

UK **Bio**35

Biology, Engineered for Growth

Building a Secure and Resilient World-Leading
UK Bioeconomy by 2035



CHAMPIONING THE INDUSTRIAL BIOECONOMY



Foreword



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The UK stands at a defining moment. As nations race to secure the industries of the future, biology is emerging as one of the world's most important economic and strategic assets. Engineering biology, industrial biotechnology and bio-based manufacturing have the potential to transform how we produce the chemicals, materials, fuels, foods and everyday products on which modern society depends.

For the UK, this represents more than an environmental opportunity. It is an opportunity to reindustrialise the nation, revitalise manufacturing in every region, create high-value jobs in every postcode, strengthen national resilience, reduce dependence on imported fossil resources, attract investment, and establish global leadership in one of the fastest-growing industrial sectors of the twenty-first century.

The UK already possesses many of the ingredients needed to succeed: world-leading research, internationally recognised strengths in engineering biology, innovative SMEs, a growing manufacturing base and significant public investment. Yet too often, innovations developed in the UK fail to reach commercial scale here. Fragmented policy, outdated regulation, inconsistent market signals and structural advantages enjoyed by fossil-based industries continue to prevent the UK's bioeconomy from achieving its full potential.

A bioeconomy is not only a matter of policy frameworks and carbon accounting. At its heart it is about something more tangible: the everyday choices people want to make. There is growing public appetite for goods made from plants rather than oil, for materials that break down safely in the environment rather than persist for centuries, and for products whose origins people can trust. What has been missing is not the demand, it is a system that allows British industry to meet that demand at home.

Get this right, and the benefits reach far beyond the laboratory and the boardroom. The bioeconomy draws on crops, forestry products, and agricultural and food residues that we treat as waste. These resources come from the countryside as well as the city. Building this industry in the UK means skilled, well-paid jobs across all postcodes, in the rural and coastal

communities that previous waves of industrial change have passed by. It means turning waste streams into valuable products rather than costs to be buried or burned. And it means a cleaner, more secure and more prosperous country felt not as an abstract national statistic, but in the goods on our shelves, the work in our towns, and the resilience of the places people call home.

This strategy sets out how we can catalyse that change.

UKBio35 is the BBIA's vision for building a secure, resilient and world-leading UK bioeconomy by 2035. It identifies the strategic actions needed to create the conditions in which bio-based innovation can start, scale and stay in the UK. It also defines the role BBIA will play – not simply as the voice of industry, but as a leader that brings together government, business, researchers, investors and society to remove barriers, build confidence and accelerate deployment.

The transition to a bio-based economy will not happen through technological innovation alone. It will require leadership, modern regulation, investment, market creation and a commitment to ensuring bio-based solutions can compete fairly with fossil-derived alternatives.

The prize is significant: stronger economic growth, more secure supply chains, cleaner industries, thousands of skilled jobs and greater resilience in an uncertain world.

The decisions made over the coming decade will determine whether the UK leads this BioRevolution or watches others capture its benefits. We believe the UK has the capability and the opportunity to lead.

This document is our roadmap for making that ambition a reality.

Executive Summary

Our strategy is built around four mutually reinforcing pillars:



Influence: Shaping policy, regulation and industrial strategy to create a coherent and supportive operating environment.



Innovate: Generating the evidence, standards and regulatory science needed to accelerate commercialisation.

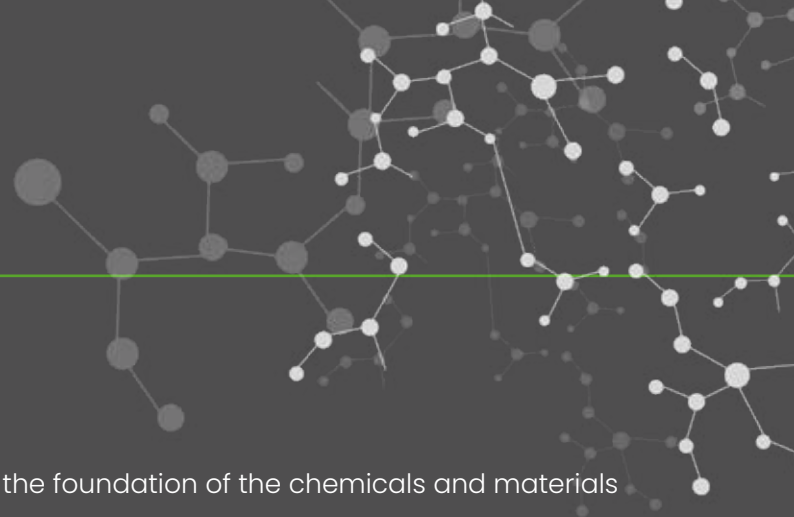


Connect: Building stronger partnerships across the bioeconomy ecosystem to unlock investment and collaboration.



Communicate: Creating a compelling national narrative that builds confidence among policymakers, investors, businesses and the public.





Modern life is built on fossil carbon – the foundation of the chemicals and materials that underpin our economy.

Manufactured chemicals are in everything we use in our daily lives – plastics, food, textiles, energy, batteries, defence products, mobile phones, and medicines. They are vital to securing our food supply, producing the clothes we wear, heating our homes, safeguarding national security, enabling communications and treating disease.

But this fossil dependence is becoming a strategic vulnerability, exposing the UK to volatile global markets, imported resources, fragile supply chains and mounting pressure to decarbonise and defossilise industry.

The next industrial revolution will be powered not by fossil carbon, but by renewable carbon.

Engineering Biology and the wider bioeconomy provide the pathway to this new industrial era. By transforming renewable biological resources, waste and recycled carbon into chemicals, materials, fuels, food and consumer products, we can fundamentally change how we manufacture – creating a more resilient, competitive and sustainable UK economy.

