish researchers and companies to compete in upcoming CBE JU calls. For example, the BioRefineries project directly influenced the Irish government to fund national pilot-scale infrastructure 2-3 years in advance, creating a pipeline of applicants ready for future calls. A national bioeconomy research centre was subsequently established - a sector-building effect that extends well beyond the direct participants of any single project.
- **CBE JU projects also de-risk industry co-investment in infrastructure.** Industry will invest in projects - particularly those co-funded by government and the Commission - even when it will not invest in infrastructure alone, because the public co-funding reduces its risk exposure. This dynamic is enabling industry to engage more actively in bioeconomy scale-up.
- **A concrete but often unmeasured impact is the enabling of company transformation through programme participation.** One Irish SME that started as a biomass analysis service provider was able to expand its workforce, develop new skills, open a subsidiary in the United States, and begin developing its own technology for market — all enabled by sustained participation in BBI JU and CBE JU projects.
- **For the French bioeconomy cluster, a flagship project involving a CBE JU and national grant enabled the industrial start-up to raise 600 MEUR in follow-on investment.** Without the flagship, no such fundraise would have been possible.
- **The seven-year programme stability is itself a concrete impact:** it sends a positive signal to the market, creates investor confidence, and enables companies to build long-term strategies.
- **The programme has changed the global paradigm for bioeconomy investment.** After 2012, the US has created a programme directly inspired by BBI JU and CBE JU, and international companies are now considering investing in Europe.

- Cooperative and farmer-led models are an area where CBE JU has begun creating impact: the ROBOCOOP-EU project promotes cooperative models and the role of farmer structures in bringing farmers together, with relevance beyond individual countries. The working group on primary producers within CBE JU is also a concrete governance impact, albeit one still requiring further development.
- **For investors to be attracted and retained, a quantified, statistically robust database of CBE JU outcomes is essential.** Building this database - tracking what has been delivered, at what confidence levels, and with what sustainability outcomes — is itself a critical, partially untapped impact that would significantly increase investor trust in the bio-based value chain
- **CBE JU has given new direction to primary production**, making the sector more attractive to younger generations and supporting generational renewal in agriculture and forestry.
- **The programme has successfully raised awareness and clarified the distinct concept of circular bioeconomy**, differentiating it clearly from the broader circular economy and green economy narratives.
- **CBE JU-funded projects are helping to diversify and renew the European chemical sector by supporting new companies and new molecules**, directly relevant to open strategic autonomy.

Question 2 Where do you see untapped potential to further increase CBE JU's impact and how can this be done? What targeted recommendations would you propose for further improvement?

Technological infrastructure

- **Cross-border use of pilot and demo infrastructure is a major untapped potential.** Despite 130 open-access pilot and demo facilities now existing across Europe - unevenly distributed, with more in Western Europe than Eastern - innovators are largely restricted by national and regional funding schemes that prohibit using their grants to cross borders and access facilities in other countries. In 96% of cases surveyed among pilot and demo infrastructure operators, regional funding could not be used cross-border. **CBE JU could unlock this potential by designing specific calls** that incentivise or require cross-border use of infrastructure — for example, by offering travel vouchers to innovators, organising PDI fairs in underserved regions, and facilitating open days and study visits. These activities were piloted in Copilot and need to be possible on a larger and ongoing scale.
- **A structured link between CBE JU and open-access facilities should be made more systematic** to help projects transition from lower to higher TRLs, reducing the need for projects to invest in physical infrastructure ('steel') at intermediate TRL stages
- **Additional focus on conversion of existing (stranded) industrial assets — particularly in the chemical sector — is an untapped potential**, as repurposing existing European industrial infrastructure is both more cost-effective and strategically important than greenfield construction. Petrochemical partners with spare capacity could host start-ups. Better visibility on available industrial capacity across Europe — perhaps via the Critical Chemicals Alliance's working group on sites — would facilitate this.

TRL focus

- **The focus of CBE JU should be sharpened towards TRL 6 and above:** instruments below TRL 6 are better addressed by other Horizon Europe instruments, and a more laser-focused CBE JU on higher TRLs would attract greater engagement from large industrial companies who are currently in a 'waiting mode'. Counter-position from UCD: TRL 4–6 projects are also essential and must not be abandoned by CBE JU, as there remains a structural gap in that space.

