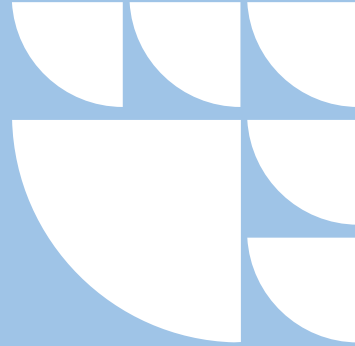




Circular
Bio-based
Europe
Joint Undertaking



CBE JU Stakeholder Forum 2026

Bio-based. Built to scale.

Final report



CBESF26 Report

EVENT OVERVIEW AND PURPOSE

The CBE JU Stakeholder Forum (CBESF26) brought together key actors from across Europe's bio-based sectors to address one of the most pressing challenges facing the bioeconomy: scaling up innovation to industrial deployment. The event served as a platform to exchange knowledge, align priorities and identify concrete actions needed to accelerate the transition towards a competitive and sustainable bio-based Europe.

Around 400 participants from over 40 countries attended the forum, representing industry, research organisations, SMEs, policymakers, investors, regional authorities and civil society. The programme featured keynote interventions, panel discussions and an exhibition of CBE JU-funded projects, through which participants explored the systemic, financial and regulatory conditions required to bring bio-based solutions to market. This report summarises the key insights, discussions and recommendations that emerged from CBESF26, highlighting the critical steps needed to strengthen Europe's bio-based ecosystem and support its transition from research excellence to industrial leadership.

KEY HIGHLIGHTS

- **15 renowned speakers** representing the bio-based sectors including industry, research, SME's, public sector, local authorities and other stakeholders shared insights on what is needed to scale-up a bio-based Europe.
- Four engaging **panel discussions** addressed key barriers to scale-up, covering innovation deployment, access to finance and enabling policy and ecosystem conditions. The panels focused on **key bottlenecks to scaling the bioeconomy**, specifically:

1. From lab to demonstration

- Transition from R&D to pilot/demonstration plants
- Technical, regulatory and systemic conditions needed to scale innovations

2. From demonstration to industrial deployment

- Moving to full commercial scale
- Market demand, investment predictability and scaling challenges

3. Access to finance

- Addressing the 'second valley of death '
- Investment gaps and financing mechanisms for scale-up

4. Framework conditions

- Role of regulation, policy alignment and industrial ecosystems

- Enabling market uptake and competitiveness
- The **exhibition of 50 bio-based solutions** developed by CBE JU-funded projects, offering participants a first-hand view of prototypes, advanced materials and market-ready technologies transforming sectors such as chemicals, construction, agro-industrial systems and textiles.
- **400 participants from 40+ countries** attended the event.

KEY TAKEAWAYS

- **Scaling is the main challenge, not innovation**

Bio-based technologies are tested and proven but moving from pilot and demo to industrial scale remains the biggest hurdle. This gap, commonly referred to as the 'second valley of death', describes the phase where projects face high capital requirements and limited revenue generation, making them too risky for private investors but no longer eligible for early-stage public funding. As a result, many promising innovations fail to reach commercial scale. Addressing this gap requires targeted financial instruments, risk-sharing mechanisms and policy support to enable large-scale deployment and replication.

- **Regulation must enable markets**

Clear, stable and aligned regulatory frameworks are essential. Beyond compliance, regulation and public procurement can actively create demand, reduce risk and accelerate market uptake of bio-based products.

- **Access to finance across all stages is critical**

While early-stage funding is strong, major gaps remain in scale-up and commercial deployment. To address this, Europe needs to maintain financial instruments like CBE JU to sustain the effort in innovation and ensuring a pipeline of scalable technologies. Simultaneously, it should develop innovative blended finance and risk-sharing instruments and provide a stable, predictable policy frameworks that gives investors' confidence in future market demand.

- **Strong value chains and collaboration are key**

Successful projects depend on integrated ecosystems: linking farmers, industry, investors, researchers and policymakers. Collaboration across sectors and regions is essential to ensure feedstock security, market access and scalability.

