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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

NP11 Local Area Profiles

May 2022 | Updated March 2023

Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.

- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be published later in 2023.

- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each Local Enterprise Partnership (LEP) / Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data and collated into this single document.

- These profiles are intended to support the narrative in the refreshed NPIER of 2023 and are not in any way intended to replace the local strategic documents and statistics produced in each of the NP11 LEP geographies (and Greater Lincolnshire LEP's coverage of part of the ITL1 geography in Yorkshire and the Humber). A list of selected, relevant, local strategic documents is provided at the end of each area's profile.

Contents by LEP Geography

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Area profile: Cheshire and Warrington

May 2022 | Updated March 2023

Introduction

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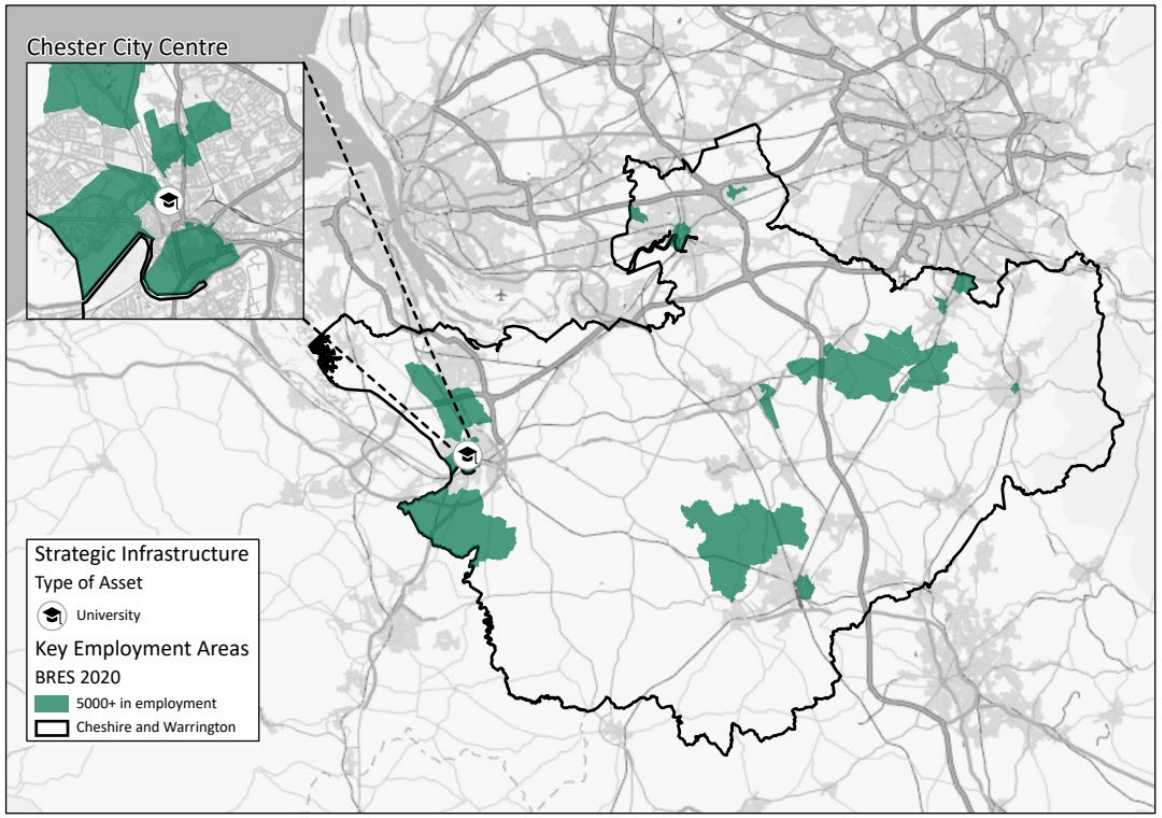
- This paper presents the area profile for Cheshire and Warrington, drawing on nationally-available data, as well as the analysis contained in C&W's *Strategic Economic Plan*, subsequent Local Industrial Strategy evidence base, Recovery Plan and related documents, referenced at the end of this document.

Cheshire and Warrington: Overview

- Cheshire and Warrington (C&W) encompasses the three local authority areas of Cheshire East, Cheshire West and Chester, and Warrington.
- It is generally a well-performing economy: productivity is the highest of any LEP area in the North (and exceeds the UK average), and there are strengths across a number of sectors (discussed later), including manufacturing, life sciences, chemicals and financial and professional services. As the 2018 *Strategic Economic Plan* observes, the scale of economic activity in C&W belies perceptions of the area as a 'dormitory' for its larger urban neighbours.
- Spatially, C&W is 'polycentric', with a network of settlements including Warrington (the largest urban centre), the historic city of Chester, several medium-sized towns, such as Crewe, Macclesfield, Northwich and Ellesmere Port; and a series of smaller market towns. As the map illustrates, economic activity is quite dispersed, reflecting the network of business parks, science parks and manufacturing locations.
- There is good connectivity from C&W to the rest of the North West and the Midlands, via the M6, A500 and West Coast Main Line (with Crewe providing a major strategic rail hub). C&W also benefits from proximity to Manchester and Liverpool Airports. Links beyond C&W are very important, with strong inbound and outbound flows to Greater Manchester and Liverpool City Region, as well as to Flintshire and Stoke & Staffordshire.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

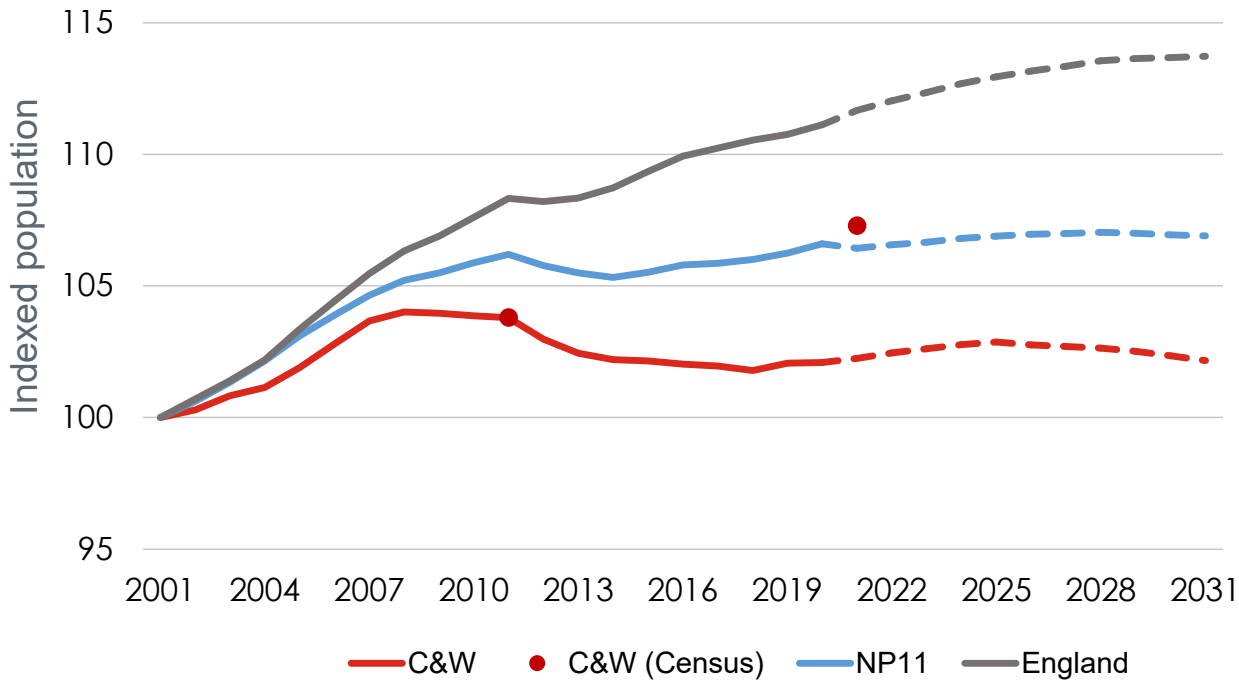
- Between 2001 – 2008, C&W's 'working age' (16-64) population grew steadily, although at a slightly slower rate than the NP11. From 2008, the rate of growth in the working age population began to decline and has been very low since.
- The next decade is forecast to see continued slow growth in the *working age* population, even as the *total* population expands at a slightly faster rate than the UK as a whole.

Population 2021	
Total	969,500
Aged 16 to 64	593,600

Historic population growth (2001-2021), %	C&W	NP11	England
All Ages	9.4	9.4	15.2
Aged 16 to 64	2.3	6.4	11.7

Forecast population growth (2022-2031), %	C&W	NP11	England
All Ages	4.3	3.0	4.3
Aged 16 to 64	0.1	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base); Census 2021. Note that 'NP11' refers to the combined 11 LEP/CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

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Economic profile: Scale and productivity

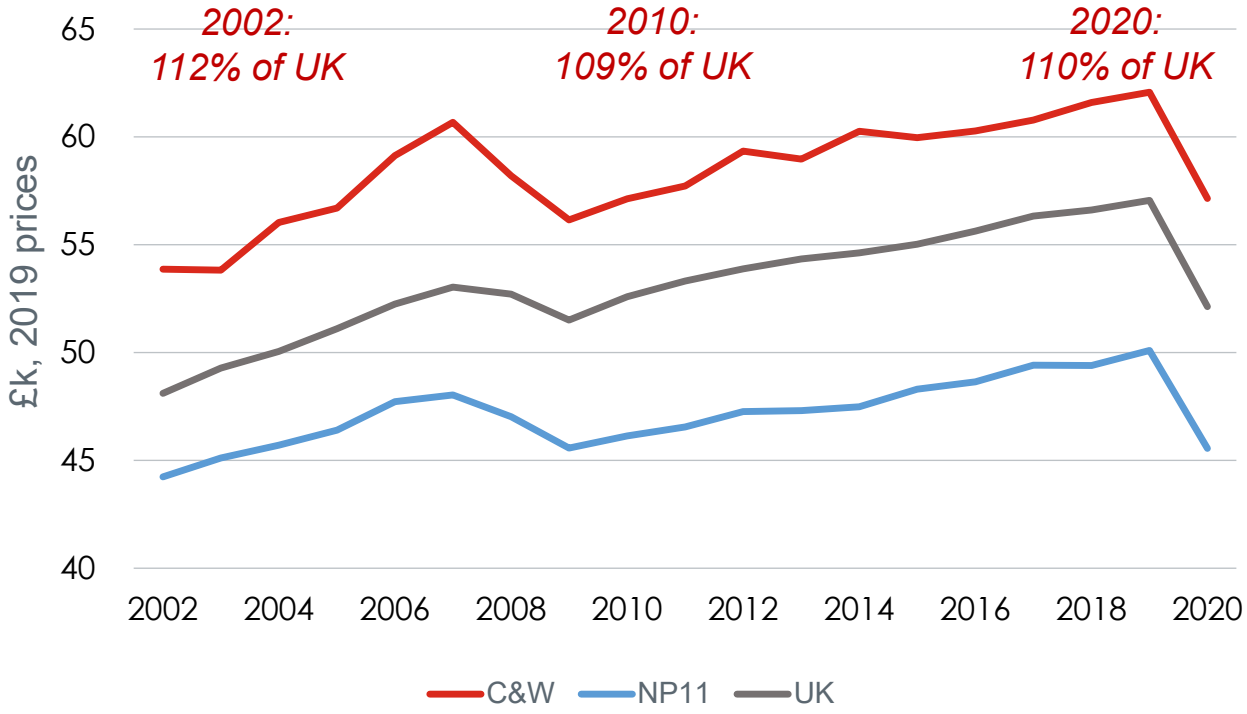
- Productivity is relatively high in Cheshire and Warrington., and the area's strong performance relative to the NP11 and national averages has been consistent over time (although with slightly slower productivity growth in recent years).

