



BioYorkshire and the Green Economy

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Climate Emergency Policy and Scrutiny Committee

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York's Economic and Climate Change Strategies and BioYorkshire

Economic Strategy

- York as a global city ✓
- A greener economy ✓
- A thriving workforce ✓
- Thriving businesses ✓
- An economy driven by good business ✓

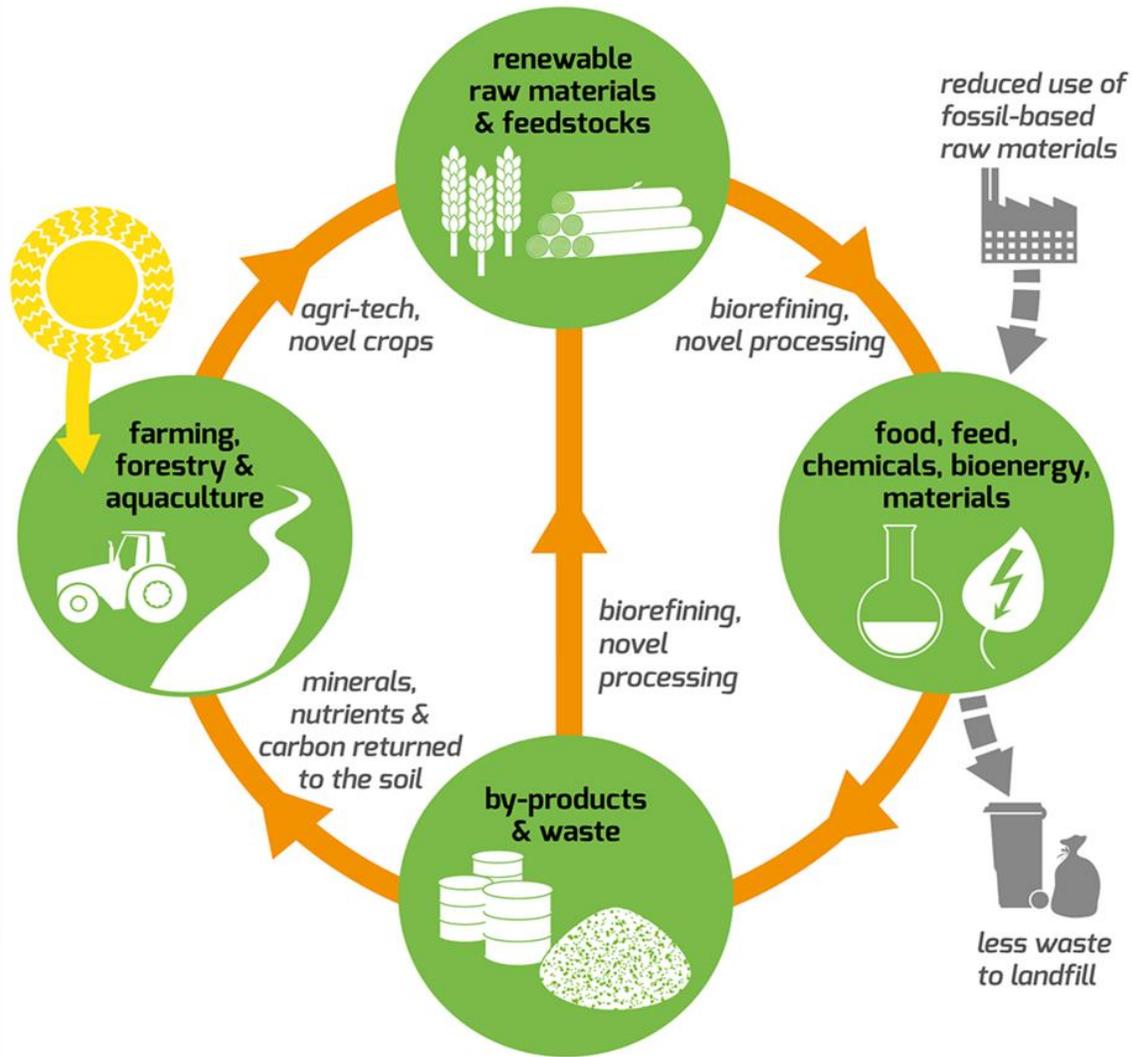
Climate Change

- Grow the green economy ✓
- ↓ Waste & ↑ recycling ✓
- Move towards circular economy ✓
- Promote sustainable land management ✓
- ↑ Renewable energy generation ✓