This is not simply about defossilisation. It is about reindustrialisation.

The UK has the scientific excellence, industrial heritage, engineering capability and entrepreneurial talent to lead this transformation. Since 2018, more than £450 million has been invested in UK bio-based chemicals research, creating a pipeline of world-leading innovation. Our bio-based industries already contribute billions to the UK economy and support thousands of skilled jobs across every part of the country.

Yet there is a critical gap between invention and industrialisation.

Too many British engineering biology companies struggle to cross the scale-up “valley of death”. Production costs can be 2–7 times higher than fossil-based alternatives, while fragmented policy, outdated regulation, inconsistent carbon accounting, weak market signals and limited scale-up infrastructure continue to hold back investment. As a result, technologies risk being commercialised overseas rather than manufactured here – taking jobs, intellectual property, investment and economic value with them.

We cannot afford to win the science race and lose the industrial race.

The global economy is entering a new era in which renewable carbon will increasingly replace fossil carbon as the foundation of manufacturing. Engineering biology, industrial biotechnology and bio-based solutions are already reshaping the production of chemicals, materials and packaging, food, fuels and consumer products – creating one of the defining industrial opportunities of the coming decades.

The UK now has a choice: continue importing the technologies and products of the future, or build them here.

This is about more than building a new sector. It is about rebuilding the UK’s industrial capability for the next generation. A successful bioeconomy can reduce dependence on imported fossil resources, create high-value jobs in every region, attract investment, strengthen national resilience, revitalise manufacturing and deliver sustainable economic growth.

The opportunity is enormous. The science is ready. The technologies are emerging. The question is whether the UK is ready to scale them.

UKBio35 sets out the BBIA’s vision for achieving this outcome by 2035. It defines how BBIA will act as a strategic systems leader – bringing together industry, government, investors, regulators, researchers and civil society to create the conditions needed for bio-based innovation to thrive.



These pillars are translated into a practical ten-point action plan that will:

1

Establish coherent cross-government leadership for the bioeconomy.

2

Remove policy distortions that favour fossil-derived products.

3

Modernise regulation to accelerate innovation safely.

4

Create lead markets and predictable demand for bio-based products.

5

Unlock greater public and private investment.

6

Build world-leading UK biomanufacturing clusters.

7

Strengthen collaboration through unified industry alliances.

8

Expand international partnerships and market access.

9

Build public confidence and strengthen the narrative around bio-based solutions.

10

Develop the skills, infrastructure and industrial capability required for long-term growth.

Collectively, these actions provide a roadmap for moving the UK from scientific leadership to industrial leadership. They recognise that delivering a world-leading bioeconomy requires more than breakthrough technologies – it requires coordinated policy, investment, regulation, market creation and collaboration across the entire innovation ecosystem.

By 2035, we envision a UK bioeconomy that is globally competitive, investment-ready and deeply embedded within the nation's industrial strategy – one that delivers secure supply chains, world-leading manufacturing, thriving regional economies, skilled jobs, reduced dependence on fossil resources and sustained economic growth.

The opportunity is clear. The capability already exists. The challenge now is to act with the **pace, ambition** and **coordination** needed to ensure the UK **becomes one of the world's leading bioeconomies.**



About the



The Bio-based and Biodegradable Industries Association (BBIA) is the UK's leading trade association for the bioeconomy, industrial biotechnology and engineering biology, representing organisations engaged in the development, manufacture, and promotion of bio-based solutions.



Our Vision

A thriving and growing UK bioeconomy, where bio-based solutions drive economic growth, create high-value jobs, attract investment and strengthen UK industrial competitiveness.



Our Mission

To accelerate the growth of the UK bioeconomy by shaping supportive policy, unlocking investment and commercialisation, fostering collaboration across industry, academia and government, and championing the economic, societal, and environmental value of bio-based solutions.

BBIA's membership spans the full bio-based value chain, from feedstock suppliers, early-stage innovators and SMEs to established multinational manufacturers and technology providers. Members operate across diverse sectors including chemicals, materials, foods and fuels.

Collectively, this network reflects a truly global footprint, with operations, supply chains, manufacturing sites, research partnerships, and markets extending across the UK, Europe, North America, and beyond.

This breadth and diversity underscore the international nature of the bioeconomy and reinforce BBIA's role as a connector of

innovation, policy, and industry across borders – helping to build a competitive, circular bioeconomy on a global scale.

The BBIA will continue to grow as a leading voice of the UK bioeconomy and bio-based solutions sector, shaping policy, driving innovation, and building the coalitions needed to accelerate a sustainable, circular bioeconomy.

In doing so, we will play a central role in strengthening national resilience across the UK, and further afield, by supporting more secure and resource-efficient supply chains, reducing dependence on fossil-based imports, and improving the UK's ability to withstand environmental and economic shocks.



Building a Secure and Resilient World-Leading UK Bioeconomy by 2035

Size of the prize

Manufactured chemicals and materials underpin everyday life, being in over 96% of all manufactured goods¹ – from plastics, packaging, food and textiles to energy, batteries and defence products. Today, over 90% of these are derived from fossil oil and gas and contribute around 10% of global greenhouse gas emissions². In the UK, the chemical sector directly accounts for around 3–4% of UK industrial greenhouse gas emissions, equivalent to approximately 1–2% of total UK territorial greenhouse gas emissions³. However, this figure significantly understates the strategic importance of defossilising chemicals, as it only captures emissions from chemical manufacturing itself and does not reflect the embedded fossil carbon contained within the vast range of products and materials that rely on chemicals. Because chemicals are fundamental building blocks across almost every sector of the economy, transitioning away from fossil carbon in chemical production has the potential to deliver emissions reductions far beyond the sector's direct footprint.