Overall GVA and productivity (2020)		
Total GVA	£31.28 bn	9.4% of NP11
GVA per filled job	£62.35 k	

GVA growth (CAGR, %)	C&W	NP11	UK
2008-2013	1.0	0.1	0.6
2014-2019	2.3	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	C&W	NP11	UK
2008-2013	0.3	0.1	0.6
2014-2019	0.6	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

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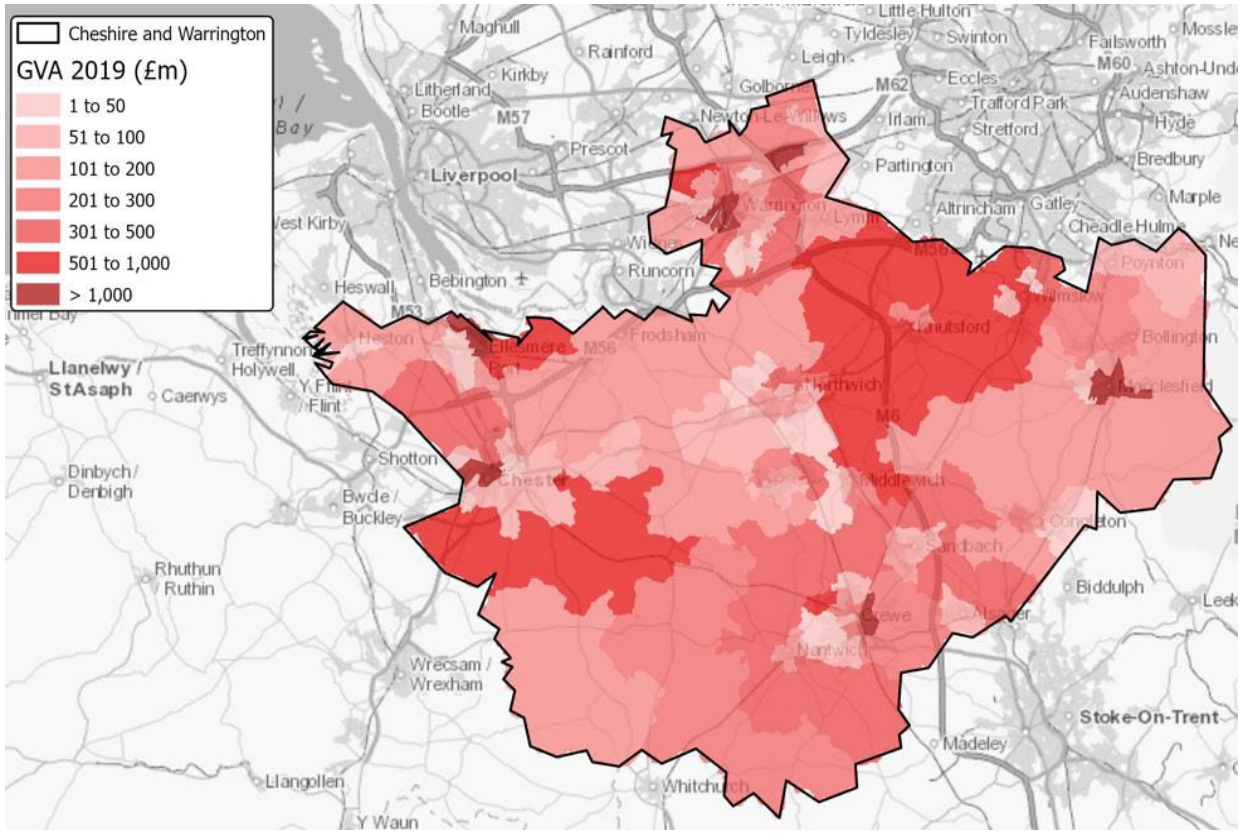
Economic profile: Concentrations of output

- Concentrations of output are quite widely dispersed across Cheshire and Warrington. Key concentrations include central Warrington and Chester, plus:
  - Birchwood Park at the junction of the M6 and M62 at Warrington, a major business park, with a number of firms (e.g., Rolls-Royce, Jacobs) focused on services to the nuclear industry
  - Ellesmere Port, including Stellantis, the oil refining and chemicals industry at Stanlow, neighbouring Thornton Science Park and the Protos decarbonisation hub
  - Chester Business Park, including several major financial services firms (e.g., Bank of America, M&S Bank, Old Mutual)
  - Crewe, including Crewe Business Park (Air Products & Chemicals and a range of manufacturing businesses and business services companies such as Radius) and Bentley Motors
  - Macclesfield, including AstraZeneca's major pharma manufacturing and packaging centre at Hurdsfield
  - Alderley Park, south of Wilmslow, the UK's largest single-site science park focused on the life sciences.
  - This illustrates the breadth of C&W's sectoral strengths, as well as the distribution of assets across the county, including in its smaller towns and rural and semi-rural locations.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

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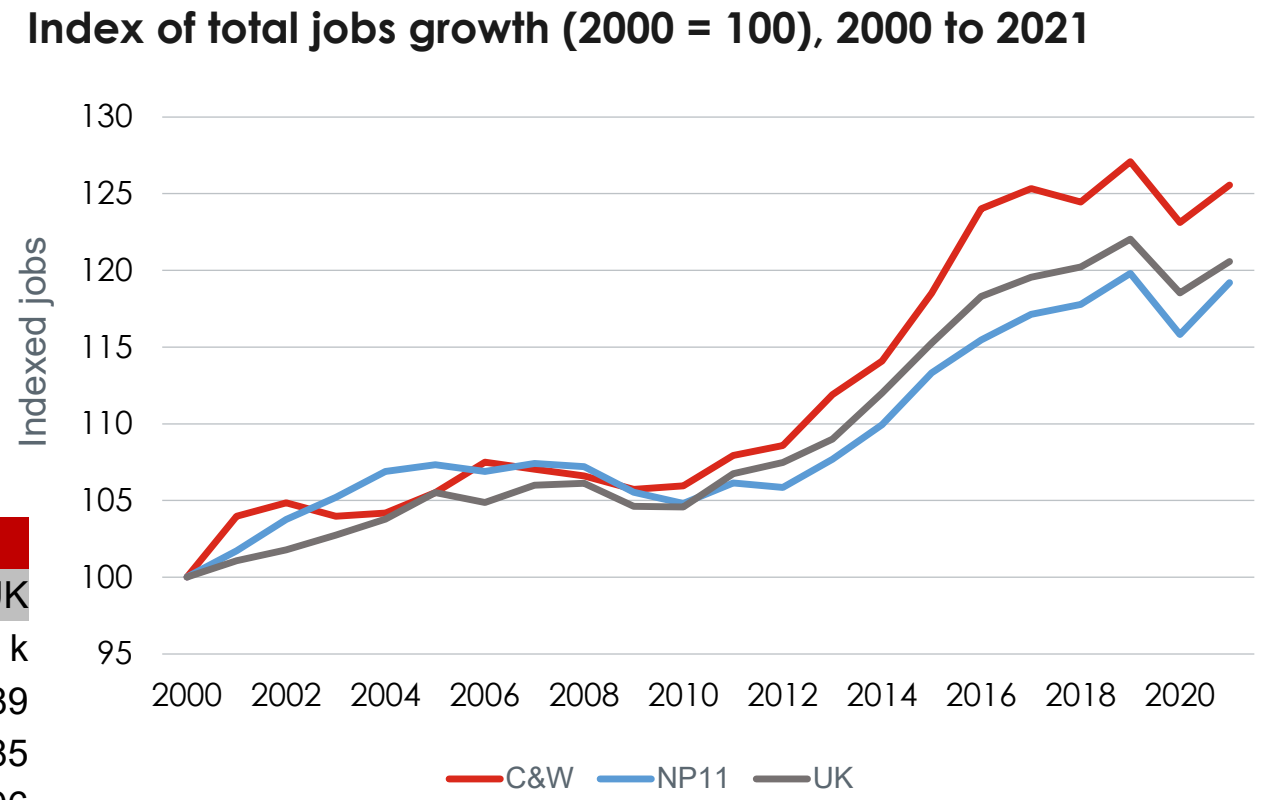
Economic profile: Jobs

- Cheshire & Warrington has a strong record of job creation. Since 2010, the number of jobs in C&W has grown substantially, and at a much faster rate than the NP11 and the UK.
- With a jobs density of 0.96, there are around the same number of jobs in C&W as working age residents; this is less true for the NP11 and UK. C&W also recorded the greatest increase in jobs density between 2000 and 2019, increasing by around twice that of the NP11 and the UK. This should also be seen in the context of slow growth in the working-age population.

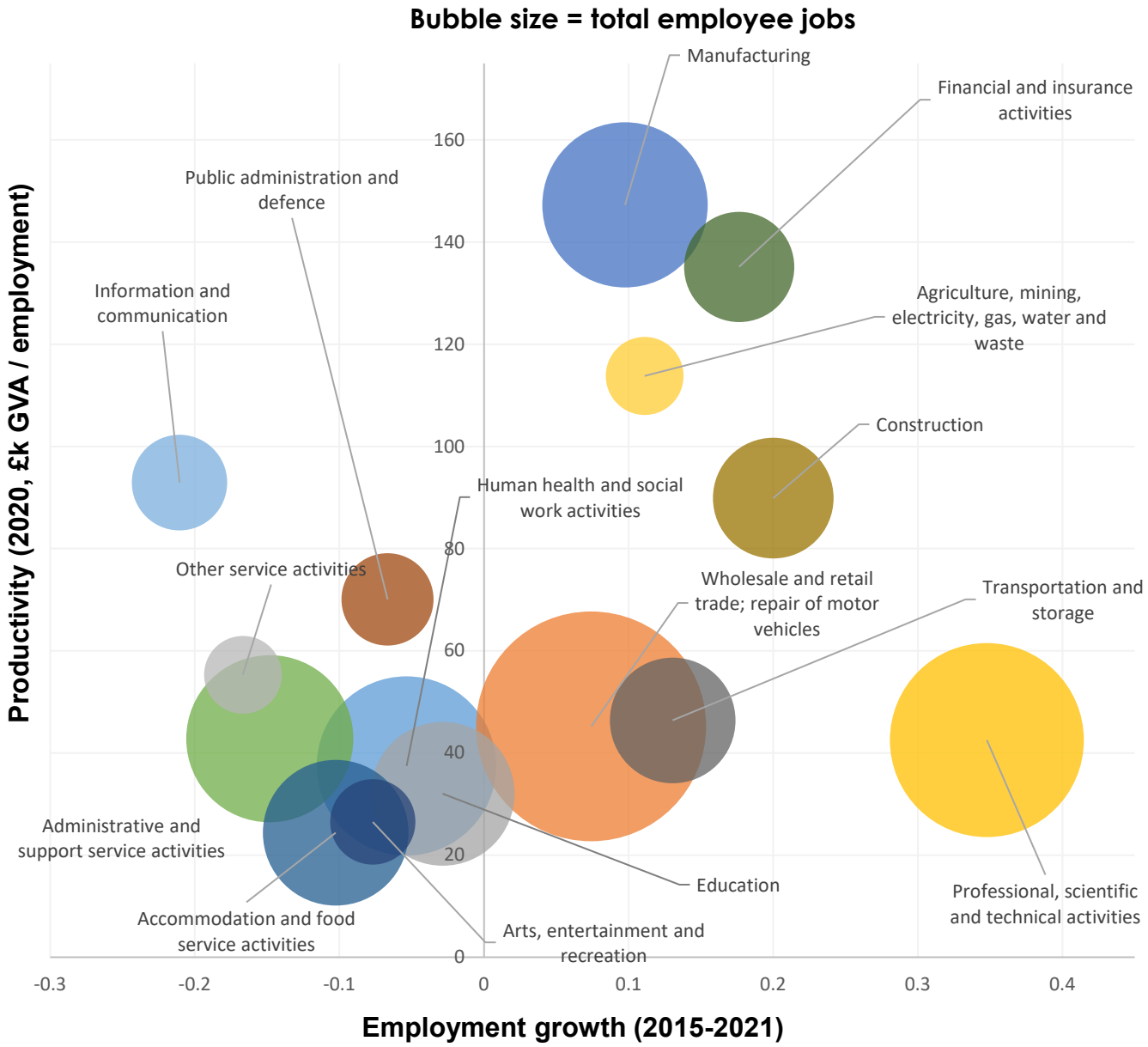
Jobs and jobs density			
	C&W	NP11	UK
Total jobs, 2021	570 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	1.09	0.84	0.89
Jobs density, 2021	0.96	0.81	0.85
Change in jobs density, 2000-2021	0.14	0.08	0.06



Source: ONS, Jobs Density

Economic profile: Sectors

- *Wholesale & retail; professional, scientific and technical;* and *Human health & social work* make up some of the largest employment sectors in C&W. *Wholesale* and *Professional* All have grown slightly since 2015, with GVA per employee around £40k.
- *Manufacturing* represents a highly productive and significant employment sector, generating nearly £150k GVA per employment.
- The *professional, scientific and technical activities sector* is one of the most significant and fastest growing sectors in the region, growing by around 35% between 2015-2021. *Financial and insurance activities* has also experienced high employment growth whilst also benefiting from high productivity.
- Others sectors have shrunk slightly in their employment, including the large *administrative & support service activities* and the productive *information and communication* sector.



