BOOST

Bioeconomy project accelerator

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Lessons Learned from Accelerating Bioeconomy Projects

Key Barriers and Recommendations from the BioBoost Accelerator

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Accelerating bioeconomy projects is rarely a straightforward process. Beyond technological innovation, project promoters must overcome regulatory complexity, secure financing, engage stakeholders, build viable business models and demonstrate long-term territorial value.

Between 2022 and 2026, the **BioBoost Accelerator** provided **Project Development Assistance (PDA)** to a portfolio of bioeconomy initiatives across Catalonia, supporting projects at different stages of maturity and across multiple sectors. Throughout this process, recurring barriers emerged regardless of the technology, business model or territorial context.

This publication brings together the main **lessons learned** from that experience. It identifies the ten most common barriers encountered during project development and summarises the key **recommendations** derived from supporting BioBooster projects.

Rather than presenting individual project results, this document highlights the **common challenges** faced by bioeconomy initiatives and the approaches that proved most effective in addressing them. It is intended as a practical resource for project promoters, public authorities, investors, accelerator programmes and all organisations working to accelerate the transition towards a more circular and resilient bioeconomy.

By sharing these lessons, BioBoost aims to support the development of stronger, more investment-ready bioeconomy projects and contribute to the replication of effective Project Development Assistance models across Europe.

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BIO BOOST Acceleradora de projectes de bioeconomia

The 10 Key Barriers to Accelerating Bioeconomy Projects

1. Technology Readiness & Feasibility
2. Data Availability & Project Readiness
3. Resource Availability & Circular Value Chains
4. Investment Readiness & Risk Sharing
5. Regulatory Framework & Permitting
6. Governance & Stakeholder Coordination
7. Social Acceptance & Communication
8. Accelerator Operations & Project Commitment
9. Capacity Building & Skills Development
10. Digital Tools & Resource Mapping

1 Technology Readiness & Feasibility

The challenge

Many bioeconomy projects begin at low Technology Readiness Levels (TRLs 3–4) and lack access to pilot or demonstration facilities. As a result, technologies cannot be validated under real operating conditions, making it difficult to scale up from laboratory concepts to market-ready solutions.

Why does it matter?

- Delays project development and commercial deployment.
- Increases technical and investment risks.
- Limits the definition of technical and financial services.
- Reduces project attractiveness for investors.

How did BioBoost address it?

To reduce technical uncertainty, BioBoost incorporated technology maturity and feasibility into the project assessment process, helping promoters identify development gaps, define realistic scaling pathways and evaluate the technical requirements needed to progress towards investment readiness.

Recommendations

- Assess Technology Readiness Levels (TRLs) and technical feasibility before defining Project Development Assistance (PDA).
- Provide guidance on technology scale-up pathways, cost assumptions and risk assessment.
- Promote access to shared pilot and demonstration facilities.
- Encourage the use of regulatory sandboxes for innovative bioeconomy technologies.

Technical validation is a prerequisite for investment. Reducing technological uncertainty early helps bioeconomy projects progress towards commercial deployment.

2 Data Availability & Project Readiness

The challenge

Many bioeconomy projects lack the minimum technical, economic or territorial data required to assess feasibility, develop business models or support permitting processes. This lack of information leads to delays, additional work and slower decision-making, reducing the overall readiness of the project.

Why does it matter?

- Delays technical, legal and financial assessments.
- Makes it difficult to confirm the project's economic viability.
- Reduces investor confidence due to insufficient project maturity.
- Creates additional workload and inefficiencies within the Accelerator.

How did BioBoost address it?

BioBoost supported project promoters by identifying the information required to assess project maturity and feasibility before defining the Project Development Plan (PDP). This approach helped identify information gaps early and improve the quality and efficiency of the services provided.

Recommendations

- Establish a baseline data checklist covering technical, economic, territorial and regulatory aspects.
- Carry out a pre-diagnostic assessment to identify project maturity, expectations and information gaps before defining the PDA.
- Use standardised templates and data collection tools to ensure consistent information across projects and regions.

Reliable data is the foundation of effective project development. Early assessment of project maturity and information gaps enables better planning and more targeted support.

3 Resource Availability & Circular Value Chains

The challenge

Some bioeconomy solutions are technically feasible but lack access to sufficient raw materials or the territorial synergies needed to ensure long-term viability. Without reliable resource availability and well-connected value chains, projects face significant challenges in implementation and future scale-up.

Why does it matter?

- Limits the technical feasibility of proposed solutions.
- Reduces opportunities for circular resource use and industrial symbiosis.
- Weakens stakeholder collaboration across the value chain.
- Restricts the project's scalability and long-term territorial impact.

How did BioBoost address it?