- **Market creation and competitiveness need urgent attention**

In the current geopolitical context, marked by supply chain vulnerabilities and global competition, bio-based products must compete with both fossil-based alternatives and lower-cost international producers. Strengthening Europe's position requires targeted market pull measures, enhanced consumer awareness, cost reduction strategies and strategic infrastructure investments to secure resilient and competitive bio-based value chains.

- **Accelerating the transition from demonstration to market deployment**

The sector must move beyond innovation and focus on delivering industrial-scale solutions. This requires embracing risk, learning from experience, using data and AI effectively and accelerating action to support Europe's resilience and strategic autonomy.

CONCLUSIONS AND RECOMMENDATIONS

How can Europe effectively bridge the scale-up gap?

CBESF26 participants identified the following **challenges**:

- Persistent gap between demonstration and commercial deployment, where technologies are validated but do not reach the market.
- High capital intensity and risks associated with first-of-a-kind industrial plants limits private investment and slows deployment.
- Long innovation and scale-up timelines (10-15 years), requiring sustained and coordinated support beyond early-stage funding.
- Limited access to pilot and demonstration infrastructure, particularly for SMEs seeking to validate and optimise processes at scale.
- Insufficient mechanisms to support replication and market roll-out, even after successful demonstration projects.

Recommendations to address these challenges:

- *Private sector*: Engage early with investors, regulators and value chain stakeholders to de-risk scale-up and ensure alignment with market needs. Establish strategic partnerships across the value chain to share risks, infrastructure and technical expertise. Adopt flexible and phased scaling strategies, progressing efficiently from pilot to demonstration and ultimately to industrial deployment, in order to mitigate technical and financial uncertainties.
- *Public sector*: Develop dedicated support instruments specifically targeting the scale-up phase, bridging the gap between demonstration and market deployment. Expand access to shared pilot and demonstration infrastructure across Europe, with particular attention to SMEs, by supporting open-access facilities where companies can test, validate and scale technologies without bearing the full cost of building their own plants. Introduce simplified and fast-track funding mechanisms, including voucher schemes and streamlined application processes to accelerate time-to-market and facilitate the industrial uptake of innovative bio-based solutions.

How can public demand and market creation accelerate the adoption of bio-based products?

CBESF26 participants identified the following **challenges**:

- Lack of guaranteed demand for sustainable bio-based products slows industrial adoption.
- SMEs struggle to compete with fossil-based alternatives due to higher production costs.
- Public procurement rules vary across regions, creating fragmentation and uncertainty.
- Limited consumer awareness and recognition of bio-based products restrict market uptake.
- Absence of standardised certification or labelling reduces trust in bio-based solutions.
- Market signals are insufficient to incentivise long-term private investment.

Recommendations to address these challenges:

- *Private sector*: Leverage public procurement frameworks by engaging early with policymakers to help design programmes that reward sustainability, adopt innovative pricing and marketing strategies to bridge the cost gap with fossil-based alternatives and collaborate with other industries to increase visibility and market awareness. Invest in certification and transparency initiatives to strengthen consumer trust in bio-based products.
- *Public sector*: Implement harmonised EU-wide green procurement programmes and introduce incentivised or mandatory purchasing of certified bio-based products for everyday use. Support awareness campaigns and educational initiatives for consumers and businesses. Streamline certification processes to reduce barriers for SMEs and signal predictable market demand through clear policy commitments and long-term contracts, de-risking private investment in the bio-based production.

How can Europe strengthen integrated bio-based value chains from raw materials to market-ready products?

CBESF26 participants identified the following **challenges**:

- Limited coordination between farmers, feedstock suppliers and industrial users slows value chain efficiency.
- Local sourcing of biomass is often inconsistent, fragmented or geographically distant from processing facilities.
- SMEs and startups struggle to access the technical expertise and infrastructure needed to integrate into value chains.
- Export strategies are underdeveloped, reducing global market competitiveness for EU bio-based products.
- Knowledge gaps exist around sustainable biomass availability, processing technologies and product-market fit.
- Collaboration across sectors (Primary producers, industry, research) is not fully incentivised or structured.

