



**UK
FOOD
VALLEY**

Greater Lincolnshire

**THE FRESH PRODUCE &
CONTROLLED ENVIRONMENT
AGRICULTURE INVESTMENT
OPPORTUNITY**



www.ukfoodvalley.co.uk

The Fresh Produce & Controlled Environment Agriculture Market Opportunity

The UK and international fresh produce markets offer significant growth potential for innovative agricultural businesses. Key drivers include an expanding global population and rising consumer demand for healthy, more sustainable foods.

Both in the UK and worldwide, demand for fresh food produce is growing and changing. The UK's fruit and vegetables market, serving a population of 67.8 million,¹ is projected to grow by 13% between 2020 and 2025,² whilst the world's population is set to increase by more than 1 billion by 2050,³ and consumers are changing their buying behaviour rapidly, based on environmental and health concerns. In 2018, 43% of UK consumers said they were changing their habits to help the environment,⁴ whilst a 2021 UK poll found that 31% of adults planned to eat more meat-free products than in the previous year.⁵ The UK's long-standing 'Five a Day' campaign has boosted healthy fruit and vegetables consumption, with the National Food Strategy also encouraging more healthy eating.

In June 2022, the government published the long-awaited Food Strategy. This further endorses much of the UK Food Valley aims and stated that an essential and increasing role for automation across the agri-food chain and in horticulture will support

growers through the Farming Innovation Programme. It also acknowledges that the UK's resilient food supply is reliant on a competitive and productive domestic sector to include increased output in sectors with sustainable growth opportunity. Commercial horticulture uses a new generation of sustainable and efficient greenhouses and provides new opportunities to make UK producers more competitive and the UK Food Strategy further supports that this sector would boost home-grown fruit and vegetable production, help to future-proof the sector in a warming climate, and create new skilled job opportunities across the country.

In addition to consumer expectations, the UK government and others worldwide are committed to reducing carbon emissions, more than 25% of which come from agriculture, forestry and land use change.⁶

Companies investing in UK controlled-environment food production can improve

sustainability by reducing food miles and potentially accessing the country's abundant renewable energy sources. And through the application of leading-edge agricultural technologies and expertise, they can achieve step-change improvements in productivity, energy efficiency, and waste recycling - for sustainability and competitive edge in global markets.

Covid-19 and the UK's EU-exit have reinforced the case for investment in UK-based advanced food production – highlighting the need for shorter, more resilient supply chains, and for investment in automation to reduce dependence on manual labour. With the UK producing just 56% of the vegetables and 16% of the fruit it consumes, significant potential exists for fresh produce import substitution.⁷

Through leadership in food production, agrifood and agricultural technologies, Greater Lincolnshire presents a unique location opportunity for innovative fresh produce businesses pursuing growth and transformation in the UK market.

THE MARKET GROWTH OPPORTUNITY

67.8m

UK Consumers
(2020 Population
Estimate)¹

+13%

Projected UK Fruit
& Vegetable Market
Growth, 2020-2025²

+1bn

Projected Global
Population Growth
by 2050³

The UK Import
Substitution
Opportunity

56%

UK Self-Sufficiency in
Vegetable Production⁷

16%

UK Self-Sufficiency
in Fruit Production⁷

THE SUSTAINABLE FOOD OPPORTUNITY

43%

UK Food Consumers
Changing Habits to Help
the Environment¹

+31%

1-Year Increase in
Intention to Eat Meat-Free
(UK, 2021 vs. 2020³)

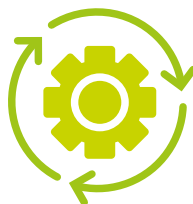
>25%

Carbon Emissions from
Agriculture, Forestry
and Land Use Change²

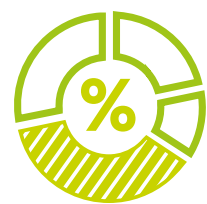
THE UK INVESTMENT OPPORTUNITY



Implement Leading-Edge
Agri-Technologies



Increase Efficiency,
Productivity &
Sustainability



Gain Competitive Edge
in UK & Global Markets

Greater Lincolnshire: The Fresh Produce & Controlled Environment Agriculture Investment Opportunity

Greater Lincolnshire is the UK location of choice for fresh produce and controlled environment agriculture businesses investing to meet growing market demand, while pursuing transformational improvements in efficiency, productivity and sustainability.

