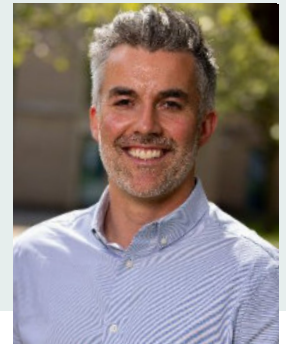


The bioeconomy

York and North Yorkshire's path to sustainable prosperity



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York and North Yorkshire stands at the forefront of a revolutionary economic transformation that could reshape not only the region's future but also Britain's role in the global green economy. The strength of our city combined with a rural powerhouse uniquely positions us as the nation's bioeconomy hub – promising sustainable growth that addresses some of the most pressing challenges of our time

Understanding the bioeconomy

The bioeconomy represents a fundamental shift in how we produce goods and services, moving away from fossil fuel-dependent processes toward biological resources and biotechnology. It encompasses everything from sustainable agriculture and forestry to industrial biotechnology and engineering biology. Unlike traditional economic models that often pit environmental protection against economic growth, the bioeconomy offers a pathway where both can thrive together.

At its core, the bioeconomy uses renewable biological resources – such as crops, trees, algae, and even waste materials – to produce food, materials, chemicals, and energy. This approach not only reduces our dependence on finite fossil resources but also creates opportunities for innovation in everything from biodegradable plastics to life-saving pharmaceuticals produced using genetically engineered microorganisms.

York and North Yorkshire's unique advantage

What makes York and North Yorkshire particularly well-suited to lead this transformation is its distinctive character as both an urban innovation centre and a rural economic powerhouse. This dual identity creates a rare combination of assets that few regions can match. The area boasts world-class research institutions, a thriving agricultural sector,

and the space needed for large-scale bioeconomy operations.

The region's commitment to environmental leadership is evident in its ambitious climate targets: achieving net zero emissions by 2034 and becoming carbon negative by 2040. These aren't just aspirational goals but strategic imperatives that position the region as a testing ground for scalable solutions to climate change. When successful bioeconomy innovations are developed and proven in York and North Yorkshire, they can be exported to similar regions across the UK and internationally.

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This environmental ambition is matched by a recognition of the bioeconomy's potential to address food security challenges. As global populations grow and climate change affects agricultural productivity worldwide, the development of sustainable food production systems becomes increasingly critical. York and North Yorkshire's combination of agricultural expertise and biotechnology innovation makes it ideally placed to develop solutions that can feed the world while protecting the environment.

The innovation ecosystem

The strength of York and North Yorkshire's bioeconomy ambitions lies not just in its natural advantages but in the robust partnerships being forged across sectors. The collaboration between public and private sector partners creates an ecosystem where academic research can quickly translate into commercial applications, and where businesses can access the support they need to scale innovative solutions.

The opportunity to strengthen the region's partnership with neighbouring Tees Valley exemplifies this collaborative approach. By working together as a northern cluster, these regions can combine their complementary strengths – York and North Yorkshire's rural and agricultural assets with Tees Valley's industrial heritage and infrastructure. This partnership approach recognises that the challenges and opportunities of the bioeconomy are too significant for any single region to tackle alone.

York Central: a catalyst for growth

Central to the region's bioeconomy strategy is the proposed Innovation Accelerator at York Central, one of the UK's largest brownfield development sites. This initiative represents more than just another business park; it's conceived as an independent hub that can bring together diverse stakeholders, from researchers and entrepreneurs to investors and policymakers.

The Innovation Accelerator concept addresses one of the key challenges in translating bioeconomy research into commercial success: the gap between laboratory discoveries and market-ready products. By providing a dedicated space where these connections can be made and nurtured, York Central could become the bridge that transforms promising research into investible propositions that attract private sector funding.

This development complements the region's recent bid for an AI Growth Zone, demonstrating how different technological advances can work together synergistically. Artificial intelligence and biotechnology are increasingly intertwined, with AI accelerating everything from drug discovery to agricultural optimisation. By pursuing excellence in both areas, York and North Yorkshire is positioning itself at the intersection of multiple technological revolutions.

Economic opportunities and investment potential

The bioeconomy represents a significant economic opportunity that extends far beyond traditional agriculture. Industrial biotechnology alone is projected to become a multi-billion-pound global market, with applications ranging from the production of sustainable chemicals and materials to the development of new pharmaceuticals and food ingredients.

The bioeconomy needs everyone from agricultural workers and laboratory technicians to research scientists and business development specialists

For York and North Yorkshire, this translates into the potential for high-value job creation across the skills spectrum. The bioeconomy needs everyone from agricultural workers and laboratory technicians to research scientists and business development specialists. This diversity of opportunities is particularly valuable for a region that combines urban and rural areas, offering

pathways for economic participation that don't require everyone to relocate to major cities.

The region's appeal to investors is strengthened by its strategic location, excellent transport links, and the presence of established companies already working in biotechnology and related fields. The combination of academic excellence, industrial heritage, and natural resources creates a compelling proposition for businesses looking to establish or expand their bioeconomy operations.

The forthcoming Local Innovation Partnerships Fund also represents a significant opportunity to accelerate and scale the Yorkshire model across other regions. With its emphasis on co-creation, and alignment with local growth strategies, the fund could provide the strategic public investment we know is critical for dramatically accelerating bioeconomy development. For York and North Yorkshire this represents a chance to build on their existing capabilities into even greater commercial impact.

The fund's focus on high-potential innovation clusters, combined with requirements for private sector co-investment and measurable economic growth, aligns perfectly with BioYorkshire's integrated approach spanning research discovery through to market-ready solutions. Most importantly, it recognises that successful regional development requires sustained, coordinated investment rather than fragmented initiatives. The ambition and potential in York and North Yorkshire is sky high – and the Innovation Partnerships Fund is a critical opportunity for us to make real progress

Defining green growth

What makes York and North Yorkshire's approach particularly significant is its potential to redefine what economic growth looks like in the 21st century. Traditional economic development often came at environmental cost, but the bioeconomy offers a different model where economic success and environmental stewardship reinforce each other.

This has implications that extend far beyond the region itself. If York and North Yorkshire can demonstrate that a largely rural region can achieve prosperity through sustainable innovation, it provides a template that could be applied to similar areas across the UK and internationally. This is particularly important as policymakers grapple with the challenge of ensuring that the benefits of economic growth are distributed more evenly across different types of communities.

Looking forward

The bioeconomy represents more than just another economic sector; it's a new way of thinking about how human societies can thrive while respecting planetary boundaries. York and North Yorkshire's unique position as a devolved region with both urban innovation capabilities and rural resources makes it an ideal laboratory for testing and refining this new economic model.

It's not just building prosperity for our residents – it's helping to define what sustainable economic growth looks like in the modern world

The region's success in developing its bioeconomy will depend on maintaining the strong partnerships that have brought it this far, continuing to attract investment in research and development, and ensuring that the benefits of growth are shared across all communities. But if successful, York and North Yorkshire could become a model for sustainable regional development that other areas around the world will seek to emulate.

As the region continues to develop its bioeconomy strategy, it's not just building prosperity for its own residents – it's helping to define what sustainable economic growth looks like in the modern world. In doing so, York and North Yorkshire is positioning itself not just as a regional leader, but as a contributor to solutions that the entire planet needs.