Source: ONS, GVA (B) and BRES, SQW analysis

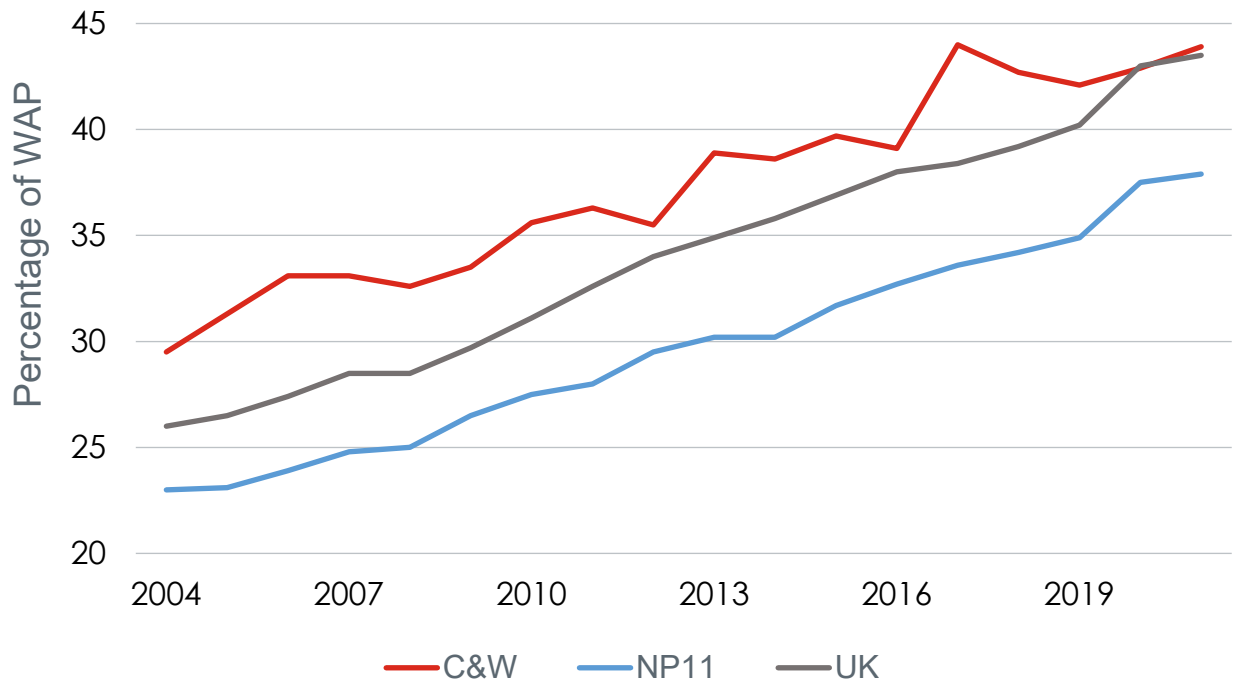
Economic profile: Workforce

- There is a higher proportion of working age residents qualified to NVQ4+ in C&W compared to the NP11 overall, and currently about the same as the UK level. The proportion of working-age population educated to NVQ4+ level increased by around 14 percentage point between 2004-2021, an increase similar to the NP11 more broadly.
- C&W also has a lower proportion of residents with no qualifications than the NP11 average (note, qualification levels partly reflect the age of the workforce).

% 16-64 qualified to…	C&W	NP11	UK
NVQ4+	43.0	36.6	42.4
NVQ3+	62.4	56.4	60.5
NVQ2+	81.3	75.4	77.3
NVQ1+	90.2	86.0	87.0
Other qualifications	4.2	6.0	6.1
No qualifications	5.6	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



Source: ONS, Annual Population Survey. The apparent fall in the proportion qualified to NVQ4+ at the end of the timeseries is probably due to sampling issues

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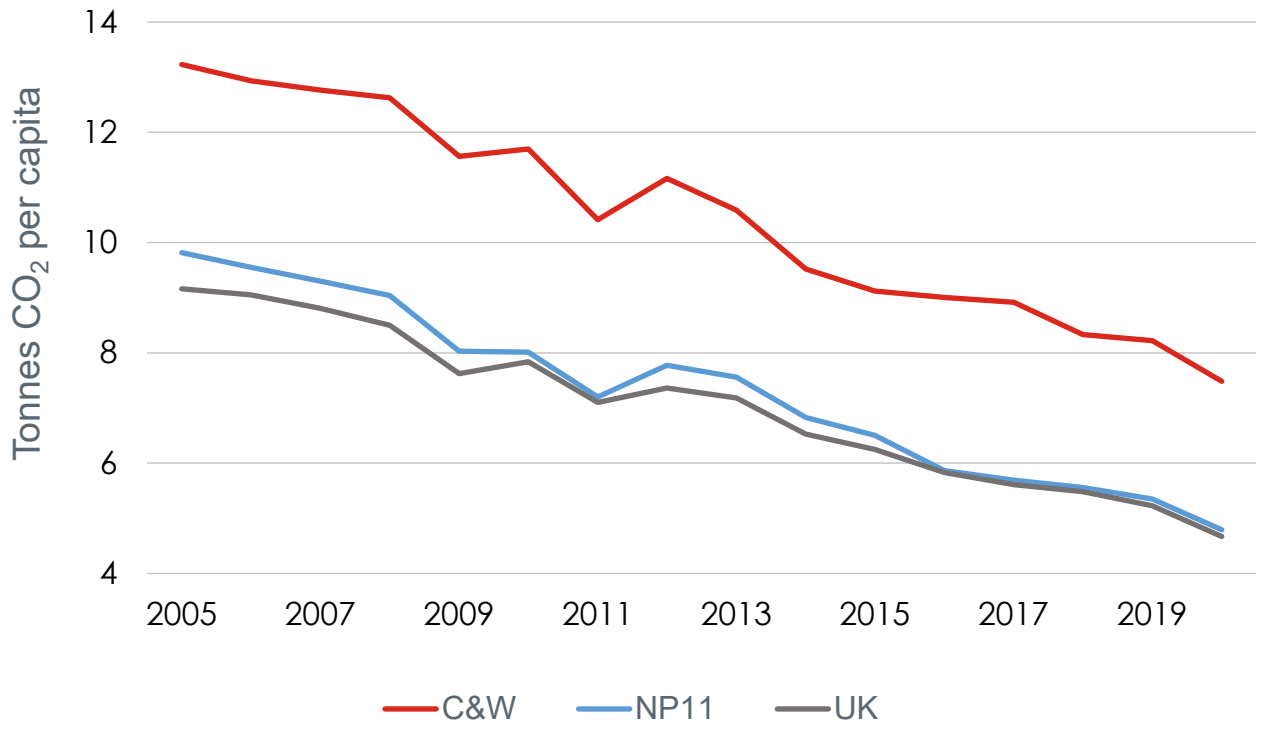
Economic profile: Carbon emissions

- C&W produces a high level of CO_2 emissions. In 2020, C&W produced almost 7.5 tonnes of CO_2 per capita compared to less than 5 tonnes per capita in the NP11 and the UK.
- Carbon emissions have declined steadily from 2005, following the national trend. However, linked with C&W's large manufacturing base, industry accounts for a relatively large share of total emissions (around 34% of the total, compared with 24% nationally).

Carbon emissions			
	C&W	NP11	UK
Total CO2 (kt, 2020)	7,034	73,000	313,159
Tonnes per capita	7.48	4.79	4.67
Tonnes per £m GVA	225	218	172

CO_2 emissions, tonnes per capita, 2005 to 2019



Source: BEIS, local authority territorial CO_2 emissions

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Economic profile: Businesses

- In 2021, Cheshire and Warrington had a relatively high business density, with just over 7,500 businesses per 100k working age population compared to around 5,900 in the NP11 overall. C&W also has higher number of business starts than the North as a whole (albeit below the UK average).
- The region is also home to almost 200 high growth firms, a greater proportion per 100k working age population compared to the NP11 and the UK.
- Data from Beauhurst tells a similar story. Beauhurst tracks 1.03% of all firms in C&W because they pass high-growth or innovation thresholds. This tracking rate of 1.03% of firms is higher than the 0.98% rate in the Northern Powerhouse and higher than the 0.97% rate for the UK minus London.

Business demography, 2021			
	C&W	NP11	UK
Total stock			
Total businesses	44,610	560,865	2,939,675
Business Starts	4,845	72,935	363,995
High growth firms	195	2,230	10,695
Business stock change, CAGR 2015-2020	1.2	1.8	1.6
Per 100,000 working age population			
Total businesses	7,515	5,910	8,257
Business Starts	816	768	1,022
High growth firms	32.9	23.5	30.0
Business stock change, CAGR 2015-2020	0.4	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- Cheshire and Warrington has a relatively large manufacturing sector, accounting for 21% of total GVA (although only 8% of employment, highlighting the sector's relatively high productivity).
- In the **automotive** sector, Stellantis operates the Vauxhall plant at Ellesmere Port. Last year, the future of the site was secured with the announcement of new investment to produce a new generation of electric vans, once production ceases on the current Vauxhall Astra model. Elsewhere in C&W, Bentley is headquartered and has its main manufacturing facility at Crewe, and has also announced new investment in the transition to electric vehicles (and is increasing solar energy generation at its site). Linked with the wider cluster of automotive activity in the wider region (especially in Liverpool City Region and Deeside), other automotive supply chain firms in C&W include Plastic Omnium at Warrington (which makes plastics for JLR at Halewood).
- In **precision instruments and metrology**, key manufacturers include Waters Corporation, which maintains an 'International Centre of Excellence for Mass Spectometry' at Wilmslow; and MKS Instruments at Crewe. Siemens produces variable speed drives for production lines at Congleton and (as with some of the automotive firms cited above) is investing substantially to achieve net zero by the end of 2022.
- Historically, **chemicals** have been an important sector in C&W., with key companies including Essar Oil at Stanlow, TATA Chemicals, and CF Fertilisers.
- There are also **very important advanced manufacturing assets just outside C&W's boundaries**. For example, Airbus employs about 6,000 people at Broughton, just inside Flintshire, but essentially part of Chester's functional economic area (and recently augmented by the establishment of the new Advanced Manufacturing Research Centre). In Halton, Sci-Tech Daresbury is a major science and innovation park, including the STFC Daresbury Laboratory (also relevant to the North West's advanced digital capabilities).

Contribution to the North's 'prime capabilities'

Energy

- In relation to **oil and fuels**, Stanlow is the UK's second largest oil refinery, and linked with adjacent petrochemicals operations cited on the previous page. Thornton Science Park is located next to Stanlow: historically, the campus had an important role in research into motor and aircraft fuels, and today incorporates an Energy Centre focused on biofuels and sustainable fuel research. C&W LEP has also supported the development of the Intelligent Energy Systems Demonstrator at Thornton Science Park.
- C&W's concentration of **energy-intensive industries** presents an important challenge and opportunity. The Cheshire Energy Hub industrial cluster represents industries in Cheshire (principally around Ellesmere Port) and Halton in the chemicals and refining sectors that account for around 5% of the UK's total energy use, with a major focus on the development of hydrogen and biogas production. A key growth location linked with this is the Protos energy hub (wind farm, energy from waste, plastics from hydrogen and extensive development land) being developed by Peel between Ellesmere Port and Frodsham.
- As well as Thornton Science Park, key assets include Urenco's Capenhurst Technology Park, north of Chester (which also hosts EA Technology (originally the Electricity Council Research Centre, which is a major provider of electricity network and distribution systems).
- In the **nuclear energy** industry, C&W has a long history of research and development dating back to the establishment of the UK Atomic Energy Authority in the 1950s. Currently, Birchwood Park near Warrington contains several assets, including the National Nuclear Laboratories and Areva.
- This combination of energy assets and Cheshire industrial cluster mean that C&W will play a central role in the development of the **HyNet North West** programme, linking hydrogen production opportunities at Ellesmere Port with future domestic and industrial user demand and storage potential. Furthermore, Cheshire East Council, in partnership with Storengy UK and Ansa Environmental Services, are delivering a three-year hydrogen project to pilot the single site production, storage and use of hydrogen for refuse vehicles. This includes delivering the first 'green' hydrogen refuelling station in the North West of England.