Recommendations to address these challenges:

- *Private sector*: Establish strategic partnerships across the value chain to secure reliable biomass supply and shared technical expertise. Invest in local sourcing networks and logistical solutions to reduce distance from feedstock to processing. Integrate pilots, R&D and production stages to optimise efficiency and product quality. Collaborate with research institutions and industry peers to co-develop innovative processes and market-ready products. Diversify markets by pursuing export opportunities and aligning products with global demand trends.
- *Public sector*: Facilitate multi-stakeholder platforms that connect primary producers, SMEs, large industries and research institutions to boost coordination. Support regional biomass hubs and infrastructure development to ensure sustainable and reliable feedstock supply. Promote policies and incentives that encourage cross-sector collaboration and investment in integrated value chains. Provide technical assistance, knowledge-sharing frameworks and tools to reduce information gaps around sustainable biomass and processing technologies. Encourage export readiness programmes and market development initiatives to position European bio-based products competitively on the global stage.

How to ensure supportive regulatory and financing frameworks for bio-based sector growth?

CBESF26 participants identified the following **challenges**:

- Existing regulatory frameworks are primarily based on traditional processes and are not always suited to the complexity of biotechnology and bio-based production.
- Regulatory complexity and fragmentation across EU Member States slows innovation and scale-up.
- Lack of early engagement between innovators and regulators increases compliance risks.
- Transition from demonstration projects to full-scale deployment carries high financial risks.
- SMEs often struggle to structure financing proposals and access blended funding mechanisms.
- Private investors require predictable market signals to commit long-term capital.

Recommendations to address these challenges:

- *Private sector*: Engage proactively with regulators to anticipate compliance requirements, develop internal expertise on EU and national regulatory frameworks, collaborate with peers to share lessons and reduce risk. Structure long-term financing plans and leverage public funding instruments to facilitate early-stage and industrial-scale deployment gaps.
- *Public sector*: Simplify and harmonise regulatory frameworks across the EU, introduce flexible mechanisms for experimentation, provide clear guidance on compliance and expand blended funding instruments targeting post-demonstration phases. Issue long-term policy signals to reduce investment uncertainty and encourage private capital deployment. Ensure effective and future-proof regulation that requires frameworks adapted to the bioeconomy and enhanced technical expertise within regulatory bodies to keep pace with innovation.

How can Europe address human capital gaps in the bio-based sector?

CBESF26 participants identified the following **challenges**:

- Shortage of specialised professionals for advanced bioprocesses limits scaling capacity.
- SMEs face difficulties attracting and retaining talent compared to larger corporations.
- High mobility of skilled personnel between projects increases talent retention challenges.
- Limited educational and training programmes specific to bio-based industries.
- Lack of awareness among youth and rural communities about career opportunities in the bioeconomy.

- Insufficient collaboration between industry, academia and vocational training institutions.

Recommendations to address these challenges:

- *Private sector*: Develop targeted training programmes in collaboration with universities and research centres, offer internships to attract new talent, establish mentorship schemes to retain expertise, invest in continuous upskilling of existing staff and create attractive career pathways that highlight the innovation and societal impact of bio-based work.
- *Public sector*: Support the creation and funding of specialised bioeconomy education and training programmes, incentivise partnerships between industry and academic institutions, launch awareness campaigns to promote bio-based careers to youth and rural populations, provide scholarships and mobility grants for skilled professionals and encourage policy frameworks that recognise and reward talent development in the sector.

Conclusion

CBESF26 confirmed that Europe has a strong motivation and foundation in bio-based innovation, but further action is needed to transition from innovation to industrial deployment. Addressing regulatory, financial and market barriers, while strengthening collaboration across the entire value chain actors, will be critical to unlocking the full potential of the European bioeconomy and ensuring its global competitiveness.