In contrast to the fossil-based oil and gas sector, the bioeconomy and bio-based solutions harness renewable biological resources such as plants, microorganisms, and agricultural wastes as a feedstock to enable the sustainable production

of bio-based chemicals, materials, energy, food and medicines – and in doing so reduce our reliance on virgin fossil resources⁴. As such, investing in building a secure and resilient world-leading UK bioeconomy has the potential to be a driver of sustainable economic growth, industrial competitiveness and national resilience.

The UK's Modern Industrial Strategy⁵ envisions the nation as one of the world's top three hubs for technology-driven innovation by 2035, anchored by the ambition to create the UK's first trillion-dollar tech company. Engineering Biology – the cornerstone of the bioeconomy and one of the Industrial Strategy's six frontier technologies⁶ – is predicted to be globally valued at over \$30 trillion by 2050⁷ (approximately £22 trillion), representing a transformative opportunity for the UK. The UK's bio-based chemicals and materials sector alone boasts more than 1,200 businesses, of which ~1,100 are innovative SMEs. In 2024 the sector generated over £12.5bn in revenues, £5.1bn in GVA and supported over 20,300 employees⁸. A recent report from Innovate UK also concluded that the UK bio-based chemicals sector alone could generate over £204 billion per annum by 2050⁹.

The World Economic Forum estimates that the deployment of bio-based solutions to replace fossil-derived products could avoid or remove over 4 gigatonnes of CO₂ emissions per annum¹⁰ – equivalent to the annual CO₂ emissions of the entire European Union¹¹. However, the urgency of transitioning to bio-based solutions extends beyond climate resilience alone. Continued dependence on virgin fossil resources exposes the UK to major economic and geopolitical risks. A single price shock – triggered by Russia's invasion of Ukraine in 2022 – cost the UK £183 billion over four years, roughly equivalent to the cost of the net zero transition to 2050¹². The Government's £2 billion commitment to engineering biology and the bioeconomy over ten years supports R&D, innovation and infrastructure¹³.



Engineering Biology – the cornerstone of the bioeconomy and one of the Industrial Strategy's six frontier technologies – is predicted to be globally valued at over \$30 trillion by 2050, representing a transformative opportunity for the UK.



The question is no longer whether the UK should build a thriving bioeconomy, but how. How can we create the policy, investment and market conditions that enable UK innovation to scale at home – unlocking a globally competitive bioeconomy by 2035 that delivers economic growth, national security, and significant reductions in greenhouse gas emissions?

Challenges and Opportunities

Yet this opportunity remains largely unrealised. Under current government strategies, policies and regulations, fewer than 10% of publicly funded bio-based innovations reach commercial production in the UK¹⁴. Many promising technologies fail to progress beyond pilot scale, are commercialised overseas, or never reach the market at all. The result is lost private investment, stalled innovation and an estimated annual loss of £300–£500 million in economic value, alongside thousands of high-value jobs, manufacturing opportunities and intellectual property leaving the UK each year¹⁵.

A key reason is the structural imbalance between fossil-based and bio-based production. Fossil-derived products benefit from decades of investment in mature technologies, infrastructure, global supply chains and policies designed around fossil resources. Bio-based value chains face higher upfront costs, developing supply chains, greater commercial risk and slower market entry.

These structural challenges are compounded by fragmented policy and regulation. Unlike other G7 nations, the UK does not have an integrated national bioeconomy strategy¹⁶, with responsibility spread across multiple government departments. This reduces policy certainty, slows decision-making and makes it more difficult to attract investment, commercialise innovation and build competitive domestic supply chains. At the same time, carbon accounting, fiscal incentives and public procurement do not consistently reward renewable carbon, while waste systems, regulatory pathways, standards and certification frameworks remain largely designed around fossil-derived products¹⁷.

Policy frameworks often favour fossil-derived products through inconsistent carbon accounting, while regulatory approval for bio-based products can take up to 45% longer and cost more than twice as much as for fossil-derived equivalents¹⁸. A lack of harmonised standards, certification and public understanding further reduces market confidence and adoption.

Addressing these barriers represents one of the UK's greatest industrial opportunities. Modernising policy, carbon accounting and fiscal incentives would create a level playing field for bio-based products and stimulate private investment in biomanufacturing. Streamlining regulation would reduce the time and cost of bringing innovations to market – particularly for SMEs – while harmonised standards, certification and product labelling would increase confidence among regulators, investors, procurers, businesses and consumers, strengthening demand for sustainable products. Together, these reforms would create the conditions for bio-based businesses to start, scale and manufacture in the UK. They would unlock investment, strengthen domestic supply chains, support regional growth, improve resource security and position the UK as a global leader in sustainable manufacturing.

The question is no longer whether the UK should build a thriving bioeconomy, but how. How can we create the policy, investment and market conditions that enable UK innovation to scale at home – unlocking a globally competitive bioeconomy by 2035 that delivers economic growth, national security, and significant reductions in greenhouse gas emissions?

UK Bio35: —

BBIA Strategic Actions

Our ambition is clear: to ensure the UK bioeconomy is not only seen as a driver of sustainability, but as a source of industrial resilience, innovation, and global competitiveness.



To do so, we will deliver significant activity across our four pillars:



Influence

We will deepen and expand our strategic engagement with UK and devolved governments, regulators, MPs, and Ministers to embed the bioeconomy into long-term industrial, climate, and resilience strategies. By 2035, BBIA will be firmly established as the primary industry voice shaping policy and regulatory frameworks for engineering biology and bio-based innovation.