The area is home to the UK's largest fresh produce sector, accounting for 30% of England's fresh vegetables and 19% of ornamental plants and flowers.⁸ This concentration of food production is complemented by a wider agrifood cluster and supply chain with comprehensive capabilities, including fresh produce packing, processing, and cold chain storage and logistics.

With 25% of the UK's grade 1 land, Greater Lincolnshire offers space for food production and a flat landscape that is ideal for glasshouse construction, as well as plentiful water supplies. Potential energy solutions for fresh produce businesses include renewable power from the area's offshore wind farms, surplus heat from Anaerobic Digestion facilities (presenting opportunities for co-location), and high-quality geothermal resources.

As a leading centre of food production and processing, Greater Lincolnshire provides investing businesses with access to a large, skilled sector labour force – 16,000 permanent agricultural workers, with more than 75,000 in the wider pre-consumer food supply chain.⁹ This workforce is continually replenished by sector-focused further and higher education institutions, partnering with businesses to deliver the skills and qualifications they need.

As an established Food Industry 4.0 centre of excellence, the University of Lincoln offers potentially transformative knowledge and technology solutions for investing fresh produce businesses. Expertise in data analytics, artificial intelligence, digitalisation, sensors and automation is applied to monitor and optimise inputs including

energy and water utilisation in controlled food production environments – to minimise costs and maximise productivity and sustainability. The University of Lincoln now has Europe's largest team working on agrifood robotics and digital supply chains. This knowledge is complemented by technology-focused businesses in the regional supply chain, providing specialised buildings, IT, robotics, and energy management solutions.

Greater Lincolnshire's combination of location advantages presents a unique opportunity to expanding fresh produce and controlled environment agriculture businesses – to access growth markets, minimise investment project costs and risk, and leverage knowledge and advanced technologies for competitive edge.



CAPABILITY

Industry Cluster

Greater Lincolnshire's fresh produce cluster includes leading businesses at the forefront of innovation.

Jones Food Co, majority owned by Ocado, has developed the UK's largest Vertical Farm in North Lincolnshire.

Staples, a major brassica producer, are industry pioneers in energy and water efficiency and sustainability.

Leading fresh produce supply chain and processing businesses include Worldwide Fruit, Karsten UK, Plant & Bean, and Ripe Now.

The cluster is represented by UK Fresh Produce Network (ukFPN),¹⁰ supporting businesses with applied research, innovation and supply chain linkages.

CAPABILITY

Cold Storage & Logistics Hub

The Spalding hub is located at the heart of Greater Lincolnshire's food production and processing cluster.

Leading temperature-controlled storage and logistics businesses include Americold (the world's largest cold storage company), FreshLinc (logistics for fresh produce, cut flowers and plants), Fowler Welch, and Turners.

A new Border Control Post at the hub enables the fast transfer of temperature-controlled foods from ports for additional product shelf life. Businesses in the cluster are working with the nearby Port of Boston to reopen this fresh produce importation route, to deliver cost and carbon savings.

CAPABILITY

Agri-Tech

The University of Lincoln's world-class Agri-Tech capability promotes agricultural productivity, efficiency, and sustainability.

The Lincoln Institute for Agri-Food Technology (LIAT) integrates sector-leading expertise in AI, robotics, engineering, crop science, environmental sustainability and supply chains, and includes the world's first robot fruit farm.¹¹

Related Lincoln research centres focused on data analytics, AI, digitalisation, robotics and automation include Lincoln Agri-Robotics,¹² the world's first Agricultural Robotics Global Centre of Excellence and Lincoln Centre for Autonomous Systems (L-CAS).¹³

CAPABILITY

Education & Skills

LIAT now has a leading MSc AgriTech programme which is attracting students globally to study in Lincolnshire.

Greater Lincolnshire's further and higher education institutions partner with businesses to deliver specialised sector skills.

AgriFoRwArdS (EPSRC funded, within LIAT, the University of Lincoln) is the world's first Centre for Doctoral Training in Agri-Food Robotics.¹⁴

The National Centre for Food Manufacturing (NCFM) is a satellite campus of the University of Lincoln located in Holbeach, South Lincolnshire. The centre combines education with industry-focused research and support, delivering apprenticeships, degrees and PhDs in specialisations including Agri-Produce & Supply Chain Management, and Food Science & Technology.¹⁵

CAPABILITY Renewable & Sustainable Energy

Greater Lincolnshire is at the heart of renewable and sustainable energy generation in the UK.