Contribution to the North's 'prime capabilities'

Health Innovation

- Cheshire and Warrington has established, nationally significant strengths in life sciences and pharmaceuticals. **Alderley Park** is the UK's "largest single-site life science campus", originally developed as AstraZeneca's global research and development facility. Since evolving into a multi-occupancy campus, Alderley Park accommodates 2,000 innovators across 60 established and 150 pre-start businesses, as well as the headquarters of the UK Medicines Discovery Catapult and a significant hub for Cancer Research UK. Major innovation programmes operating from Alderley Park include the Alderley Park Oncology Development Programme (funded by Cancer Research UK and Innovate UK), and there has been significant investment in new innovation facilities at Alderley Park, including the Glasshouse innovation centre (focused on digital tech), completed in 2020; and the Validation Centre of Excellence.
- Beyond Alderley Park, AstraZeneca's Hurdsfield site near Macclesfield is its second largest manufacturing plant globally and a major centre for advanced packaging and distribution. Other major health and life science firms include Advanced Medical Solutions at Winsford (surgical and wound products); Sanofi at Holmes Chapel (inhalation and sprays); and Dechra (veterinary medicine) at Northwich.
- As in manufacturing and energy, connections between C&W and its neighbouring areas are important. For example, investment through the UKRI Strength in Places Fund into a new Anti-Microbial Resistance Centre based at Alderley Park is being delivered through a consortium led by Liverpool School of Tropical Medicine and involving *(inter alia)* the University of Liverpool and Royal Liverpool and Broadgreen University Hospitals Trust. The campus also has very strong links with the rapidly expanding life sciences cluster in central Manchester.
- In relation to medical teaching and research, Chester Medical School will launch shortly as one of the 'next generation' of medical schools, increasing the supply of qualified medical staff into the NHS. There is also Apollo Buckingham Health Science Campus in Crewe, a public/private partnership of health care providers and educators working together to address current and future needs of the UK health sector.

Contribution to the North's 'prime capabilities'

Digital

- C&W's digital capabilities are largely 'cross-cutting', in relation to its established strengths in advanced manufacturing, process industries and life sciences, the future of which is fundamentally 'digital'. Supporting these, SFTC Daresbury (just outside C&W, within Halton) is a nationally-significant centre for advanced research in digital technology, and includes the Hartree Centre, providing collaborative research, innovation and development services that accelerate the adoption and application of high-performance computing (HPC), big data analytics and cognitive technologies in UK industry.
- The software and digital applications sector is less cited in local strategy, although there are examples of growing locally-based firms that have gained wider recognition (e.g., AeroCloud Systems based in Macclesfield, which provides IT solutions to the aviation sector and was recently identified as a TechNation 'rising star' and PortSwigger at Knutsford, a rapidly expanding cyber security firm).
- In fintech, The Barclays Technology Campus at Radbrook Hall, is bank's transatlantic tech command centre and one of the largest centres for information security in the UK. The 64-acre campus employs 3,500 technologists.
- Locally, there are several initiatives to promote digital adoption and skills. These include plans for a Digital Enterprise Hub as part of both Warrington's and Crewe's Towns Fund programmes, and proposals to ensure that businesses can access cutting edge equipment to develop the skills needed for the future. Other initiatives include the Made.Digital project (which will support 9,000 young people to learn how to use technology and develop important coding skills for the modern digital economy); the Widening Access to Technology and Digital Skills (STREAM) project which will raise awareness of digital skills and facilitate access to technology and opportunities; and the Digital Cheshire programme which offers fully funded help, advice and guidance to eligible SMEs looking to maximise the use of their connectivity and adopt new digital ways of working.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• With over 5,000 VAT-registered businesses, employing nearly 70,000 people, the Financial and Business Services sector in Cheshire and Warrington is significant in terms of employment and GVA. It covers a range of activities including banking, credit, insurance and pension funding, wealth management, legal and accounting, including Assurant, Barclays, Lloyds Bank, M&S Bank and Royal London. Sub-regional strengths are found in Cheshire West & Chester (and increasingly in Cheshire East), with a Financial and insurance location quotient of 1.31 and a business administration and support services location quotient of 1.77 (2018).
Logistics	• Cheshire and Warrington is a major logistics hub. A large employer with 29,000 jobs, logistics and distribution has experienced high employment and business growth in recent years. This is in part due to the development of OMEGA, on the M6/M62 interchange with companies such as Brakes, Hermes and ASDA based there. Other large companies in the area include Eddie Stobart, Great Bear Distribution and Carrier Transicold. Freightliner Rail UK also has a depot in Crewe. In the coming years, Cheshire and Warrington will see major planned rail infrastructure investment via HS2 with particular opportunities for rail freight. • C&W will also benefit from the expansion of the Port of Liverpool and the development of improved port facilities along the Manchester Ship Canal.
Education	• The University of Chester (which also had a Warrington campus) provides higher education for the region including the university's Faculty of Science and Engineering. The faculty has a specialism in Energy Security and Innovation Observing System for the Subsurface (ESIOS), funded by the British Geological Society and the National Environmental Research Council. • Reaseheath College is one of the leading specialist land-based colleges in the UK with almost 4,000 students in Further Education, Higher Education, Apprenticeships and work-based learning. Facilities include an industry-backed £7 million Food Innovation Centre, National Centre for Horticulture, the Environment and Sustainable Technology and a LEP-supported Advanced Agricultural Engineering Academy. There are also university technical colleges in Crewe and Warrington, and C&W won the £120m Institute of Technology Competition which will be led by Cheshire College.

Economic strategy and direction

- Cheshire and Warrington LEP adopted its updated Strategic Economic Plan in 2018. More recently, CWLEP adopted its Recovery Plan, *Building a Better Future Together*, in 2021.
- The economic analysis supporting the SEP is closely aligned to the 2016 Northern Powerhouse Independent Economic Review, highlighting C&W's strengths in relation to the prime capabilities that the NPIER identified (with an additional sectoral focus on logistics and distribution, and agri-tech and food). Spatially, the SEP highlights four areas of growth:
  - Cheshire Science Corridor, extending from Ellesmere Port through to Alderley Park (and encompassing the key growth points (e.g., Thornton Science Park, Sci-Tech Daresbury, Protos and Birchwood) across the north of C&W)
  - The Mersey-Dee axis, linking Chester, Ellesmere Port and Flintshire (including the major manufacturing centre on Deeside)
  - The development of Crewe and surrounding towns, linking through to North Staffordshire
  - 'Warrington New City', supporting substantial expansion
- This spatial description of C&W's priorities highlights the importance of links beyond the area, and the dependencies between C&W and its neighbours, within a well-connected and densely populated region.
- In terms of thematic priorities, the SEP highlights transport and connectivity; skills and education (especially the mismatch between employer demand and supply, which is essentially a universal issue across the UK); placemaking and quality of life; improving infrastructure (especially relating to ensuring a pipeline of housing and employment sites); supporting science and innovation; enabling housing growth; and supporting businesses to grow)
- The 2021 Recovery Plan has a somewhat different emphasis, in the light of the pandemic, emphasising a *"healthy, sustainable, inclusive and growing"* recovery. It reinforces some of C&W's established strengths (e.g. decarbonising the industrial cluster around Ellesmere Port, and becoming a world leader in nuclear, within the context of a refocused commitment to 'inclusive growth'. This has been supplemented more recently through the work of the Cheshire and Warrington Sustainable Growth Commission.

Strategy and evidence bibliography

- Cheshire & Warrington LEP, Strategic Economic Plan, 2018
- Cheshire & Warrington LEP, Developing the Cheshire and Warrington Local Industrial Strategy - Evidence and Insight Summary, March 2019
- Cheshire & Warrington LEP, Building a Better Future Together: Supporting Recovery in Cheshire and Warrington, 2021
- Cheshire & Warrington LEP, Annual Review 2021/22, 2022
- Cheshire & Warrington LEP, Delivery Plan 2022/23, June 2022

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Cumbria

May 2022 | Updated March 2023

Introduction

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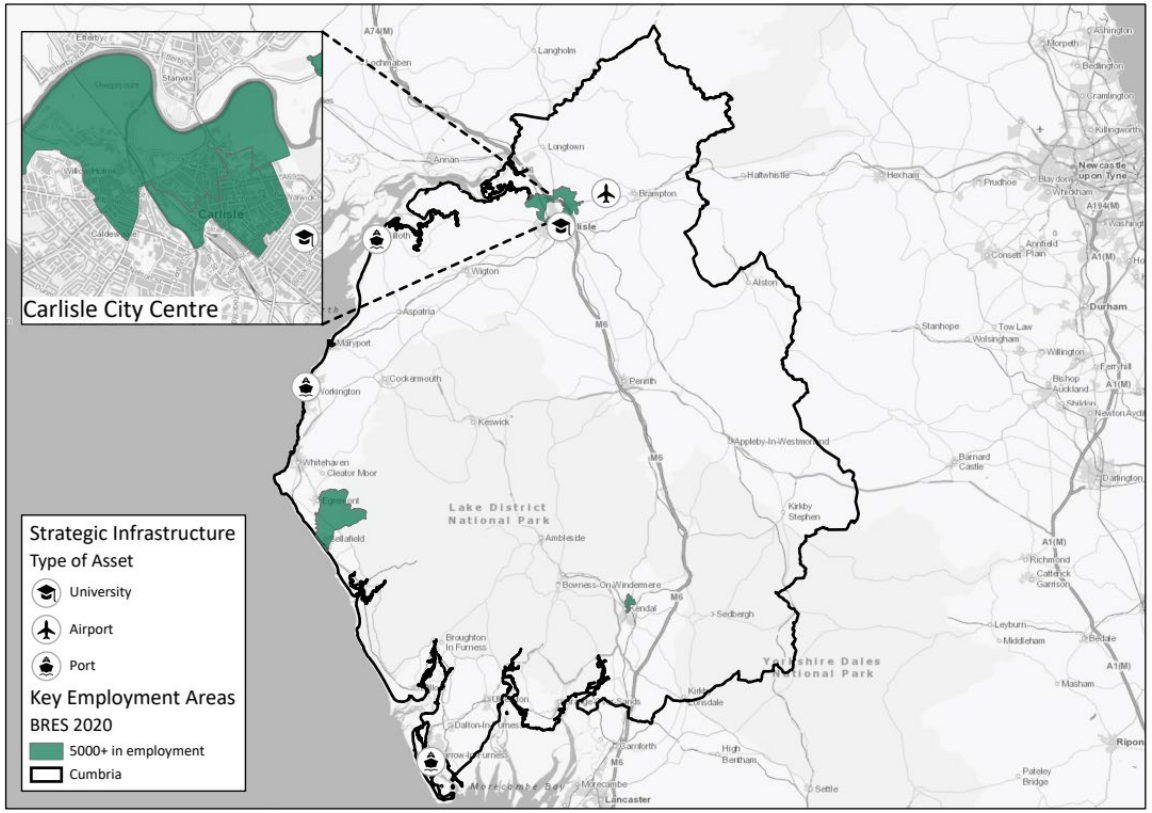
- This paper presents the area profile for Cumbria, drawing on nationally-available data, as well as the analysis contained in Cumbria's *Local Industrial Strategy*, supporting evidence base and related documents referenced at the end of this document.