- Net zero
- Biodiversity recovery

The Bioeconomy and why it is important



Economic Strategy

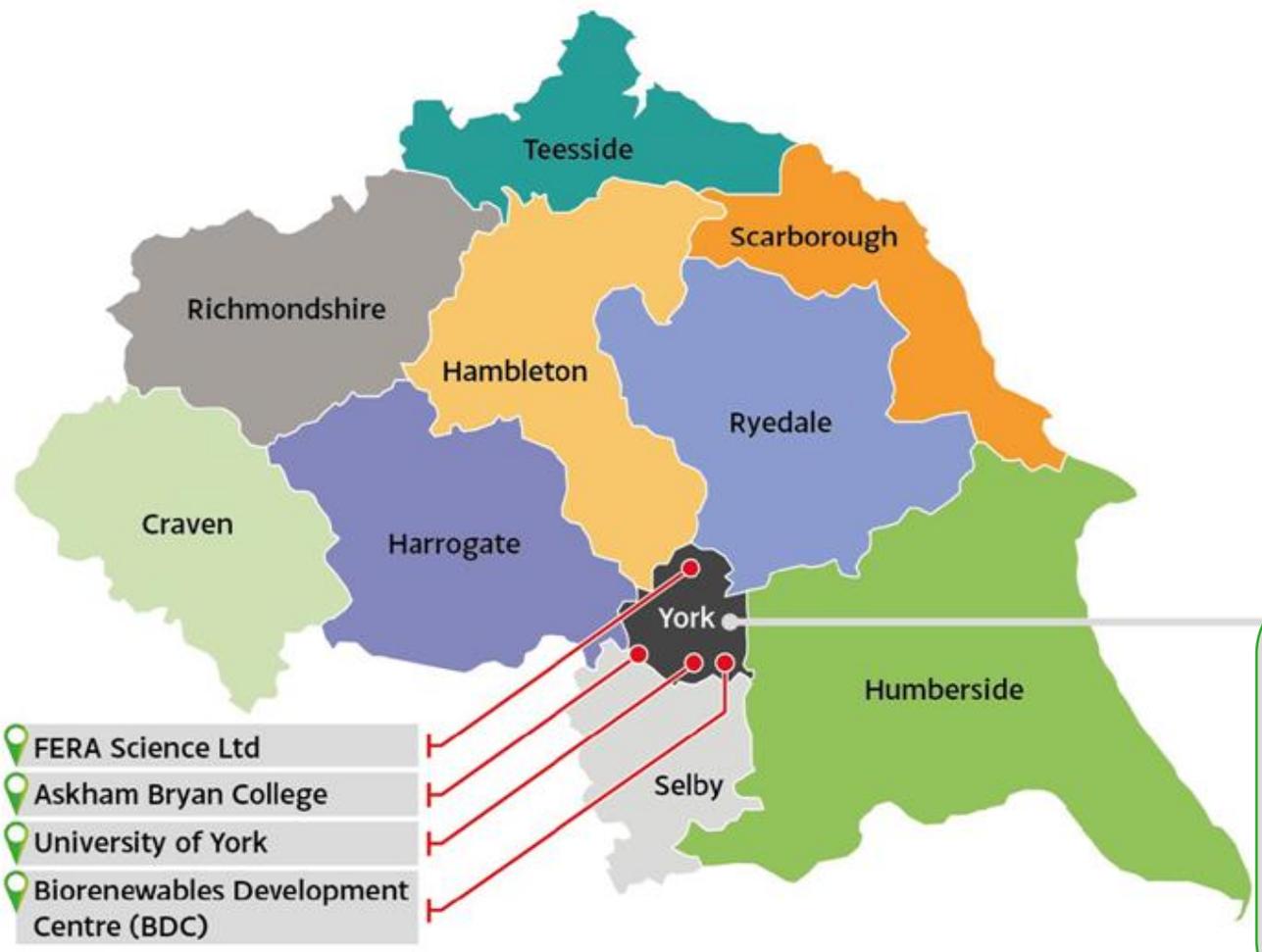
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Net zero food production, farming and wider land use practices