Sectors and aspects with untapped potential

- **Blue bioeconomy is a significantly underexplored sector within CBE JU.** While the programme supports some projects in the field of aquaculture, numbers drop sharply as TRL increases and this is structural. The marine sector is dominated by micro-SMEs, often led by biotechnologists rather than people from fishing or aquaculture, creating a disconnect. Structural sectoral investment in skills and technology in marine bioeconomy - outside CBE JU - is needed to create a generation of talent that can engage with the programme. A sectoral skills investment across agriculture, forestry, and aquaculture is needed to build the human capital pipeline that will engage with CBE JU at higher TRLs. Without people who understand both the bio-based sector and the scale-up pathway, the infrastructure and funding mechanisms will remain underutilised.
- **Primary producers - farmers, forestry operators, cooperatives - remain significantly under-represented in CBE JU projects.** Most calls are dominated by research-performing organisations and universities; and while primary producers representativeness across consortia is improving some gaps remain. CBE JU working group on primary producers and the Root Links project are a step in the right direction. Future calls may further build on these developments, and focus on how to respond to primary producers' needs, including through the multi-actor approach introduced under Horizon Europe, and evaluation criteria should weight their genuine involvement.
- **Access to CDMOs and toll manufacturing for companies that do not wish to, or cannot afford to, build their own flagship plant is an important untapped pathway to market.** Cascade funding or voucher schemes enabling companies to access CDMOs — both for demo-scale work and for licensing and toll manufacturing thereafter — would capture this currently unserved cohort.

Question 3 How can CBE JU play a more important role in project result capitalisation and replication?

- **A certification mechanism for successful CBE JU projects should be developed and made available to financial institutions.** CBE JU already certifies high-quality proposals that scored well but were not funded, allowing them to be referred to other instruments. This concept should be extended to projects that have been funded, successfully completed, and are moving to the next phase - issuing a recognised certificate that financial institutions can use as a basis for follow-on investment decisions.

- Project result repositories - Zenodo and FAIR+D - exist but are not sufficiently visible or well-coordinated. **A more visible, curated repository of CBE JU project results would increase dissemination, build credibility, and improve knowledge transfer to industry** actors who were not part of the original consortium.
- **CSAs should be used to channel learnings from project participants** - particularly around regulatory barriers such as REACH and waste classification — back to legislators, so that the system is changed at its core based on practical experience from CBE JU-funded projects.
- **PDI fairs, matchmaking events, study visits, and open days - piloted in Copilot - are practical mechanisms for disseminating project results** and connecting them with potential replicators and investors. These activities were only a small exercise and need to be possible on a larger and ongoing scale.

Question 4 How can synergies between CBE JU and national and regional funds be improved?

- In 96% of cases surveyed among pilot and demo infrastructure operators, regional funding available to support innovators' use of scale-up facilities cannot be used to cross national borders. **CBE JU could catalyse a shift here by designing specific calls that incentivise or require cross-border use of infrastructure** - effectively acting as a policy lever to encourage national and regional funders to open up their schemes.
- **France provides a working model of national-EU synergy: some French flagships have used a 'double dossier' approach**, submitting simultaneously to CBE JU for operational expenditure (OPEX) and to the national investment agency for capital expenditure (CAPEX). CBE JU acts as co-funder for the operational costs while the national instrument funds the physical infrastructure. This model should be explored at EU level.
- **If biomanufacturing technologies are approved as EIC 'step technologies' a parallel submission to EIC and CBE JU for the same investment could become a systematic co-funding structure for companies** in the scale-up phase. For the CBE JU component, OPEX would be covered; EIC would address the capital expenditure element.
- **A co-fund model with Member States - where CBE JU provides a portion of funding for a specific call and Member States must match the rest - could unlock national co-investment.** However, this must be carefully designed to avoid disadvantaging smaller Member States with less matching capacity. Differential co-funding rates for SMEs versus multinationals could help address this.
- **Coordination and anticipation are the critical bottlenecks in multi-fund synergies.** BPI France's industrial start-up fund requires 18 months of due diligence before making a decision. This timeline must be initiated before CBE JU grant decisions, not after — requiring project teams to approach national co-funding instruments in parallel with their CBE JU applications. Everything the Commission could do to facilitate that coordination would be very well received.

Question 5 After having financed the riskiest part of a project, can CBE JU play a role in providing a bridge to less risky follow-up scale-up financing after the end of the projects?

- **Industrial ramp-up takes a lot of time and money. Partnerships with European banks — loans or similar instruments — are considered fundamental** to enabling companies to ramp up production at scale. Difficulty finding qualified people for ramp-up operations is an additional structural constraint that CBE JU-funded training projects could help address.
- **Cascade funding or voucher schemes enabling innovators to access Contract Development and Manufacturing Organization (CDMOs) - both for demo-scale work and for licensing and toll manufacturing - would allow companies to generate revenue and progress towards commercial financing** without the full CAPEX burden of a flagship plant. The indirect impact would follow on the whole value chain, even beyond the direct voucher recipient.
- **A CBE JU project certification mechanism - extending to projects that have been successfully completed and are moving to the next phase - could serve as a recognised signal for financial institutions** to deploy capital. Early integration of financial institutions into project monitoring, rather than approaching them cold at project end, would make this bridge to follow-on financing more effective.
- **EIC co-investment alongside CBE JU — using EIC to address capital expenditure while CBE JU covers operational expenditure - could create a systematic bridge financing structure for flagship projects.** A lot of synergies between CBE JU, EIC, and other funds are possible, but the key is coordination and anticipation.