Cumbria: Overview

- Cumbria is a large, polycentric, dispersed and predominantly rural county. Following local government reorganisation, it is (from April 2023) covered by two local authorities: Cumberland and Westmorland & Furness.
- The county benefits from a superb natural environment, with the Lake District National Park covering around 35% of the land area. The largest settlement is Carlisle; other major settlements include Carlisle, Barrow, Kendal, Penrith, Whitehaven and Workington, with a number of smaller rural market towns.
- Scale and distance mean that economically, parts of Cumbria are quite distinct from each other. However, there are distinctive sectoral strengths in nuclear energy, advanced manufacturing and engineering (especially defence-related), food manufacturing and land-based industries. There is also a very important visitor economy, linked with Cumbria's impressive natural assets.
- In infrastructure terms, the M6 and West Coast Main Line link Cumbria with Scotland and the rest of Northwest England; with the A66 and A69 providing important east-west links. Connections within the county include the Cumbrian Coast and Lakes rail lines, but can be challenging, reflecting the dispersed rural settlement pattern.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

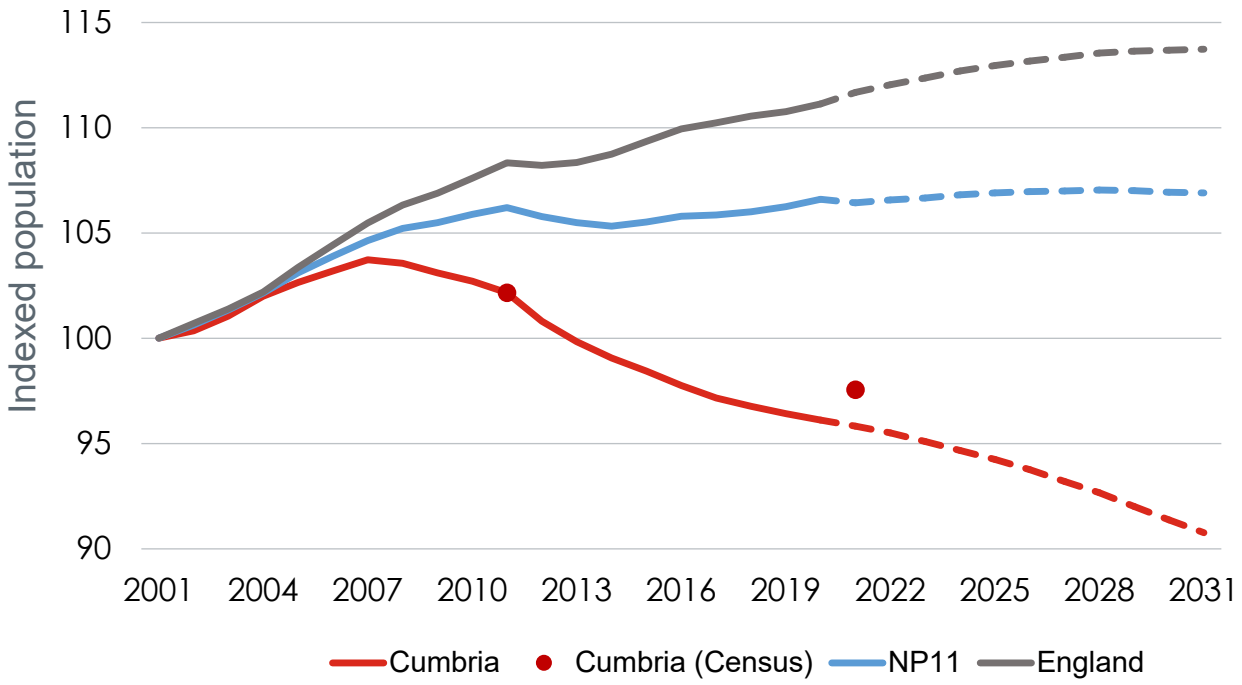
- Since 2001, Cumbria has seen much slower population growth than in England as a whole, and this is projected to continue. The area's working age population fell by 4.2% over 2001-2021 and is projected to decline by a further 4.4% between 2022 and 2031:

Population 2021	
Total	500,800
Aged 16 to 64	298,900

Historic population growth (2001-2021), %	Cumbria	NP11	England
All Ages	2.5	9.4	15.2
Aged 16 to 64	-4.2	6.4	11.7

Forecast population growth (2022-2031), %	Cumbria	NP11	England
All Ages	-0.1	3.0	4.3
Aged 16 to 64	-4.4	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base)
Note that 'NP11' refers to the combined 11 LEP/CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

Economic profile: Scale and productivity

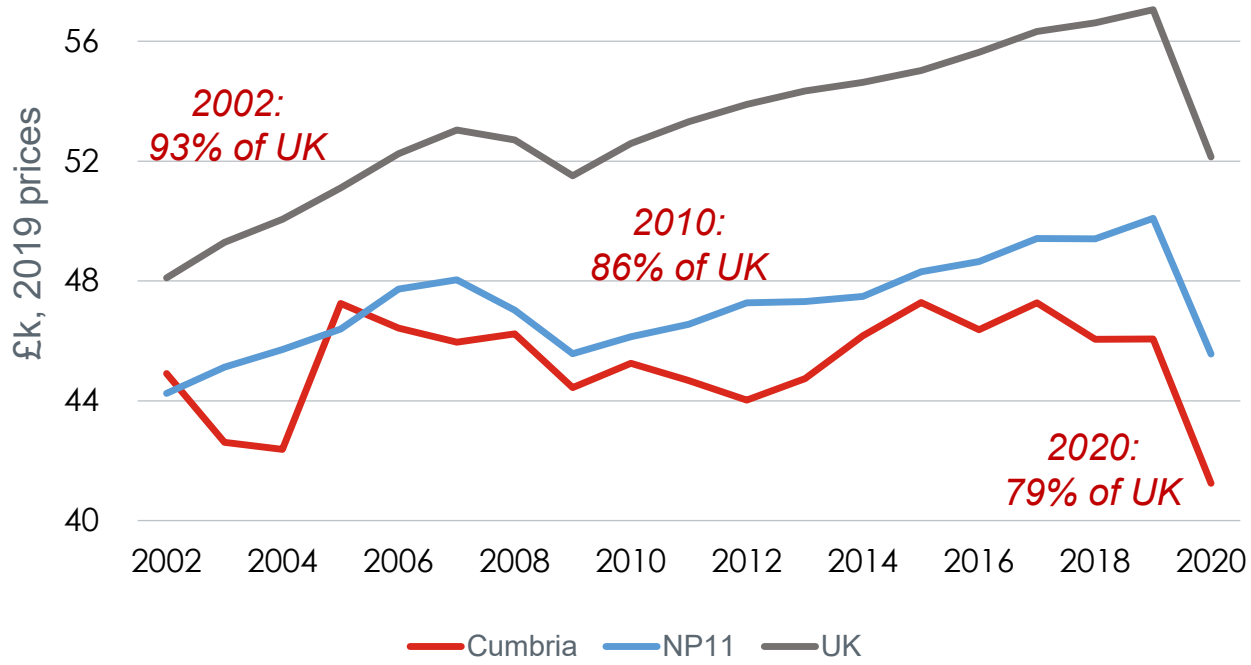
- The 'productivity gap' with the rest of the UK narrowed somewhat in the 2000s, but it widened subsequently, with negative productivity growth in recent years. This is partly due to Cumbria's sectoral mix, but there is also evidence of below-average productivity *within* sectors, especially in private sector services and digital/creative (Cumbria LIS Evidence Base, 2019).

Overall GVA and productivity (2020)		
Total GVA	£10.95 bn	3.3% of NP11
GVA per filled job	£45.95 k	

GVA growth (CAGR, %)	Cumbria	NP11	UK
2008-2013	-0.1	0.1	0.6
2014-2019	0.4	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	Cumbria	NP11	UK
2008-2013	-0.7	0.1	0.6
2014-2019	0.0	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis. Note that we have used GVA per filled job as the measure of productivity, for consistency with the other NP11 profiles, although GVA per hour worked may be a more useful measure given the prevalence of part-time working, especially in the visitor economy.

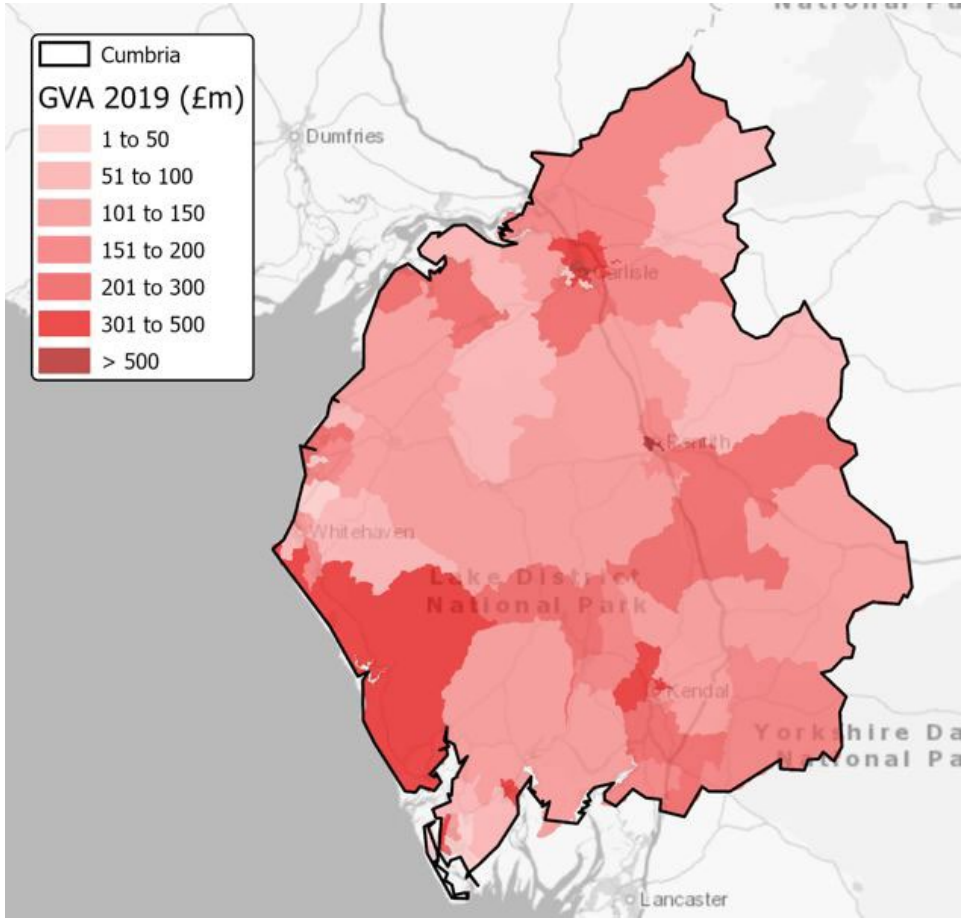
SQW

Economic profile: Concentrations of output

- In 2019, there were local concentrations of output around the urban areas of Carlisle, Barrow-in Furness (especially linked with the town's large defence industry), Penrith and Kendal.