Profitable bio-based production of chemicals, materials and fuels





Yorkshire based – encompassing north of England
Innovation pillar of the York & North Yorkshire devolution deal

BioYorkshire's key aims

powering the economy



- Adding ~£1.4bn in GVA to the UK economy
- Supporting existing industry and new small businesses
- Equipping a new bioeconomy workforce
- Creating 4,000 new jobs across Yorkshire and the UK

improving the environment



- Driving a new era of nature positive, bio-manufacturing and sustainable farming
- Reducing 2.8 million tonnes annually of CO2e carbon emissions
- Reducing UK waste to landfill by 1.2 million tonnes/ year

boosting innovation



- Advancing a research and innovation pipeline
- Creating and growing companies to produce nature positive, bio-based products and processes
- Establishing a bioeconomy 'cluster development corporation'
- Transforming the UK's bioeconomy

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Innovation & Skills Central

Integrated delivery of bioeconomy innovation and skills

Bioeconomy Skills Academy | **Sustainability Learning Centre**

Global Bioeconomy Institute | Biorenewables Development Centre

Circular Economy Data Centre | **Packaging Hub** | Living Lab

Digital and Robotic Process Control Automation Centre | Agriculture Incubator Hub



District Hubs

Bioeconomy start-ups embedded in the communities



Accelerator

Maximising impact, advantage and investment

BioYorkshire Industrial Advisory Group

- Chaired by Steve Bagshaw, CBE
- Diverse membership to represent bioeconomy relevant sectors: chemicals, food, agri-tech, biotechnology, energy, leisure, personal care, technology, utilities, construction
- Large companies and SMEs
- Meets quarterly to discuss bioeconomy developments, network and advise BioYorkshire

Global Bioeconomy Institute

Addressing the challenges of net zero and biodiversity loss, whilst feeding a growing global population and using bio-based feedstocks to replace petrochemicals

Objectives:

- Excellence in interdisciplinary, discovery research
- Industrially driven research, demonstration and scale-up
- UK's bioeconomy hub
- Supporting education and training