BioBoost used a systemic approach by analysing local resource availability and identifying opportunities to strengthen circular value chains. Territorial resource mapping and stakeholder collaboration helped projects better understand feedstock availability and explore new synergies within the regional bioeconomy ecosystem.

Recommendations

- Integrate territorial resource mapping tools at an early stage of project development.
- Train project promoters on circular value chains, industrial symbiosis and alternative feedstock strategies.
- Strengthen regional collaboration networks to improve resource availability and material exchange.

Successful bioeconomy projects depend not only on innovative technologies, but also on reliable resource availability and strong territorial value chains.

4 Investment Readiness & Risk Sharing

The challenge

Many bioeconomy projects struggle to attract investment due to the high level of perceived risk and the misalignment between conventional financial indicators and the broader environmental, social and territorial benefits these projects generate. As a result, economically viable projects may still fail to secure financing.

Why does it matter?

- Limits access to private investment.
- Reduces the attractiveness of bioeconomy projects despite their long-term value.
- Prevents projects from reaching investment-ready status.
- Slows the mobilisation of capital into the bioeconomy sector.

How did BioBoost address it?

BioBoost supported projects by improving their investment readiness through financial guidance, risk assessment and the development of more robust investment cases. The Accelerator also highlighted the need to better communicate the systemic value of bioeconomy projects beyond conventional financial metrics.

Recommendations

- Develop investment readiness frameworks.
- Promote blended finance and risk-sharing mechanisms.
- Raise awareness of the systemic benefits of bioeconomy projects.
- Strengthen connections between projects and investors.

Investment readiness goes beyond financial performance. Demonstrating environmental, social and territorial value is essential to attract investment into bioeconomy projects.

5 Regulatory Framework & Permitting

The challenge

Bioeconomy projects often face outdated or unclear regulations, fragmented administrative procedures and lengthy permitting processes. These factors create legal uncertainty, delay implementation and increase project costs.

Why does it matter?

- Delays project implementation and market entry.
- Increases legal uncertainty for promoters and investors.
- Raises administrative and compliance costs.
- Limits the scalability of innovative bioeconomy solutions.

How did BioBoost address it?

BioBoost provided legal and regulatory support to help project promoters navigate complex permitting procedures, interpret applicable legislation and identify regulatory pathways for project implementation.

Recommendations

- Provide dedicated legal and regulatory support for bioeconomy projects.
- Simplify and accelerate permitting procedures where possible.
- Develop standardised documentation and legal guidance.
- Promote regulatory sandboxes and knowledge sharing across regions.
- Update regulations to reflect emerging bioeconomy innovations.

Clear and efficient regulatory frameworks are essential to reduce uncertainty, accelerate project implementation and unlock innovation in the bioeconomy sector.

6 Governance & Stakeholder Coordination

The challenge

Bioeconomy projects often involve multiple stakeholders with different interests, responsibilities and institutional frameworks. Without clear governance structures and defined roles, decision-making becomes slower, coordination weakens and project implementation is delayed.

Why does it matter?

- Slows decision-making and project implementation.
- Creates uncertainty over roles and responsibilities.
- Complicates legal agreements and collaboration models.
- Weakens coordination across the value chain.

How did BioBoost address it?

BioBoost supported projects by facilitating stakeholder coordination, clarifying governance structures and helping define appropriate collaboration and decision-making models for complex multi-actor initiatives.

Recommendations

- Define governance structures from the start of the project.
- Use stakeholder mapping and facilitation tools to align expectations.
- Promote continuous dialogue among project partners.
- Review governance arrangements regularly throughout project implementation.

Strong governance and effective stakeholder coordination are essential to turn complex bioeconomy projects into successful collaborations.

7 Social Acceptance & Communication

The challenge

Bioeconomy projects can face public resistance due to limited awareness of bio-based technologies, misconceptions about potential risks and a lack of trust resulting from previous industrial or environmental projects. Without early engagement, gaining social acceptance becomes more difficult.

Why does it matter?

- Reduces public support for new projects.
- Slows stakeholder engagement and collaboration.
- Increases the risk of legal disputes and project delays.
- Limits long-term project implementation and territorial integration.

How did BioBoost address it?

BioBoost promoted early stakeholder engagement and supported project promoters with communication approaches aimed at improving transparency, explaining project benefits and strengthening dialogue with local communities.

Recommendations

- Integrate communication and mediation into project development.
- Engage local communities early through transparent communication.
- Provide communication tools and case studies to support project promoters.

Building social acceptance starts with early engagement, transparent communication and trust between project promoters and local communities.

8 Accelerator Operations & Project Commitment

The challenge

Some Project Development Assistance (PDA) services were perceived as disconnected, with unclear expectations and limited alignment on objectives. In some cases, the free-of-charge nature of the services also reduced project promoters' commitment and willingness to provide the information needed for effective support.