- The county's economic output was also concentrated along the Irish Sea coast, home to important nuclear sector assets (such as Sellafield and the Drigg nuclear waste repository) and Whitehaven; and to a lesser extent around Workington.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)
Note: More recent data for 2020 available at the time of update not used here due to impact of pandemic on data

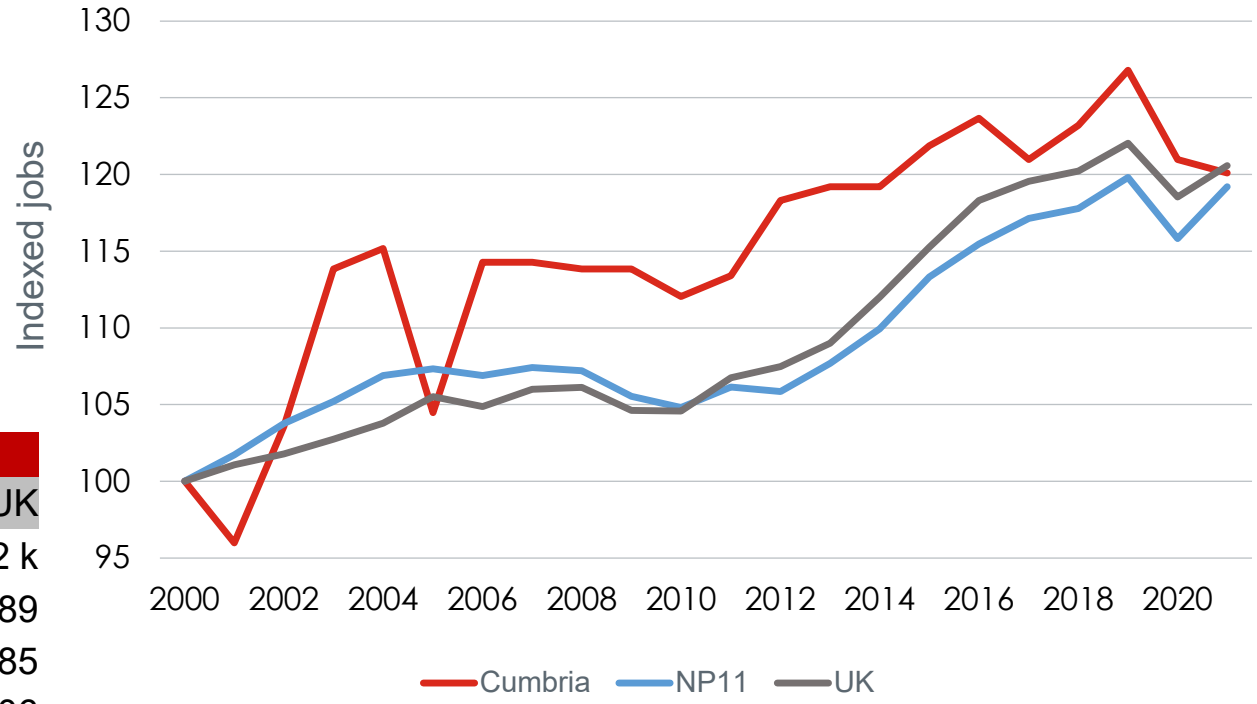
Economic profile: Jobs

- Cumbria has a generally strong labour market, with jobs numbers remaining on an upward trajectory and jobs growth well above the NP11 and UK averages throughout most of the 2000s and 2010s.
- Jobs density (the number of jobs per working age resident) increased by 0.17 between 2000 and 2021 to reach 0.90. This high jobs density reflects distances travelled to employment opportunities beyond the county and the existence of very small travel to work areas. The increasing density should be seen in the context of a contraction in the 'working age' population over time.

Jobs and jobs density

	Cumbria	NP11	UK
Total jobs, 2021	269 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.88	0.84	0.89
Jobs density, 2021	0.90	0.81	0.85
Change in jobs density, 2000-2021	0.17	0.08	0.06

Index of total jobs growth (2000 = 100), 2000 to 2021

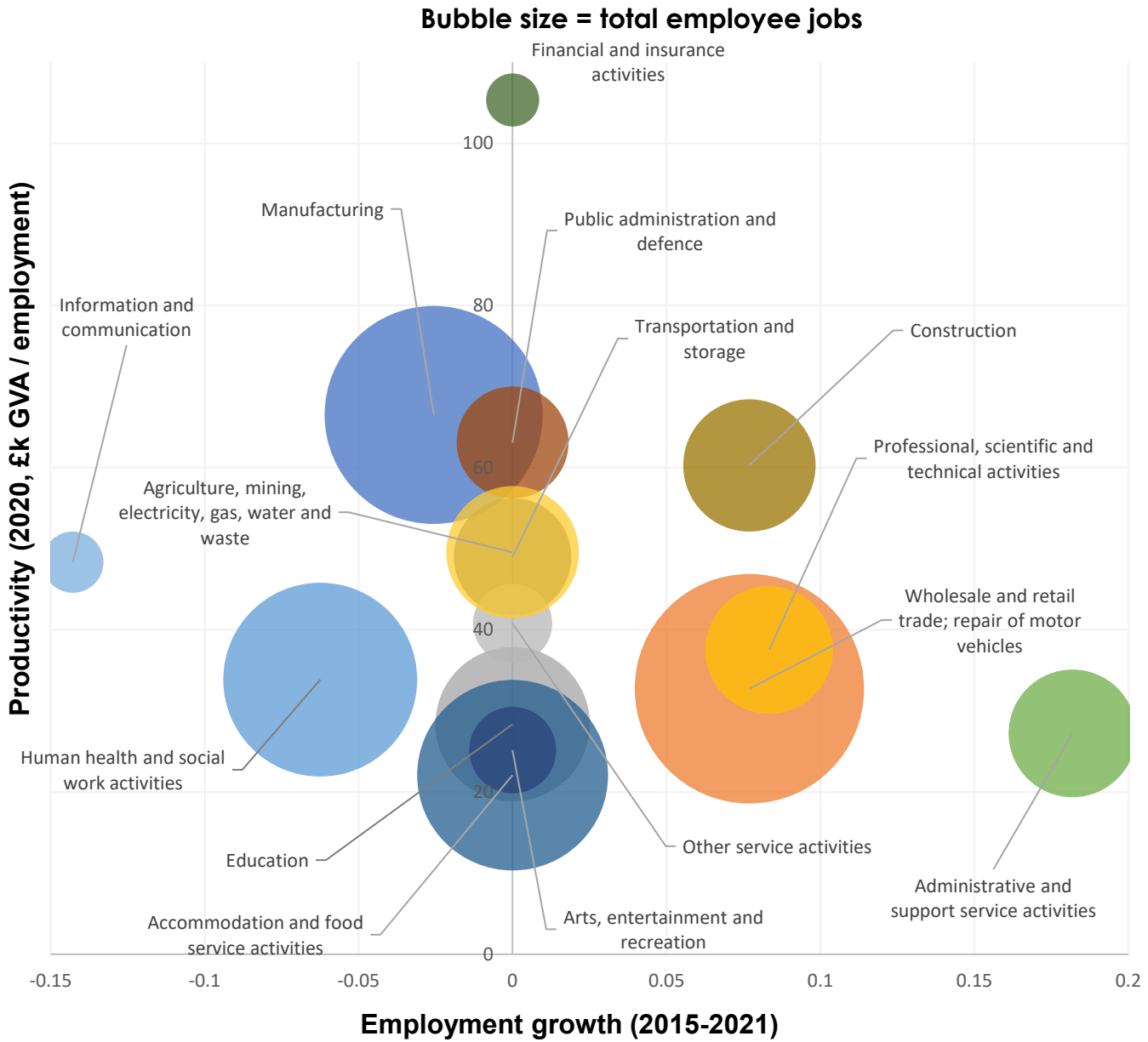


Source: ONS, Jobs Density

SQW

Economic profile: Sectors

- *Manufacturing* is one of Cumbria's largest sectors (in jobs terms) and the second most productive one, contributing c. £65k per employment. Its employment concentration and productivity are also above the national average (with location quotients of 2.1 and 2.2 respectively). Employment in the sector declined by 2.5% from 2015-2021.
- *Wholesale and retail trade; repair of motor vehicles*, and *human health and social work* are some of the largest sectors in the county, with GVA per employment of c. £32-33k. The former saw positive employment growth, while the latter decreased between 2015-2021.
- Owing to its natural assets, Cumbria has a comparatively large *agriculture, mining, electricity, gas, water and waste* sector (employment LQ of 3.2), contributing c. £45k per employment.
- Similarly, the *accommodation and food services* sector has an above-average employment concentration (LQ of 1.5) and above-average productivity relative to the sector's productivity nationally (LQ of 1.75). However, the sector saw a fall in employment between 2015-2021.



Source: ONS, GVA (B) and BRES, SQW analysis

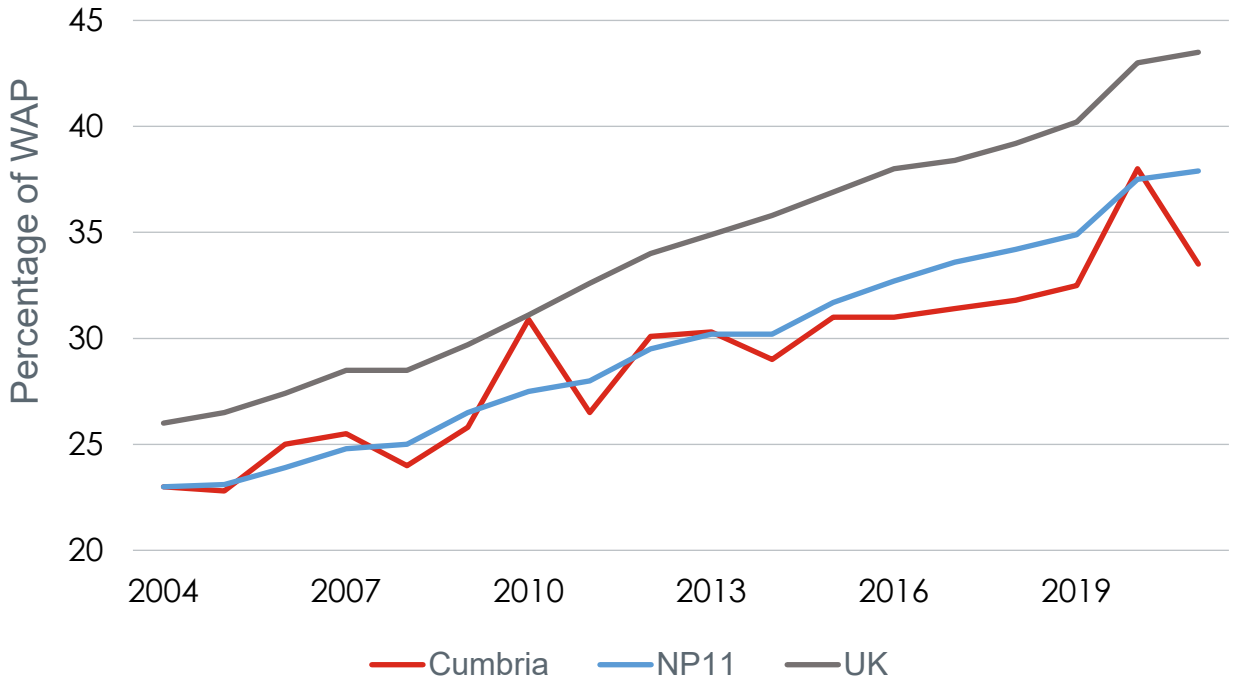
Economic profile: Workforce

- The absolute numbers of people qualified to NVQ4 is very low and geographically dispersed. Whilst the proportion of Cumbria's workforce with high-level qualifications has increased considerably since 2004 (from 23% to 38% in 2020), a significant gap remains on the UK average. Its NVQ profile is, however, close to the NP11 average.
- The LIS Evidence Base also reports relatively low rates of young people staying on in higher education.