Innovate

We will accelerate the development and adoption of robust regulatory science, standards, and metrics that enable faster commercialisation of bio-based solutions. Through our UK Bio-Based Solutions Network and evidence generation, peer-reviewed research, and real-world validation, we will support regulators to make confident, future-ready decisions that scale innovation safely and effectively.



Connect

We will grow and strengthen a unified UK bioeconomy ecosystem by expanding membership, deepening collaboration across industry, academia, and government, and building cross-sector coalitions. Our BioRevolution Coalition will act as a key convener, aligning citizens, industry and parliamentarians. This network will act as a fully integrated national platform driving investment, scale-up, and industrial deployment of bio-based solutions.



Communicate

We will refine and amplify a clear, compelling narrative that secures public, investor, and policymaker support for the bioeconomy. Through targeted engagement and evidence-led storytelling, we will ensure sufficient understanding of the economic, environmental, and resilience benefits of bio-based solutions, enabling mainstream adoption and support.

Taken together, these four pillars provide the strategic foundation for delivering a step-change in the UK bioeconomy over the coming decade.

However, ambition alone is not enough. To translate this vision into measurable progress, we have set out a clear and practical ten-point plan that identifies the specific actions and enabling conditions required to scale innovation, unlock investment, strengthen regulatory certainty, and accelerate deployment. This plan turns our long-term ambition into a delivery framework for change – ensuring that by 2035 the UK bioeconomy is not only more competitive and

resilient but firmly embedded as a core pillar of the UK's industrial and economic strategy. Delivering these ten actions – with BBIA embedded as a system actor – will move the UK from innovation strength to industrial leadership. The result by 2035 is a cost-competitive, export-oriented bioeconomy delivering growth, jobs and climate outcomes, and a steady stream of positive headlines that reflect a durable, globally leading position.

1

Establish a Coherent Cross-Government Bioeconomy Strategy and Leadership

GOAL

Embed a single, long-term UK bioeconomy strategy within the UK's Industrial Strategy, bringing together relevant policies and initiatives across engineering biology, materials, biomass, healthcare, resources and waste, net zero and the environment, with clear targets, delivery ownership and cross-departmental coordination.



A globally competitive UK bioeconomy requires a clear, long-term strategy that aligns policy, investment and innovation across government. By providing a stable and coherent framework, the UK can unlock private investment, accelerate industrial scale-up and strengthen domestic manufacturing, creating high-value jobs while positioning the UK as a global leader in sustainable chemistry and bio-based innovation.

Influence

Through our BioRevolution Coalition we will align citizens, industry and parliamentarians with the goal of accelerating the transition to a thriving UK economy.

Establish a 'Bio-Based Solutions' All-Party Parliamentary Group to build long-term alliance structures that can persist across political cycles and regulatory change.

Convene industry consensus on priorities, definitions, and metrics for engineering biology, industrial biotechnology and the bioeconomy.

Identify regulatory and policy gaps that limit scale-up and provide solutions-based recommendations.

Contribute as an active member of the Industrial Biotechnology Leadership Forum, UK Packaging Pact and other relevant forums to champion the bioeconomy.

Innovate

Provide a unified, cross-sector evidence base to government to support strategy development and delivery.

Generate and consolidate evidence on bio-based system performance, scalability, and environmental outcomes to inform strategy design.

Publish our annual BBIA Bio-Barometer Survey, tracking industry confidence, investment, barriers, opportunities and policy priorities across the UK bioeconomy.

Communicate

Build a clear, shared narrative for the bioeconomy across government departments, industry, and the public.

Align messaging on economic growth, resilience, and net zero delivery to ensure consistent policy framing.

Highlight UK leadership opportunities in the bioeconomy, engineering biology and industrial biotechnology.

Connect

Through our BioRevolution Coalition we will convene cross-sector coalitions spanning industry, academia, investors, and government.

Facilitate structured dialogue between devolved administrations and UK Government to ensure alignment.

2035 IMPACT

Policy coherence reduces uncertainty and crowds in private investment, enabling a stable, investable framework that delivers industrial scale-up, export growth, and global leadership in the bioeconomy by 2035.

2 Align Policy Signals and Remove Fossil Bias

GOAL

Ensure UK policy, tax, carbon accounting and regulatory frameworks accurately reflect the benefits of bio-based solutions, removing market distortions that currently favour fossil-based products.

BRIA ACTIONS

Influence

Through our BioRevolution Coalition, we will call on the UK Government to conduct an urgent review of how bio-based chemicals and materials are treated across UK policies, regulations and taxation including how their biogenic carbon is accounted for, especially at the end of life of consumer products.

Through our UK Bio-Based Solutions Network, lead evidence-led advocacy on unintended policy biases that favour fossil-based systems.

Continue to work with Defra, the Producer Responsibility Organisation and PackUK on Extended Producer Responsibility and the Recycling Assessment Methodology to ensure EPR fees reflect a full environmental assessment and take account of all forms of recycling.

Represent the bio-based sector within the UK Packaging Pact, advocating for the appropriate recognition and inclusion of bio-based and biodegradable packaging solutions.

Influence alignment across UK and EU frameworks (e.g. Biotech Act II, Circular Economy Act, PPWR, SUPD, RED, PEF) to prevent regulatory fragmentation.

Ensure bio-based solutions are explicitly recognised in carbon, circular economy, climate and industrial policy frameworks.

Submit evidence-based responses to UK Government consultations and public policy consultations to ensure the interests of the bio-based sector are represented.

Provide expert evidence to Parliamentary inquiries, including House of Lords and House of Commons Select Committee calls for evidence, helping to shape future legislation and policy.



The UK's transition to sustainable chemistry depends on policy keeping pace with innovation. Removing regulatory and fiscal biases that favour fossil-derived products will give businesses the confidence to invest, scale bio-based manufacturing and bring the next generation of sustainable materials to market.