Global Bioeconomy Institute

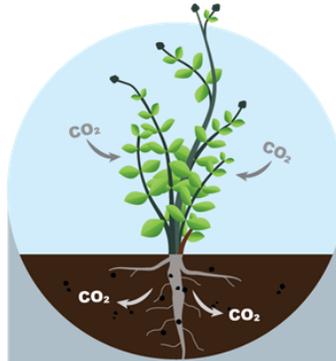
Crude Oil to
Crude Sugar



High Value
Bio-based Products



Biological
Carbon Capture



Bio-based Recycling
and Remediation



Business of
Biodiversity



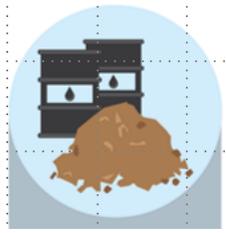
Responsible
Innovation

Biodiversity and Ecosystem Impacts

Techno- and Socio-Economic Analysis

Policy and Communications

Bioeconomy Solutions to Climate Change and Biodiversity Loss



From crude oil to crude sugar

Petrochemicals



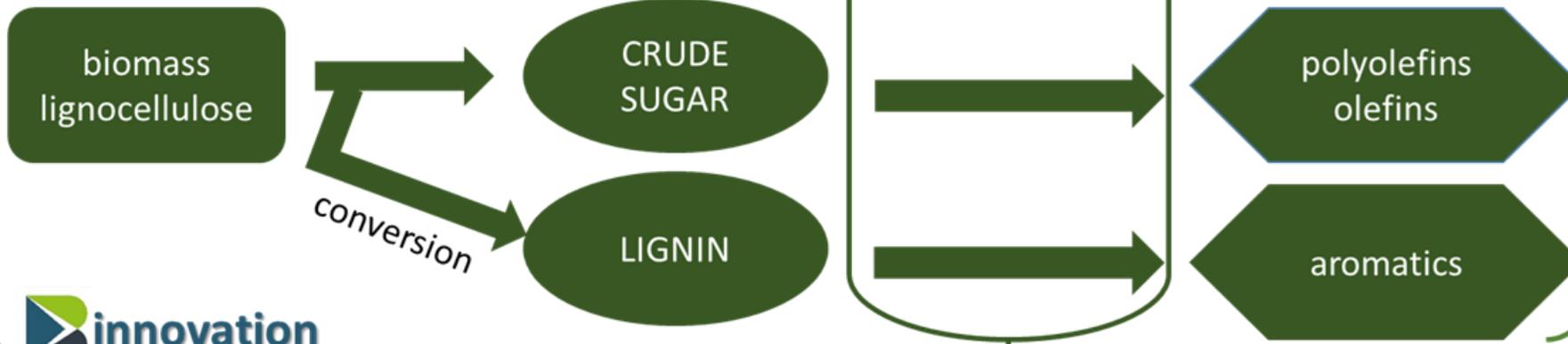
refinery products:
petroleum, aviation fuel, chemicals, dyes, solvents, detergents, adhesives, plastics, agrochemicals etc.

First Generation Sugars



bio-based products:
aviation fuels, bioethanol, biodiesel, organic acids, bioplastics, polymers, solvents, detergents, biogas, animal feed, proteins, sugars, etc.

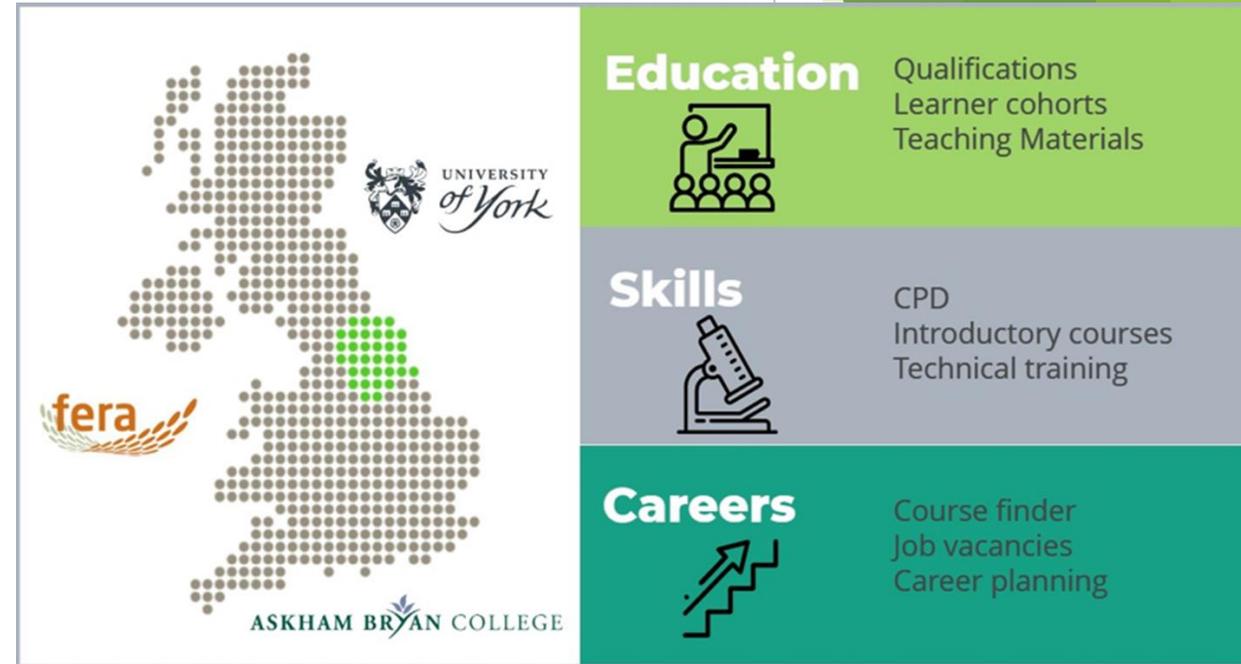
Second Generation Sugars



bio-carbon capture
construction materials

Bioeconomy Skills Academy

- Inclusive education programmes for learners at all levels
- Regional needs, as well as national and international students
- Addresses the need for skilled workers from bioeconomy industries
- Creates demand and interest for bioeconomy skills and education
- Supports careers for the bioeconomy sector