% 16-64 qualified to…	Cumbria	NP11	UK
NVQ4+	34.7	36.6	42.4
NVQ3+	56.4	56.4	60.5
NVQ2+	75.9	75.4	77.3
NVQ1+	90.1	86.0	87.0
Other qualifications	4.5	6.0	6.1
No qualifications	5.4	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



Source: ONS, Annual Population Survey
Note: Annual variations in this data can be misleading due to the high margin of error for Cumbria due to small sample sizes, typically +/-5% or more

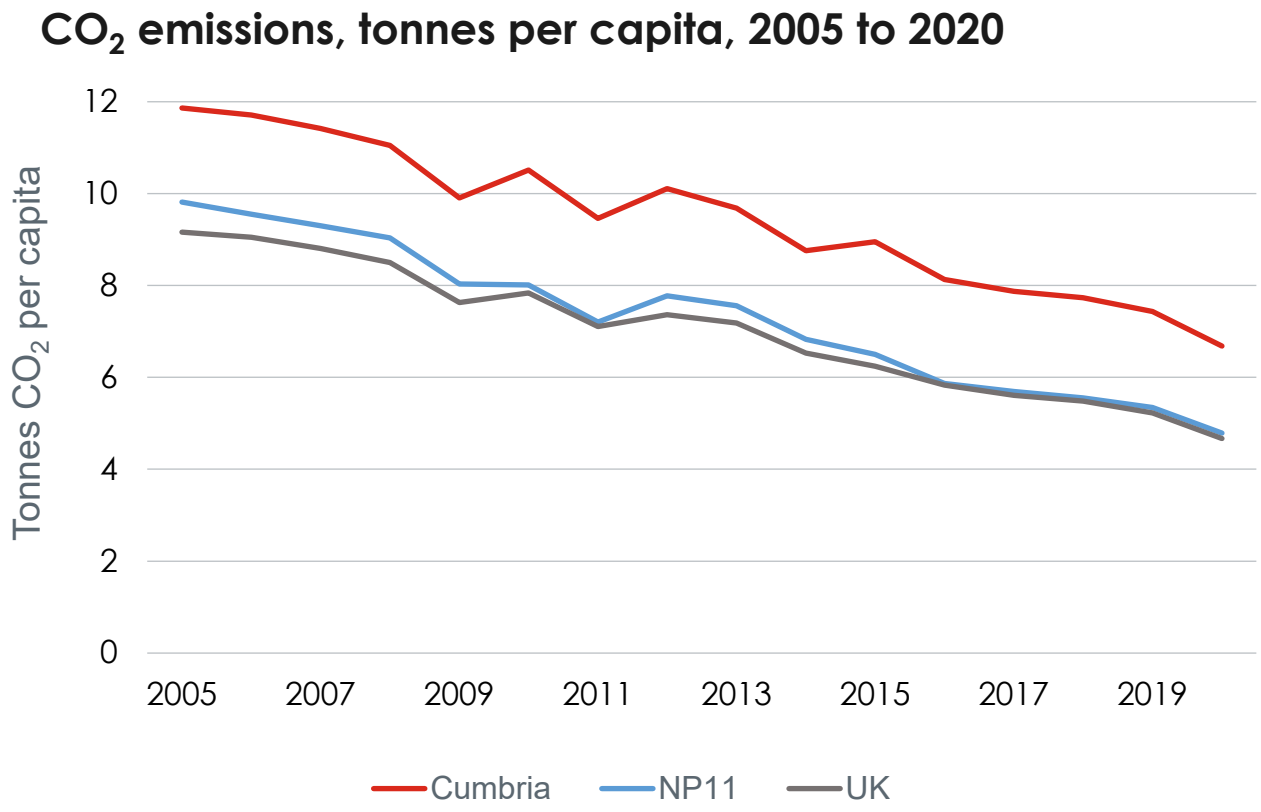
SQW

Economic profile: Carbon emissions

- Cumbria's carbon emissions per capita have fallen by 44% since 2005. They have remained, however, 2-3 tonnes per person above the NP11 and UK averages.

- Similarly, at 305 tonnes per £m GVA, Cumbria has an above-average carbon intensity. This likely reflects the footprint of the county's large manufacturing sector: industrial emissions accounted for 32% of total emissions in 2019 (compared with 24% nationally). However, industry accounts for much of the carbon saving over time: industrial emissions fell by 52% between 2005 and 2020.

Carbon emissions			
	Cumbria	NP11	UK
Total CO2 (kt, 2020)	3,338	73,000	313,159
Tonnes per capita	6.68	4.79	4.67
Tonnes per £m GVA	305	218	172



Source: BEIS, local authority territorial CO2 emissions

SQW

Economic profile: Businesses

- The business profile paints a mixed picture. In 2021, Cumbria had a somewhat larger business stock when adjusted for the population than the NP11 overall. But start-up rates are lower than the national and NP11 averages, and the overall stock fell in 2015-21. Generally, business densities are higher in those parts of the county with visitor- and rural-oriented economies (e.g. Eden) and lower in those with more industrial profiles (e.g. Barrow). Survival rates are generally higher than the UK average.
- In 2021, Cumbria was home to c. 75 high-growth firms, or 25.1 high-growth firms per 100,000 working-age population. This is slightly above the NP11 average (23.5) but below the UK-wide figure (30.0).
- A slightly different picture is offered by the business intelligence firm Beauhurst. According to the ONS, the Cumbria LEP area has 19.7k firms*, of which Beauhurst tracks 105 in the area because they pass high-growth or innovation thresholds. This tracking rate of 0.53% of firms is lower than the 0.98% rate in the NP11 and the 1.15% rate for the UK as a whole.

Business demography, 2021			
	Cumbria	NP11	UK
Total stock			
Total businesses	19,735*	560,865	2,939,675
Business Starts	1,815	72,935	363,995
High growth firms	75	2,230	10,695
Business stock change, CAGR 2015-2021	-0.3	1.8	1.6
Per 100,000 working age population			
Total businesses	6,603	5,910	8,257
Business Starts	607	768	1,022
High growth firms	25.1	23.5	30.0
Business stock change, CAGR 2015-2021	-0.2	1.6	1.2

Source: ONS, Business Demography, 2021
Note: Alternative ONS data 'UK business: activity, size and location' puts the number of businesses in Cumbria at 23,385 (2021 edition) due to methodological differences

SQW

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- Cumbria has a relatively large manufacturing sector, accounting for 23% of the county's GVA and 16% of employment, with employment especially concentrated in Copeland and Barrow-in-Furness.
- In **defence-related manufacturing,** Barrow is a major centre for advanced shipbuilding, submarine and sub-sea technologies. Cumbria hosts the development of the UK's replacement deterrent nuclear submarine fleet, the Dreadnought programme, delivered by BAE Systems. The company provides c.10,000 jobs at the site, with further expansion expected for the next generation of submarines and the recent AUKUS deal.
- Barrow is also home to a cluster of firms specialising in **technology for the offshore sector**, including Tritech and Siemens Sub-Sea and the locally-based James Fisher & Sons.
- In **advanced engineering robotics and AI**, the region is home to key firms including React Engineering, Barrnon Nuclear Limited, Createc and Rovtech Solutions Limited.
- **Food manufacturing** includes Nestle at Carlisle, 2 Sisters and McVities, as well as a large number of specialist local firms. Cumbria LEP's *Internationalisation Strategy* links food and packaging into a combined sectoral capability.
- **Other advanced manufacturing expertise** includes high technology paper (James Cropper, near Kendal), innovative plastics and packaging (Innovia, Futamora and CCL all at Wigton), and specialist lighting technology (Marl, Oxley and Forge Europa all at Ulverston). The county benefits from a longstanding presence of manufacturing multi-nationals (BAE Systems, Iggesund, Kimberley Clark, Nestle, the Oxley Group, Pirelli).
- BAE Systems and the University of Cumbria are working in partnership to establish **Barrow as a Centre of Excellence for Advanced Manufacturing education & skills**. This includes the recently approved university campus (Barrow Learning Quarter), with funding from the Towns Deal, that will undertake collaborative R&D and offer degrees in advanced manufacturing, digital and smart manufacturing, and business.
- The **Advanced Manufacturing Centres** at Furness and Carlisle Colleges offer state-of-the art training facilities and access to high-tech equipment. Furthermore, the **University of Cumbria** is increasingly supporting the sector through its growing work in project management, leadership and more recently its emerging activity around supply chain, logistics and procurement, working with multi-nationals and their supply chains. This activity includes early careers, apprenticeships, upskilling and reskilling activities.

Contribution to the North's 'prime capabilities'

Energy (i)

- **Cumbria has a strong innovation base in the nuclear sector and its supply chain**. In Copeland alone, 20,000 people work in the nuclear sphere. The county has nuclear licensed sites and adjacent land assets with an unrivalled track record in nuclear site license and facility asset management. It is home to key nuclear businesses (Sellafield, James Fisher Nuclear, Ansaldo Nuclear, the Wood Group, React Engineering) and benefits from the largest concentration of nuclear skills in the UK as well as one of the world's major concentrations of civil nuclear expertise, especially in decommissioning, waste management and environmental clean-up. Cumbria's nuclear expertise is integrated closely with other parts of the North West and the UK more widely (e.g. Harwell).
- The civil nuclear sector accounts for around 15,700 direct jobs, as well as at least 400 firms and 8,000 jobs in its supply chain. This is equivalent to 24% of the UK's direct employment in the sector and 31% of the UK's nuclear jobs (both direct and supply chain). The economic impact of Sellafield alone amounts to a £1.3bn contribution to the Cumbrian economy and 24,000 supported jobs.
- The county's main nuclear research and innovation assets include the NNL Central Laboratory at Sellafield, the Deep Test Pit Facility at Ansaldo Nuclear, the NNL Workington Laboratory (where there are ambitious plans to create a new innovation campus), the University of Manchester's Dalton Cumbrian Facility (the largest single nuclear research institution in the UK), and the new Robotics and AI Collaboration Laboratory (RAICo1) at Whitehaven (a collaborative hub to develop the technology needed to decommission Sellafield and other similar sites). Cumbria is also home to specialist skills facilities for the nuclear sector (National Nuclear College), the Project Academy (collaboration between Sellafield and the University of Cumbria) which supports the development of project delivery skills and the 30-hectare Westlakes Science Park focused on nuclear technology.
- The Moorside site in Copeland is designated in the National Policy Statement for large scale (greater than 1GW) nuclear new build post-2025.
- In 2020, Cumbria LEP adopted the *Cumbria Nuclear Prospectus*, setting out plans for further investment in the sector to support the UK's net zero imperative. This includes a proposal for a Clean Energy Park, linking electricity generation with Cumbria's major industrial users, especially in the defence manufacturing sector.

Contribution to the North's 'prime capabilities'

Energy (ii)

- Including, but extending beyond, Cumbria's nuclear potential, the **Clean Energy Strategy** published in July 2022 sets out opportunities in onshore and offshore renewables, as well as in hydrogen production.
- Ambitious plans are progressing to establish the Industrial Solutions Hub. (ISH) at Cleator Moor. ISH aims to facilitate economic clustering in West Cumbria in order to diversify the economy and grow export opportunities based on commercialising capabilities developed at Sellafield, thus reducing dependence on one dominant industry/customer and maximising the value to the economy of the multibillion investment at Sellafield.
- Beyond the nuclear sector, **Cumbria is a major player in the UK's renewable energy generation**. The county's coast is home to over 20% of the UK's wind farm generation capacity, with five major offshore wind farms in the Irish Sea, including Walney Extension – one of the largest offshore wind farms in the world. Cumbria is also one of the country's most important locations for small and mini-hydro generation schemes, accounting for 25% of England's installed non-domestic capacity on the Feed-in Tariff. The county is home to businesses involved in the cutting edge of green technologies, including Gilkes Energy – world-leaders in designing, manufacturing and commissioning hydro schemes.
- Additionally, there are very significant potential opportunities for tidal generation in the tidal waters around Cumbria in the Solway, Duddon Estuary and Morecambe Bay.
- A report by Cumbria Action for Sustainability identifies the potential for 9,000 transition jobs between 2022-2037 and 3,800 long term jobs in the green economy (e.g. in renewable heat, renewable electricity and waste, and the retrofit of buildings to improve energy efficiency).
- Cumbria also sits on the important gas field in the Irish Sea and provides key resources for the oil and gas sector.

Contribution to the North's 'prime capabilities'

Health innovation

- Thanks to its natural landscape, the county serves as a test bed for application of new technologies to provide health and care services in areas of low population density remote from hospitals. Lancaster University has been involved in health innovation activity in Cumbria through the **Lancashire and Cumbria Innovation Alliance** (LCIA) Test Bed programme for digital healthcare technologies.
- Other assets include **UCLan's School of Remote and Rural Medicine** based at its Westlakes Science Park campus in West Cumbria (including a Digital Health Institute) and the **Cumbrian Centre for Health Technologies (CaCHeT)** - an applied research and innovation centre at the University of Cumbria in Carlisle.
- In healthcare manufacturing, GSK has a presence at Ulverston, although this has been substantially reduced recently following a decision not to proceed with a new biopharmaceuticals manufacturing facility.