BRIA ACTIONS

Innovate

Through our UK Bio-Based Solutions Network we will develop and publish evidence on lifecycle impacts of fossil vs bio-based systems, including avoided emissions and biogenic carbon benefits. We will identify gaps in current sustainability metrics that disadvantage bio-based solutions and propose corrective methodologies.

Connect

Work with the UK LCA Network and British Standards Institution (BSI) to help ensure harmonisation of new and existing LCA methodologies, helping to shape regulatory or purchasing decisions.

Facilitate dialogue between UK and international policy communities to support regulatory coherence and reduce duplication.

Communicate

Align messaging with adjacent sectors (e.g., chemicals, energy, packaging, waste, agriculture) to build a unified case for reform.

IMPACT

Bio-based solutions compete on price, performance, and sustainability on equal terms, accelerating market adoption and investment at scale.

3

Modernise Regulation for Speed and Confidence



GOAL

Deliver clear, risk-proportionate regulatory pathways and modern standards that reflect bio-based benefits, enabling safe but accelerated commercialisation.



A modern regulatory framework is not about lowering standards; it is about creating smarter, science-led pathways that protect people and the environment while enabling innovators to move from breakthrough discoveries to real-world impact. The UK cannot lead the bioeconomy of the future with the regulations of the past — we need a regulatory system that moves at the pace of science, providing the clarity, confidence and certainty businesses need to invest, scale and deliver sustainable solutions.

Influence

Continue to work with the Regulatory Innovation Office (RIO) to modernise biotechnology regulatory frameworks, with a focus on bio-based chemicals and materials in high-growth applications.

Broker structured dialogue between regulators and industry to identify bottlenecks and accelerate approval pathways.

Advocate for UK leadership in regulatory modernisation as part of the global bioeconomy race to 2035.

Innovate

Lead standards development work with the British Standards Institution (BSI) to harmonise definitions, test methods, and certification pathways for the same types of bio-based materials and products.

Utilise our UK Bio-Based Solutions Network to generate applied evidence and regulatory tools, supporting regulatory decision-making.

Advocate for regulatory sandboxes to enable rapid, real-world testing of novel bio-based solutions under controlled conditions.

Connect

Build structured collaboration between UK, EU, and international regulatory communities to support mutual learning and convergence.

Host the Annual UK Bio-Based Solutions Regulatory Science Network Conference, bringing together industry, academia, regulators and policymakers to share evidence, showcase innovation and shape the future of regulatory science for bio-based solutions.

Communicate

Translate complex regulatory developments into clear, accessible guidance for industry, investors, and policymakers.

Build confidence in bio-based solutions through transparent communication of risk-proportionate regulatory pathways.

Promote the UK as a global leader in agile, science-led regulation for the bioeconomy.

IMPACT

Faster, proportionate approvals significantly reduce time to market and cost of capital, enabling the UK to become a global leader in safe, rapid commercialisation of bio-based innovation by 2035.

4

Create Lead Markets and Predictable Demand

GOAL

Create strong and predictable domestic demand for bio-based solutions by using public procurement, product standards, market-forming incentives, and clear policy signals to accelerate commercial adoption, de-risk private investment, and support UK biomanufacturing at scale.

BRIA ACTIONS

Influence

- Advocate for bio-based products to be embedded within public procurement policy, including the NHS, local authorities, defence, and wider government purchasing.
- Promote the introduction of minimum bio-based or renewable (e.g., CO₂, recycled) content requirements where appropriate and evidence-based.
- Influence product standards and procurement guidance to recognise lifecycle carbon, circularity, and environmental performance.
- Support the development of a simplified, consistent product labelling framework that ensures environmental claims are transparent, credible, and free from greenwashing.

Innovate

- Utilising our UK Bio-Based Solutions Network, develop evidence demonstrating the whole-life economic, environmental, and resilience benefits of bio-based products in the NHS.
- Develop market intelligence and demand mapping to identify high-impact applications where bio-based solutions can replace fossil-based products and deliver measurable benefits.
- Establish pilot and demonstration programmes with major purchasers to validate procurement models and accelerate market entry.
- Develop tools to support buyers, including guidance on evaluating bio-based claims, sustainability credentials and lifecycle impacts.



Creating lead markets and predictable demand is essential to unlocking the full potential of the bioeconomy. By providing clear market signals through procurement, standards and policy frameworks, we can give businesses the confidence to invest, scale manufacturing and deliver sustainable innovations that strengthen UK competitiveness and accelerate the transition to a net zero economy.

Connect

Build partnerships with NHS procurement teams to develop early adopter programmes.

Communicate

Showcase successful procurement and commercial deployment case studies that demonstrate value for money and environmental benefits.

Build confidence among buyers by communicating the performance, reliability, and sustainability credentials of certified bio-based solutions.

Promote UK success stories internationally to attract investment and position the UK as a leader in bio-based manufacturing.

IMPACT

Predictable demand reduces investment risk, attracts private capital, and enables UK bio-based businesses to scale manufacturing, creating high-value jobs, strengthening national resilience, and positioning the UK as a global leader in the bioeconomy by 2035.



5 Drive Investment into Bio-based Solutions

GOAL

Unlock greater public and private investment across the bioeconomy by creating a supportive finance ecosystem that de-risks innovation, attracts patient capital, and enables UK bio-based businesses to scale from laboratory to commercial production.

BRIA ACTIONS

Influence

Advocate for dedicated bioeconomy and engineering biology investment programmes within UKRI, British Business Bank, National Wealth Fund and other relevant organisations.

Influence government to expand blended finance mechanisms that leverage private capital alongside public investment.