BioYorkshire District Incubator Hubs

- ▶ Focus points for businesses across Yorkshire to connect with each other and with BioYorkshire Innovation & Skills Central

- ▶ Three early examples:

A coastal-based Hub in Scarborough – Anglo-American funding for SME support programmes, links to a series of marine-based activities including SeaGrown, an innovative seaweed farming business.

A rural-based Hub in Malton – Circular Malton, a town led initiative to establish a community anaerobic digestion facility that uses waste to generate energy. Plans are being developed for a bioeconomy business incubator adjacent to this AD plant.

An urban-based Hub in York – the Biorenewables Development Centre site on the offers open access scale up and analytical facilities for businesses. Space on this site is being used to create an ecosystem of bioeconomy companies.

BioYorkshire Accelerator

Maximising impact, advantage and investment:

- ▶ improving connectivity
- ▶ supporting bio-based entrepreneurship
- ▶ bringing global visibility to YNY as a centre of excellence for the bioeconomy

BioYorkshire and Levelling Up

LEVELLING UP MISSIONS

1/ Pay, Employment & Productivity - increases across UK, globally competitive city in each region, performance gap closes

2/ Increase in public investment in R&D - leverage private sector investment; stimulating innovation and productivity growth

6/ Increase in high quality skills training across the UK

12/ Devolution deals



BIOYORKSHIRE OUTPUTS

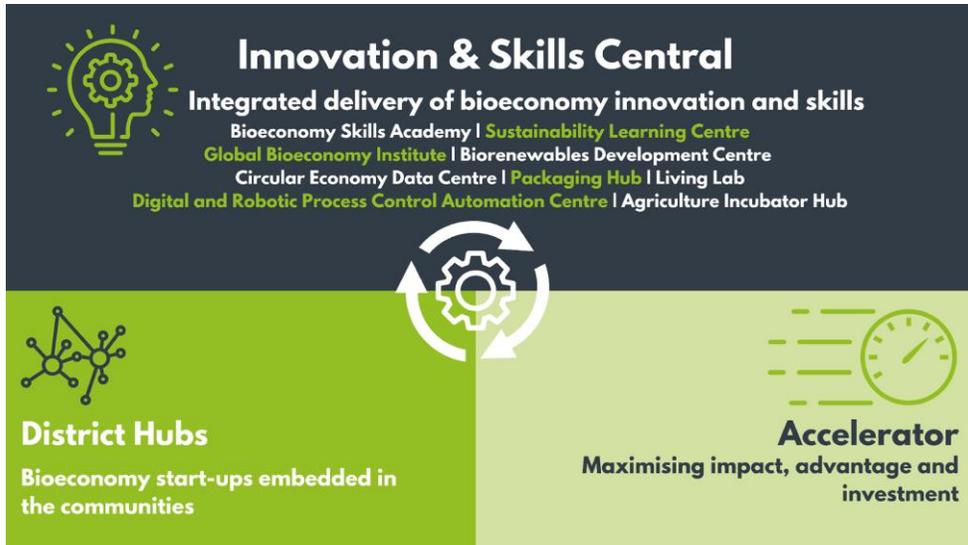
4000 jobs created, pay & productivity boosted, especially in rural and agrarian areas

Bioeconomy cluster attracts inward investment and high growth export markets

Skills offer co-ordinated across BioYorkshire, new facilities and opportunities for learners

Innovation focus creates economic and green growth

BioYorkshire and York's Economic and Climate Change Strategies



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BioYorkshire

Driving prosperity and innovation through the bioeconomy

www.bioyorkshire.co.uk

**Sign up to find out more about
BioYorkshire**

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Email Address

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