With the world's largest offshore wind farms located off the coast in the North Sea, the potential exists for energy-intensive businesses to access reliable sources of cost-effective, low carbon power.

The South Humber Bank is, additionally, home to a fast-growing cluster of sustainable energy generation facilities, creating potential opportunities for controlled environment farmers to access private wire electricity and heat, as well as industrial gases from the area's industry cluster.

CAPABILITY Circular Economy

At the forefront of food industry circular economy innovations.

Greater Lincolnshire's leadership in food production and manufacturing has stimulated significant investment, and the development of advanced technologies and expertise, in circular economy specialisations including food waste recycling and the manufacture of recycled food packaging.

Leading businesses established in the area include BioteCH4 (Anaerobic Digestion) and Clean Tech (rPET manufacturing). These regional capabilities present opportunities for food producers to implement more efficient, sustainable, waste-minimising operations.

INVESTABILITY Track Record

Greater Lincolnshire's attractiveness as a location for expanding fresh produce businesses is highlighted by recent large-scale investment projects.

In 2021, Dyson Farming (part of the Dyson technology group) opened the UK's most efficient fruit farm in Boston, including state-of-the-art optimised glasshouse environments.¹⁶

In 2022, Global Berry opened a new 4 hectare glasshouse fruit farm at Nocton and now have plans for a UK leading 32 hectare development at Hemswell Cliff.

In 2020, Bridge Farm Group invested £40 million in a 30 hectare (75 acre) glasshouse development in Spalding.¹⁷

In 2019, Princes Group (Mitsubishi Corporation) completed phase 1 of an £80 million investment in vegetable processing at Long Sutton, Lincolnshire.¹⁸








Greater Lincolnshire's Location & Connectivity

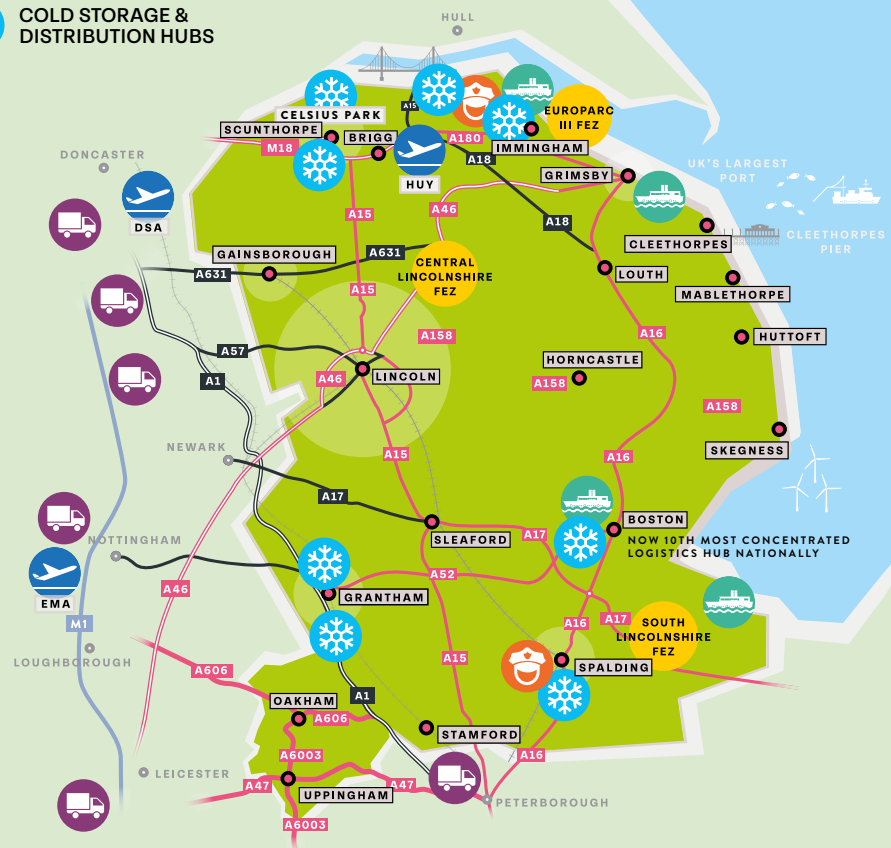
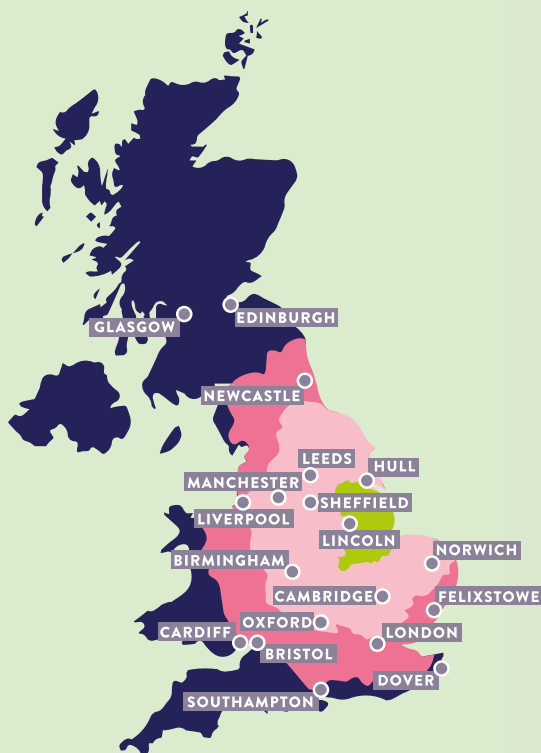
Greater Lincolnshire provides fresh produce businesses with fast, multimodal access to distribution hubs and consumer markets in the UK and worldwide.