Champion tax incentives and investment policies that support bio-based manufacturing, first-of-a-kind facilities, and scale-up.

Promote the inclusion of the bioeconomy within regional growth and industrial investment strategies.

Innovate

Produce robust investment evidence demonstrating market opportunities, commercial readiness, and economic returns across the bioeconomy.





Driving investment into bio-based solutions is essential to building the industries of the future. By creating the right conditions for innovation, scale-up and commercialisation, we can unlock private capital, strengthen UK manufacturing capability and accelerate the transition from fossil-based systems to a sustainable, circular bioeconomy.

BBIA ACTIONS

Connect

- Deliver the annual UK BioFinance Summit, bringing together investors, industry, government, and innovators.
- Deliver the annual BBIA Demeter Awards to showcase investment-ready companies and celebrate commercial success.
- Create and maintain a curated investor database and investment portal for BBIA members.
- Develop an investor network linking venture capital, corporate venture funds, institutional investors, family offices, local authorities and strategic industry partners.

Communicate

- Publish our annual Bio-based Solutions Finance Report tracking investment trends, funding gaps, market opportunities, and UK competitiveness.
- Promote success stories demonstrating returns from UK bio-based investments.
- Develop compelling investment narratives that position the UK bioeconomy as a strategic growth sector delivering economic resilience, national security, and net zero.
- Raise the international profile of the UK as a destination for bio-based investment.

IMPACT

A mature investment ecosystem mobilises billions of pounds of public and private capital into the UK bioeconomy, accelerating commercialisation, creating high-value jobs, strengthening national resilience, and establishing the UK as one of the world's leading destinations for bio-based innovation and manufacturing by 2035.



6

Seed, Scale and Stay: Build World-Leading UK Biomanufacturing Clusters

GOAL

Create the conditions for UK-developed bio-based innovations to be scaled, manufactured, and commercialised domestically, retaining intellectual property, manufacturing capability, highly paid jobs and economic value within the UK.



To build world-leading UK biomanufacturing clusters, we must create an ecosystem where companies can seed, scale and stay. By connecting research excellence, industrial infrastructure, investment and skills, we can turn breakthrough science into commercial success, anchor high-value manufacturing in the UK and establish a thriving bio-industrial economy for the future.

Influence

Advocate for long-term investment in pilot, demonstration, and commercial-scale biomanufacturing infrastructure.

Influence Industrial Strategy, regional growth plans, and investment programmes to prioritise biomanufacturing clusters.

Champion policies that encourage companies to manufacture and scale in the UK rather than overseas.

Innovate

Develop evidence-based recommendations for strategic investment in shared infrastructure and manufacturing assets.

Support innovation in engineering biology, advanced bioprocessing, fermentation, downstream processing, and digital manufacturing, by bringing consortia together to apply for funding, providing letters of support, and sitting on industry advisory boards.

Connect

Facilitate collaboration between industry, universities, investors, local authorities, and regional development organisations.

Support cluster branding and international investment promotion to attract overseas companies and capital.

Communicate

Publish regular assessments of UK biomanufacturing capacity, infrastructure needs, and investment opportunities, through our annual Fermentation Capacity Survey and wider biomanufacturing capability mapping.

Showcase successful regional manufacturing clusters and their economic impact.

Promote the UK's strengths in engineering biology and industrial biotechnology to domestic and international investors.

IMPACT

A network of world-class UK biomanufacturing clusters attracts investment, retains innovation, creates high-value jobs across the UK, strengthens national resilience, and establishes the UK as a global leader in industrial-scale bio-based manufacturing by 2035.

7

Catalyse Industry Alliances and a Collaborative Voice

GOAL

Build a unified, high-impact industry voice that brings together the full bioeconomy value chain – spanning feedstocks, chemicals, materials, engineering biology, manufacturing, and end users – to drive coordinated action, strengthen policy influence, and accelerate market growth.

IMPACT

A unified, collaborative industry voice strengthens policy influence, accelerates market development, reduces fragmentation, and positions the UK bioeconomy as a coherent, investable, and globally competitive ecosystem by 2035.



Influence

Through the BBIA-led BioRevolution Coalition, convene cross-sector industry coalitions to develop shared policy positions on priority barriers and opportunities.

Engage with international bioeconomy networks to align UK priorities with global developments and strengthen the UK's influence in shaping international policy frameworks.

Innovate

Facilitate pre-competitive collaboration between organisations to share knowledge, reduce duplication and accelerate innovation. Identify system-wide barriers that no single organisation can solve and develop collective solutions.

Identify opportunities for collaborative funding bids and strategic programmes that address bio-based sector challenges.

Connect

Build a connected bioeconomy ecosystem across the entire value chain, linking feedstock producers, innovators, manufacturers, investors, policymakers and end users.

Strengthen links between industry, academia and research organisations to accelerate translation of innovation into commercial applications.

Communicate

Through our BioRevolution Coalition, present a unified, consistent industry narrative that articulates the economic, environmental, and resilience value of the bioeconomy.

Coordinate messaging across member organisations to strengthen credibility and policy impact.

Publish joint position papers and consensus statements on key regulatory and market issues.

Amplify success stories that demonstrate the value of collaboration in unlocking growth.



Catalysing industry alliances and a collaborative voice is essential to accelerating the bioeconomy transition. By bringing together businesses, researchers, investors and policymakers, we can align priorities, overcome shared challenges and create the collective action needed to turn innovation into industrial impact and strengthen the UK's global leadership.

8 International Collaborations

GOAL

Position the UK bioeconomy as a globally connected leader by deepening international partnerships, aligning standards, and enabling UK companies to access and shape high-value global markets. Build structured international collaboration with leading

global and European bioeconomy organisations to align regulation, accelerate innovation, support trade, and strengthen the UK's voice in global bio-based policy and standards development.