- CBE JU delivery model

Question 1 Are there any aspects of CBE JU delivery requiring improvement?

- **Paperwork for small-scale travel vouchers can be sometimes disproportionate.** For instance, the Copilot project showcased that there is a strong interest from innovators in visiting pilot facilities, but the actual uptake can then be lower because of the administrative burden.
- **Low success rates on certain topics are partly a product of topic design, not only of budget constraints.** On one side overly specific topics block legitimate applicants, while on the other overly broad ones attract too many. This has been debated extensively in the Scientific Committee, BIC and the EC, without a satisfactory answer.
- **A two-stage application process - as used in some Horizon Europe programmes - was raised as a possible mechanism to reduce the burden of unsuccessful applications.** However, this may extend the proposal-to-project start timeline even further.
- **The core funding problem is not low success rates per se, but that excellent proposals in topics that are not even heavily oversubscribed can still remain unfunded.** The volume of proposals submitted is driven by how topics are written: insufficiently challenging topics attract resubmissions from other areas. The programme has clearly increased proposal quality and now cannot fund proposals scoring 14 or even 15. Mechanisms explored - including the Seal of Excellence and a mechanism referred to as 'the stack' from DigiPatch - have not proven workable in practice, as national or regional funding cannot simply top up CBE JU awards. This is a systemic challenge requiring solutions with other instruments, not CBE JU alone.

- **A reserve 'blank' budget - not allocated to specific topics, used each year to fund proposals reaching the quality threshold of 15, to be reallocated to the following year if unspent** - was proposed as a possible mechanism, subject to compatibility with Horizon Europe horizontal rules. However, this may risk concentrating funding in whichever areas happen to score highest, at the expense of strategically important but lower-scoring topics, and thus undermine the breadth the programme is designed to cover.
- **Greater involvement of the primary production sector requires capacity-building actions** that allow primary producers not to be deterred by the administrative burden or the complexity of participating in a CBE JU consortium.
- **CSA actions should be more business-oriented and support activities that create real value for the market**, rather than primarily dissemination, exploitation, and communication. The Horizon Booster actions may provide a model: programmes with large and important market actors involved in converting results into obtainable actions. Further, CSA evaluation scoring can further focus on what the project will practically do to support innovators, not only the quality of planned outputs and reports.
- **The administrative burden of applying can be a genuine barrier for SMEs and start-ups:** proposals often require these entities to hire external consultants to compensate for the lack of internal capacity and experience. This might also itself be contributing to grade inflation at the top of the scoring range. While CBE JU cannot support application writing due to conflict of interest, existing resources to help companies navigate the administrative and technical complexity of applications may be further strengthened.
- **IPR creates a structural tension in progress reporting:** teams must show they have delivered what was promised, but cannot show too much because other parties read the reports.
- **When project plans change mid-implementation due to legitimate market or technical shifts, project teams can experience anxiety about losing funding or evaluator confidence** — even when the overall delivery objective remains unchanged. It was argued that having people from the start-up world within the reviewer or project officer pool would help, as those who have not lived that experience find it difficult to recognise plan changes as normal. At the same time, CBE JU was considered as already having a genuine flexibility culture, within the limits of the Horizon legal framework rules and IT tools becoming increasingly restrictive.
- **CBE JU already goes further than comparable Horizon Europe actions** - including the same type of actions under Cluster 6 - in requiring a business model, business case, and business plan from applicants, and deploys dedicated business-profile experts specifically for Innovation Action evaluation. This was presented as evidence that the programme is already using all available rules to the maximum possible extent.

Question 2 How can communication to sectoral DGs on funded projects be improved to allow for synergies and to avoid duplication of efforts?

- **A targeted communication strategy with sectoral DGs is needed to ensure they understand what CBE JU has specifically achieved and the impact it is generating.** CBE JU must not be viewed through the lens of Joint Undertakings as an undifferentiated group: it has a unique delivery model, in an area of critical strategic importance to Europe in terms of autonomy and sustainability. This message must be communicated clearly to each relevant DG so it is not lost when decision-makers look at Joint Undertakings as a whole.

- **CBE JU's communication plan for the past and current year is specifically focused on communicating results, impact, and how they fit into the current policy context.** It was confirmed this is the programme's priority approach and framed it as a shared responsibility: CBE JU will bring the message; stakeholders should amplify it.
- **Communication to DGs and the Commission will be more effective if grounded in concrete, specific project examples** - real case studies and real anecdotes - rather than general programme-level claims that remain vague. Further, moving away from bulky documents and PDFs towards human-format materials such as video testimonials, might make the communication more tangible, more concrete, and more actionable on the receiving end.