

# Unlocking regional growth

## How public–private partnerships are transforming the bioeconomy



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As regions across the globe seek sustainable pathways to economic growth, the bioeconomy has emerged as a transformative opportunity. By fostering strategic partnerships between public authorities and private enterprises, regions can harness biological resources to create high-value industries, attract investment and build competitive advantages that drive long-term prosperity.

This article explores how collaboration between sectors is already reshaping regional economies and offers a blueprint for unlocking the bioeconomy's potential.

The bioeconomy represents one of the most promising frontiers for sustainable economic development, offering regions and organisations therein the opportunity to build competitive advantages while addressing global challenges from climate change to food security. At its core, the bioeconomy encompasses all economic activities that use biological resources to produce goods and services, spanning everything from sustainable agriculture and biotechnology to bio-based materials and renewable energy. What makes this sector particularly compelling for regional development is its potential to create high-value jobs while promoting environmental sustainability.

The key to unlocking this potential lies in strategic collaboration between public and private sectors. When done effectively, these partnerships can develop and accelerate innovation, attract investment, and create the conditions for sustained economic growth that benefits entire regions.

### The power of strategic partnerships

The success of bioeconomy initiatives depends heavily on the ability to bring together diverse stakeholders with complementary strengths. Private companies, such as Croda<sup>1</sup>, bring technological expertise, market knowledge, manufacturing capability and the agility to respond quickly to opportunities. Public sector organisations contribute policy frameworks, funding mechanisms, and the ability to coordinate across different sectors and interests.

This collaborative approach is already yielding results in regions that have embraced it. Take the partnership between regional Combined Authorities and organisations like BioYorkshire, of which Croda is a member, which demonstrates how public–private collaboration can create momentum around bioeconomy development. By working together to develop investor prospectuses, these partnerships are able to present a unified vision that attracts major investors who might otherwise look elsewhere.

The combined weight of public and private sector endorsement provides credibility that neither sector could achieve alone. When a regional authority

partners with established private sector players, it signals to investors that the opportunity is both economically viable and politically supported. This dual validation is crucial in attracting the substantial investments needed to build bioeconomy infrastructure and capabilities.

### Creating clusters of excellence

One of the most effective strategies for bioeconomy development is the creation of specialised clusters that bring together companies, research institutions, and support organisations in a concentrated geographic area. These clusters create ecosystems where innovation can flourish through close collaboration and knowledge sharing.

The bioeconomy is particularly well-suited to cluster development because it often requires complex interdisciplinary collaboration. Developing new bio-based materials, for example, might require expertise in biology, chemistry, engineering, and manufacturing. When these capabilities are co-located, companies can more easily access the full range of expertise they need.

Major private sector organisations play a crucial anchoring role in these clusters. Companies like Croda, bring not only their own research and development

<sup>1</sup> Croda, a FTSE 100 global speciality chemical company with its headquarters in Yorkshire, has successfully delivered bio-based innovation to its customers for 100 years. Increasingly, Croda is finding significant value in working with strategic innovation partners, such as the University of York, to solve market challenges and unlock new technologies.

capabilities but also extensive networks of suppliers, customers, and partners. Their involvement lends credibility to the cluster and can attract other supply chain companies seeking to be part of a thriving bioeconomy ecosystem.

The academic component of these clusters is equally important. Universities contribute fundamental research capabilities and help train the skilled workforce that bioeconomy companies need. The collaboration between the Centre for Novel Agricultural Products at the University of York and Croda exemplifies how academic research can directly contribute to commercial applications, from improving drug delivery to developing sustainable cosmetic ingredients.

## Policy frameworks that enable growth

The most successful bioeconomy regions are those where public sector policies actively support private sector innovation and investment. This support takes many forms, from direct funding for research and development to regulatory frameworks that facilitate the development and commercialisation of bio-based products.

Devolution deals that specifically reference the bioeconomy give elected officials clear mandates to prioritise this sector. This political commitment is essential because bioeconomy development often requires long-term thinking and sustained investment. When mayors and other regional leaders have explicit bioeconomy goals, they can align various policy levers to support sector growth.

The integration of regional bioeconomy strategies with national policies amplifies their impact. Regions that successfully align their initiatives with national industrial strategies, innovation missions, and investment programs like Invest 2035 can access additional resources and ensure their efforts complement broader national objectives.

## Identifying and leveraging regional advantages

Every region has unique characteristics that can become competitive advantages in the bioeconomy. These might include

specific agricultural resources, particular research strengths, existing industrial capabilities such as manufacturing, or geographic advantages. The key is identifying these unique assets and building bioeconomy strategies around them rather than trying to replicate what has worked elsewhere.

### Political commitment is essential as bioeconomy development often requires long-term thinking and sustained investment

Some regions excel in agricultural biotechnology because of their farming heritage and research institutions. Others might focus on marine biotechnology due to coastal locations and marine science expertise. Still others might specialise in bio-based materials because of existing chemical or manufacturing industries.

The most successful regions view their unique characteristics as opportunities rather than limitations. They use these distinctive features as the foundation for building specialised capabilities that can compete globally while serving regional economic development goals.

## Investment and market development

Private sector involvement is crucial for translating bioeconomy research into commercial applications. Companies, such as Croda, bring market knowledge that helps ensure innovations meet real customer needs and can achieve commercial viability. They also provide the risk capital needed to scale up promising technologies.

However, private investment alone is rarely sufficient, particularly in the early stages of bioeconomy development. Public sector support helps reduce risks for private investors and can provide patient capital for longer-term projects that might not attract purely commercial funding.

The combination of public and private investment creates a more robust funding ecosystem that can support bioeconomy companies at different stages of development. Early-stage research might

rely heavily on public funding, while later-stage commercialisation attracts increasing private investment as risks decrease and market potential becomes clearer.

## Building sustainable competitive advantage

The ultimate goal of public-private collaboration in the bioeconomy is to create sustainable competitive advantages that generate long-term economic benefits for regions. This requires building capabilities that are difficult for competitors to replicate and that continue to evolve and improve over time.

Successful bioeconomy regions focus on developing deep expertise in specific areas rather than trying to compete across all bioeconomy sectors. They invest in specialised infrastructure such as biotechnology, build networks of skilled professionals, and create regulatory and business environments that support continued innovation and growth.

## Looking forward

The bioeconomy represents a significant opportunity for regional economic development, but realising this potential requires thoughtful collaboration between public and private sectors. Regions that can effectively align public policy support with private sector capabilities and market knowledge will be best positioned to capture the economic benefits of this growing sector.

The examples of successful collaboration between Croda and the University of York demonstrate that this approach can work. As the bioeconomy continues to grow and mature, regions that establish strong public-private partnerships now will be well-positioned to benefit from the opportunities ahead.

The path forward requires continued commitment from both sectors, strategic thinking about regional advantages, and the patience to build capabilities that will pay dividends over the long term. For regions willing to make this investment, the bioeconomy offers a pathway to sustainable, innovation-driven economic growth that benefits both local communities and the broader environment.