BRIA ACTIONS

Influence

Represent the UK bioeconomy in international policy forums to shape emerging global standards and regulatory frameworks.

Align UK positions with European and global partners to reduce trade friction and regulatory divergence.

Advocate for mutual recognition of standards and certification systems across key markets.

Position the UK as a strategic partner in global bioeconomy governance and industrial collaboration.

Innovate

Facilitate UK industry participation in international consortia, clusters, and pilot programmes, for example Horizon Europe.

Collaborate on shared standards development for lifecycle assessment, sustainability metrics, and product certification.

Participate in joint R&D and demonstration programmes with international partners to accelerate scale-up.

Share UK expertise in regulatory science, engineering biology, and industrial biotechnology with global counterparts.

Support cross-border innovation projects that enable faster commercialisation of bio-based solutions.



International collaboration is critical to accelerating the growth of the bioeconomy and ensuring the UK remains globally competitive. By building partnerships across borders, sharing knowledge, aligning standards and unlocking new markets, we can accelerate innovation, strengthen supply chains and deliver sustainable solutions at the scale needed to address global challenges.

BRIA ACTIONS

Connect

Build structured collaboration frameworks with EuropaBio, Bio-based Industries Consortium, European Bioplastics, Compostable by Design Platform, Critical Chemicals Alliance, BioMade and other relevant global bioeconomy networks.

Strengthen links between UK regions and leading international bioeconomy hubs.

Support export readiness and international partnership development for UK companies.

Communicate

Promote the UK as a leading destination for bio-based innovation, investment, and manufacturing.

Showcase UK success stories on international platforms.

Develop coordinated messaging with global partners on the benefits of the bioeconomy for climate, resilience, and growth.

Increase visibility of UK leadership in international bioeconomy events and summits.

IMPACT

The UK is fully embedded within a global bioeconomy ecosystem, shaping international standards, attracting investment, and enabling UK innovation to scale globally, strengthening economic resilience and competitiveness by 2035.

9

Secure Public Engagement and Shape the Narrative

GOAL

Build durable public confidence in the bioeconomy, engineering biology and bio-based solutions, through transparent engagement, clear communication of benefits and trade-offs, and visible delivery of real-world impact that demonstrates value to society, the economy, and the environment.



Securing public engagement and shaping the narrative is essential to building trust and enabling the adoption of bio-based solutions. By communicating clearly, transparently and consistently about the benefits, evidence and real-world impact of the bioeconomy, we can empower informed choices, address misconceptions and build public confidence in the transition to a sustainable future.

Influence

Position the BBIA as a trusted, evidence-led voice in national media, policy debate, and public discourse on bio-based solutions.

Proactively address misinformation, misconceptions, and concerns around bio-based materials, biotechnology, and industrial applications.

Engage policymakers to ensure public confidence considerations are embedded in regulatory and industrial strategy design.

Innovate

Through our UK Bio-Based Solutions Network, develop new approaches to public engagement that communicate complex science in accessible, relatable ways.

Support evidence generation on real-world environmental and societal benefits of bio-based solutions to underpin transparent communication.

Identify and address emerging public concerns early through structured horizon scanning and stakeholder insight.

Connect

Build partnerships with educators, science communicators, NGOs, and community organisations to broaden reach and understanding.

Convene multi-stakeholder engagement forums that include industry, civil society, and policymakers.

Strengthen links between industry activity and local communities to demonstrate tangible regional benefits, including jobs and investment.

Communicate

Lead sector-wide storytelling that highlights real-world applications, benefits, and success stories of the UK bioeconomy.

Develop clear, consistent messaging that explains the role of bio-based solutions in climate action, circularity, and national resilience.

Act as a trusted media and public-facing voice for the sector, improving clarity and confidence in emerging technologies.

IMPACT

Sustained public confidence underpins stable policy, long-term investment, and accelerated deployment of bio-based solutions, enabling the UK bioeconomy to scale with a strong social licence to operate by 2035.

10 Build National Capability, Skills and Industrial Readiness for Scale

GOAL

Ensure the UK has the skills, infrastructure capability, and industrial readiness required to deliver the bioeconomy at scale by 2035, enabling innovation to be manufactured, deployed, and retained domestically.

BRIA ACTIONS

Influence

Advocate for a national bioeconomy skills and workforce strategy aligned with industrial, innovation, and regional growth policy.

Influence education, apprenticeship, and retraining programmes to support skills in engineering biology, biomanufacturing, chemistry and regulatory science.

Promote policies that strengthen UK industrial capability and reduce dependency on overseas manufacturing capacity.

Innovate

Identify current and future skills and capability gaps across the bioeconomy value chain (R&D, scale-up, manufacturing, regulation, commercialisation).

Working with education providers, support development of training pathways for bioprocessing, fermentation, scale-up engineering, and advanced manufacturing.

Work with industry and academia to design applied, industry-led skills programmes aligned with real-world demand.





Building national capability, skills and industrial readiness is fundamental to unlocking the UK's bio-industrial potential. By investing in talent, infrastructure and scale-up capabilities, we can bridge the gap between innovation and commercial deployment, enabling businesses to manufacture at scale, strengthen supply chains and establish the UK as a global leader in the bioeconomy.

BRIA ACTIONS

Connect

Convene employers, universities, Catapults, and training providers to align skills supply with industrial demand.

Strengthen regional talent pipelines linked to biomanufacturing clusters and innovation hubs.

Facilitate cross-sector mobility of talent between chemicals, biotech, engineering, and manufacturing sectors.

Communicate

Highlight the high-value job creation potential of the UK bioeconomy to attract talent into the sector.