HGV Drive Times (from Lincoln)

-  GREATER LINCOLNSHIRE LEP AREA
-  3 HOUR HGV DRIVE TIME
-  4.5 HOUR HGV DRIVE TIME (1 DRIVER SHIFT)

Key:

-  GREATER LINCOLNSHIRE
-  DISTRIBUTION HUBS
-  COLD STORAGE & DISTRIBUTION HUBS
-  BORDER CONTROL POST
-  FOOD ENTERPRISE ZONE
-  PORTS
-  AIRPORTS



By Road

Greater Lincolnshire's central Great Britain location (north-south) enables fast access to key Midlands distribution hubs (on the M1 and A1 corridors). More than 75% of the UK's population can be reached within 4 hours' HGV drive time - less than one driver shift.

By Sea

The Humber ports of Immingham and Grimsby offer frequent lo-lo and ro-ro services to European ports, and deep-sea feeder services to global markets. The Port of Boston's ambitious Food Port project, includes a dedicated Centre for Food and Fresh Produce Logistics.

By Rail

The ports of Immingham, Grimsby and Boston are rail freight connected. For business travellers, Greater Lincolnshire also offers fast passenger rail connectivity to destinations across the UK.

By Air

Humberside Airport provides global connectivity via Amsterdam and a temperature-controlled airside Perishables Hub. East Midlands Airport, the UK's largest dedicated air cargo hub, is less than 2 hours' HGV drive time from Spalding.

SUPPORT FOR YOUR BUSINESS INVESTMENT

Support for Investors from the Greater Lincolnshire Partnership

Working together, the LEP and our partner organisations, including local authorities, education providers and businesses, provide dedicated support to ensure a 'soft landing' for companies investing in Greater Lincolnshire.

Our services to business include:

- Support in finding the right site or property
- Planning application support and guidance
- Location, economic and market intelligence
- Access to workforce recruitment, education and training solutions
- Access to sector specialists
- Access to sector-specific support programmes
- Access to local supply chains and business networks
- Access to funding for business investment

Contact us to find out how we can support your business relocation or expansion project.

REFERENCES

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| 1 UN 2020, UK population estimate | 10 UK Fresh Produce Network, Lincolnshire Chamber of Commerce (lincs-chamber.co.uk) |
| 2 Mordor Intelligence, 2021 | 11 lincoln.ac.uk/home/liat |
| 3 UN FAO, fao.org 2021 | 12 lar.lincoln.ac.uk |
| 4 Walnut Unlimited, 2018 | 13 lcas.lincoln.ac.uk/wp |
| 5 The Independent, 8.1.21 | 14 agriforwards-cdt.blogs.lincoln.ac.uk |
| 6 bayer.ft.com-farmings-grand-challenge | 15 lincoln.ac.uk/home/holbeach |
| 7 DEFRA, UK Govt, 2021 | 16 dysonfarming.com |
| 8 DEFRA, UK Govt, 2019 | 17 bridgefarmgroup.co.uk |
| 9 GL LEP, 2021 | 18 princesgroup.com/news |





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