Why does it matter?

- Reduces engagement from project promoters.
- Delays service delivery and decision-making.
- Limits the availability of reliable project data.
- Decreases the overall effectiveness of the Accelerator.

How did BioBoost address it?

BioBoost improved service coordination by defining clearer project roadmaps, strengthening the integration between technical, legal, financial and systemic services, and clarifying expectations and responsibilities throughout the support process.

Recommendations

- Define clear service agreements and expected outputs.
- Clarify roles and responsibilities from the beginning.
- Differentiate support for companies and public bodies.
- Use integrated project roadmaps to coordinate services.

Effective acceleration depends on committed project promoters, clear expectations and well-coordinated support services.

9 Capacity Building & Skills Development

The challenge

Awareness of circular bioeconomy opportunities remains limited among many primary sector actors, while innovators often struggle to communicate the value of their solutions in a clear and accessible way. This limits collaboration, slows adoption and hinders the development of circular initiatives.

Why does it matter?

- Reduces awareness of circular business opportunities.
- Limits stakeholder engagement and collaboration.
- Weakens business model development and investment readiness.
- Slows the adoption of innovative bioeconomy solutions.

How did BioBoost address it?

BioBoost strengthened project promoters' capacities by supporting communication, business development and knowledge transfer, while highlighting the importance of improving awareness and understanding of circular bioeconomy opportunities among primary sector actors.

Recommendations

- Strengthen training and extension services, especially in conventional agricultural regions.
- Support innovators with strategic communication, investor storytelling and market positioning.
- Offer specialised training modules on circularity, valorisation and systemic value creation.

Building knowledge and communication skills is essential to unlock circular opportunities and accelerate the adoption of bioeconomy solutions.

10 Digital Tools & Resource Mapping

The challenge

Many bioeconomy projects lack a clear understanding of the biological resources available in their territory. Without early resource mapping, opportunities for feedstock supply, industrial symbiosis and circular value chains are often overlooked, limiting project viability and territorial impact.

Why does it matter?

- Limits knowledge of locally available resources.
- Misses opportunities for industrial symbiosis and circular value chains.
- Reduces the project's territorial integration and overall impact.
- Weakens decision-making and strategic planning.

How did BioBoost address it?

BioBoost used resource mapping tools such as SYNER to identify biomass availability, material flows and circular opportunities across the territory. This helped project promoters optimise resource use, strengthen value chains, improve project planning and maximise territorial impact.

Recommendations

- Map territorial resources at an early stage to identify feedstock availability and circular opportunities.
- Support resource mapping with appropriate tools and technical guidance to ensure reliable results.
- Use mapping results to strengthen circular value chains and project planning.

Early resource mapping helps identify locally available biomass, unlock circular synergies and maximise the territorial impact of bioeconomy projects.

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The Key Lessons from the BioBoost Accelerator

1 Structured project development improves project quality

Many projects entered the Accelerator with promising ideas but lacked clear governance, technical information or business planning. The Project Development Plan (PDP) helped transform these ideas into structured projects by defining objectives, responsibilities, milestones, risks and tailored support. As projects evolved, the PDP was continuously updated to adapt to new needs and opportunities.

2 Bioeconomy projects need a systemic approach

Successful bioeconomy projects require more than technically feasible solutions. They must be connected to their territorial context, involve the right stakeholders and create synergies across value chains. Through stakeholder mapping, facilitation and resource analysis, BioBoost helped projects strengthen collaboration and maximise their territorial impact.

3 Investment readiness is built through credibility

Investment decisions are not based on financial returns alone. Clear governance, robust technical and business planning, impact assessment and transparent monitoring all increase project credibility. BioBoost helped projects demonstrate not only their economic viability but also their environmental and territorial value, making them more attractive to investors.

4 Continuous learning strengthens acceleration

The BioBoost methodology evolved throughout the project. New practices—such as project pre-assessment, regular follow-up meetings, impact monitoring and stronger project validation—improved the effectiveness of the Accelerator and demonstrated the importance of continuously adapting support to project needs.

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Final Reflections

Bioeconomy barriers are interconnected

Successful projects rarely face a single challenge. Governance, financing, regulation, data availability and stakeholder coordination often become more critical than technology itself.

Integrated support delivers better results

Technical, legal, financial and systemic services should be combined through a coordinated Project Development Assistance (PDA) approach.

Investment readiness goes beyond finance

Strong governance, impact assessment and risk mitigation are key to increasing project credibility and attracting investment.

Systemic collaboration is essential

Bioeconomy projects require continuous coordination between public authorities, businesses, investors and local stakeholders.

Acceleration is a continuous learning process

Adaptive methodologies, impact monitoring and continuous refinement improve the effectiveness of project acceleration programmes.

Thank you!

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