Showcase career pathways in engineering biology, biomanufacturing, and sustainable materials.

Promote the UK as a global destination for bioeconomy talent, innovation careers, and advanced manufacturing skills.

IMPACT

A skilled, capable, and globally competitive workforce enables the UK bioeconomy to scale, manufacture, and retain value domestically, ensuring long-term industrial competitiveness, resilience, and leadership by 2035.



Impact Summary

Together, the ten actions in UKBio35 create the conditions for the UK to move from world-class scientific leadership to world-leading industrial leadership in the bioeconomy.

1 Coherent leadership → a coordinated national strategy

Establishing clear cross-government leadership will align policy, investment and delivery around a shared long-term vision for the bioeconomy. This will reduce uncertainty, improve coordination and give businesses and investors the confidence to plan and invest for the long term.

2 Fairer policy → a level playing field for bio-based solutions

Removing policy, tax and carbon-accounting distortions that favour fossil-derived products will allow bio-based solutions to compete on price, performance and sustainability. This will unlock investment, accelerate adoption and create stronger domestic markets for renewable-carbon products.

3 Modern regulation → faster commercialisation

Modern, proportionate and science-led regulation will reduce unnecessary time, cost and uncertainty for innovators, particularly SMEs. Clearer standards, evidence and regulatory pathways will enable safe technologies to reach the market faster and strengthen the UK's position as a global leader in regulatory innovation.

4 Lead markets → predictable demand

Public procurement, standards and market-forming measures will create stronger and more predictable demand for bio-based products. This demand will de-risk investment, provide the confidence needed to build manufacturing capacity and accelerate the transition from demonstration to commercial deployment.

COMBINED IMPACT

The power of UKBio35 lies in how these ten actions reinforce one another – aligning policy, unlocking investment, creating markets, enabling scale-up and strengthening UK supply chains. Together, they create a virtuous cycle of innovation, investment and industrial growth, enabling more UK technologies to reach commercial scale and more economic value to be captured domestically. By 2035, the ambition is a globally competitive, export-oriented UK bioeconomy where technologies are not only invented, but financed, scaled, manufactured and exported from the UK.

5

Investment → capital for scale

A stronger bioeconomy finance ecosystem will mobilise greater public and private investment, from early-stage innovation through to first-of-a-kind facilities and commercial production. By reducing investment risk and connecting companies with appropriate capital, the UK can retain more innovation and economic value domestically.

6

Biomanufacturing clusters → innovation that stays in the UK

World-leading regional biomanufacturing clusters will provide the infrastructure, capabilities and connections needed to seed, scale and stay. This will help UK-developed technologies move beyond the scale-up gap, anchor manufacturing domestically, attract international investment and create high-value jobs across the country.

7

Industry alliances → collective action at scale

A more connected and unified industry will strengthen the sector's influence and ability to address challenges that cannot be solved by individual organisations. Stronger collaboration across the value chain will reduce fragmentation, align priorities and accelerate investment, innovation and market development.

8

International partnerships → global competitiveness and market access

Stronger international collaboration will connect UK businesses to global markets, investment, research and manufacturing ecosystems while enabling the UK to shape emerging standards and regulatory frameworks. This will strengthen exports, attract inward investment and ensure the UK remains globally connected and competitive.

9

Public confidence → adoption and growth

Clear, transparent and evidence-led communication will build understanding and trust in bio-based solutions, supporting consumer adoption, informed policymaking and investment, and ensuring the bioeconomy grows with strong public support.

10

Skills and capability → the capacity to deliver growth

Developing the skills, infrastructure and industrial capability required for scale will ensure that the UK has the people and capacity needed to turn innovation into commercial reality. Stronger talent pipelines, scale-up capability and manufacturing capacity will support long-term competitiveness and enable the UK to retain value from the bioeconomy.

Call to Action

The opportunity is within our grasp, but it will not happen by accident.

The UK has the scientific excellence, entrepreneurial talent, industrial capability and natural resources needed to become a global leader in the bioeconomy. What is needed now is coordinated action to create the policy, regulatory and market conditions that allow bio-based innovation to flourish.

No single organisation can deliver this transformation alone. Success will depend on government providing long-term strategic leadership and stable market conditions, industry investing and collaborating at scale, investors backing the technologies of the future, researchers continuing to innovate, and regulators enabling safe, proportionate, consistent and forward-looking frameworks.

BBIA and its members are committed to playing their part. Through our work to influence policy, generate evidence, convene industry, connect stakeholders and communicate the value of the bioeconomy, we will act as a catalyst for change and a trusted partner across government and the innovation ecosystem. But lasting success will require a shared commitment from everyone with a stake in the UK's industrial future.

UKBio35 is an invitation to work together.

We call on policymakers to embed the bioeconomy at the heart of the UK's Industrial Strategy and deliver the coherent policy framework needed to unlock investment and growth.

We call on industry to collaborate across sectors, share evidence and help build resilient UK supply chains that can compete globally.

We call on investors to recognise the bioeconomy as one of the defining growth opportunities of the coming decades and provide the patient capital needed to scale innovation.

We call on researchers, innovators and manufacturers to continue pushing the boundaries of engineering biology and industrial biotechnology while ensuring that breakthrough technologies are commercialised and manufactured here in the UK.

Together, we can build a bioeconomy that strengthens national resilience, delivers sustainable economic growth, creates thousands of skilled jobs, reduces reliance on imported fossil resources and positions the UK as a world leader in engineering biology and bio-based innovation.

The next decade will determine who leads the global bioeconomy.

If your organisation shares this ambition, join BBIA and help shape the outcome. Visit <https://bbia.org.uk/join/> to learn more.



The UK has the
opportunity to lead.
Now is the time to act.

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