Contribution to the North's 'prime capabilities'

Digital

- There is significant **digital expertise and the use of AI and advanced robotic technologies taking place in the nuclear and shipbuilding sectors.** Sellafield is a national centre for cyber security and has been at the forefront of the use of AI and robotics. The University of Manchester Dalton Institute is part of the national RAIN Hub (Robotics and AI in Nuclear), funded by the Industrial Strategy Challenge Fund, and the new Robotics and AI Collaboration Laboratory (RAICo1) at Whitehaven, will provide a collaborative hub to drive innovation in nuclear decommissioning and develop a local pipeline of digital skills for the future.
- AI technology has also been used in BAE Systems' digital shipyard. More localised and small-scale digital tech clusters are emerging around new hubs such as the Bus Station (a flexible workspace development) in Whitehaven.
- Cumbria is also a perfect test bed or pilot area to address particular societal or economic challenges and opportunities linked to being a smart rural area. This includes remote and digital technologies to deliver services in isolated communities and in older populations, but also digital applications in dairy, livestock and hill farming. The county is part of a **5G Rural Integrated Testbed** involving Lancaster University.
- The **University of Cumbria** has established the Centre for Digital Transformation (CDT). The CDT will enhance the University's digital portfolio, develop programmes to build digital capability in businesses, and enable communities to become more digital.
- From a **future strategy** perspective, the new **Digital Strategy** sees digital connectivity and use as an important element of meeting the LEP's vision of 'The place to live, work, visit and invest sustainably – where exceptional industry and innovation meets a breathtakingly beautiful and productive landscape". It highlights the prospects for encouraging "home working at scale" as a solution to some of the county's rural challenges and notes the importance of 'mainstreaming' digital capabilities across the economy, as well as supporting the development of a creative digital sector.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• In 2017/2018, Cumbria's professional services sector accounted for 17,500 jobs, 4,065 business units and generated £991m, contributing the second highest share of GVA (although the concentration of jobs, GVA and businesses in the sector was well below the national average). • Architectural engineering activities are an important sub-sector, largely as a result of its role in supporting the county's significant manufacturing sector.
Logistics	• Cumbria has a strategic location in the centre of northern Britain, well serviced by north-south road (M6) and rail links (West Coast Mainline), as well as east road links (A66/A69). The county has three working ports – Barrow, Workington (with direct rail connections) and Silloth – handling important freight traffic for businesses in Cumbria. The only airport is Carlisle Lake District which opened in 2019 (and is currently closed), but the county benefits from easy access to neighbouring international airports at Manchester, Glasgow, Newcastle and Edinburgh. • Working with BAE Systems the University of Cumbria has recently launched a new subject area in supply chain, logistics and procurement which has seen the launch of a new, innovative, work-based honours degree. It is envisaged that this will develop into a Supply Chain, Logistics and Procurement Academy working with major employers and their supply chains.
Education	• The University of Cumbria is the county's anchor HE institution, with five campuses across Cumbria (two in Carlisle, Ambleside, Barrow and Workington), plus plans for new campuses in Carlisle Citadels and Barrow. As part of the Carlisle Town Deal, the University is establishing the Carlisle Business Exchange (CBE), a hyper-fast digitally enabled visible access point for businesses collaboration with academic staff and students to maximise innovation and knowledge exchange. • Although not physically present in Cumbria, Lancaster University sits on the county's doorstep and conducts research and innovation activity within its boundaries. Cumbria also benefits from local presences of both the University of Manchester and UCLan (both linked with nuclear industry research). • Moreover, the county has a strong vocational educational system (FE Colleges – Furness, Carlisle, Lakes and Kendal, and private providers), with particular successes in recruiting and training apprentices. It is also home to the UK's National College for Nuclear, with training facilities at Lakes College, Lillyhall.

Economic strategy and direction (i)

Cumbria's LIS set out a vision for the county to become '*the place to live, work, visit and invest sustainably – where exceptional industry and innovation meets a breathtakingly beautiful and productive landscape*', stressing that the vision, grounded in Cumbria's unique economy and geography, is about capitalising on existing assets and capabilities. It is underpinned by three strategic touchstones – **productivity, inclusive growth and net zero carbon**; and aims to respond to seven strategic imperatives (declining WA population; thin higher-level skills; pockets of worklessness and deprivation; fewer business start-ups; less fast-growing firms; patchy innovation; and infrastructure and connectivity related to a large rural geography). The goal is to close by at least half the current productivity gap on the UK average of the order of £800-900m by 2029.

To successfully deliver the vision, Cumbria LEP has developed a series of thematic and sectoral priorities. Among others, these include:

- **Innovation and Ideas –** anchoring more R&D activity in the nuclear industry (e.g. through the proposed Cumbria Nuclear Research Innovation Facility) and other sectors; promoting Cumbria as an ideal national test bed for application of ideas (e.g. by developing Cumbria into a Natural Capital Innovation Zone or through a Challenge Fund for SMEs); improving commercialisation (e.g. by using the existing waste at Sellafield to develop new radiation medical health therapies); creating an Innovative Cumbria programme (involving business mentoring, innovation-focused business networks and a new innovation-stimulation programme); and identifying opportunities in clean growth.
- **Business environment** – developing local value added and supply chains linked to nuclear, submarine, offshore wind/oil and gas, defence, construction, tourism and land-based sectors.
- **Places** – encouraging bespoke local area economic diversification strategies, especially for the economies of Barrow/Furness and Copeland/West Coast (e.g. by developing an advanced manufacturing innovation district in Furness, or supporting 'digital' spin-outs from the nuclear and manufacturing sectors and building on the 'technology meets natural capital' concept); place-shaping initiatives aimed at attracting and retaining younger people and families to Cumbria (e.g. Whitehaven North Shore, Marina Village in Barrow). Housing affordability and supply is key issue in this context, especially given affordability issues.
- **People and skills** – developing skills in the areas of nuclear, offshore wind, tourism, digital and creative; making best use of existing talent (e.g. activating older people); developing and retaining higher-level skills (e.g. a graduate retention/attraction strategy); raising employment rates in the worst employability cold spots.

Economic strategy and direction (ii)

Following the Covid-19 pandemic, 'Restart, Reboot and Rethink – A Plan for Cumbria's Economic Growth' provides a pathway to the delivery of the vision, with a focus on **Clean Energy Production.** This remains a key part of CLEP's vision and is grounded in Cumbria's world-recognised heritage and expertise. The ambition is to develop substantive plans for the Moorside Clean Energy Park; establish a Hydrogen Cluster in Cumbria; help Cumbrian industry to support new Irish Sea Offshore wind development; deliver a Borderlands Local Energy Plan to identify projects to be funded through the Borderlands Inclusive Growth Deal; and support stakeholder groups in relation to the Geological Disposal Facility (GDF) siting process.

Building on 'Restart, Reboot and Rethink', the Cumbria Local Skills Report 2022 concludes that the priorities developed in 2021 remain as they are still the right ones, namely:

- Making the best use of available talent (including retaining and attracting new talent)
- Developing and retaining higher level skills in the economy
- Creating the future (and current) workforce and skills to meet the needs of the economy
- Developing future leaders and managers
- Addressing worklessness and youth unemployment

The Borderlands is also an important geography for Cumbria given the shared challenges and opportunities for rural economies. The Borderlands Inclusive Growth Deal sets out four strategic themes which closely align with Cumbria's priorities: 'Improving places', 'Enabling infrastructure', 'Supporting business, innovation and skills', and 'Encouraging green growth'.

Strategy and evidence bibliography

- Borderlands Inclusive Growth Deal, March 2021
- Cumbria Action for Sustainability, The potential for green jobs in Cumbria, March 2021
- Cumbria Intelligence Observatory and Nicol Economics, Cumbria Local Industrial Strategy: Evidence Base, September 2019
- Cumbria Local Enterprise Partnership, Annual Report, September 2021
- Cumbria Local Enterprise Partnership, CLEP Delivery Plan 2019-20, February 2020
- Cumbria Local Enterprise Partnership, Cumbria's Local Industrial Strategy, March 2019
- Cumbria Local Enterprise Partnership, Digital Cumbria: Connected, Capable and Creative, 2021-26
- Cumbria Local Enterprise Partnership, Restart, Reboot, Rethink: A Plan for Cumbria's Economic Recovery, 2021
- Cumbria Local Enterprise Partnership, Cumbria Nuclear Prospectus, July 2020
- Cumbria Local Enterprise Partnership, Internationalisation Strategy, March 2020
- Cumbria Local Enterprise Partnership, Clean Energy Strategy, July 2022
- Cumbria Local Enterprise Partnership, Local Skills Report , January 2022
- LSH (for Cumbria County Council, Cumbria LEP and the Cumbria Districts), Cumbria Employment Sites and Premises Study, March 2020
- Lichfields for Cumbria LEP, Cumbria LEP Housing Delivery Strategy, October 2020

Research, analysis and advice

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Greater Manchester

May 2022 | Updated March 2023

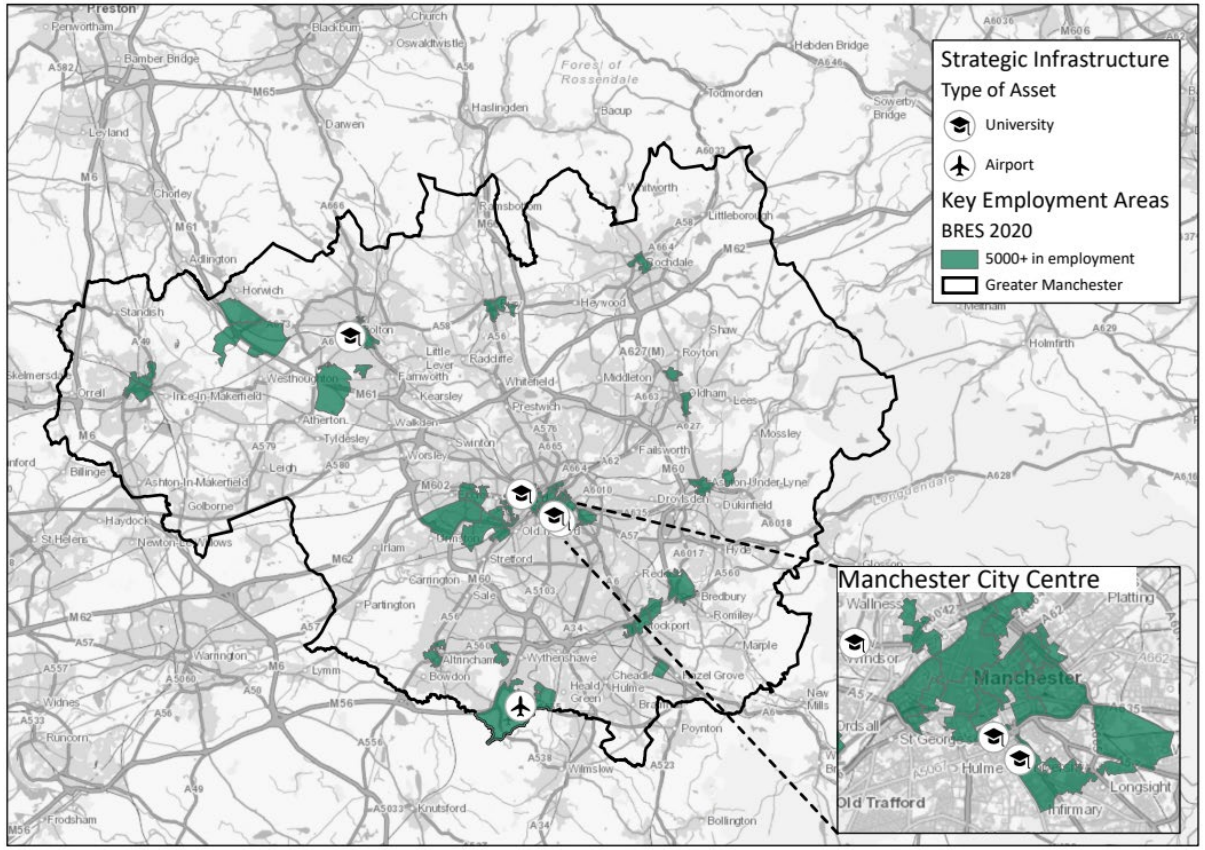
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for Greater Manchester, drawing on nationally-available data, as well as the analysis contained in the suite of documents supporting the *Greater Manchester Independent Prosperity Review* and the Greater Manchester Spatial Framework. It also provides a synthesis of the Combined Authority's economic aspirations and priorities, as reflected in the *Local Industrial Strategy* published in 2019 and the broader *Greater Manchester Strategy,* recently published in a new version, referenced at the end of this document.

Greater Manchester: Overview

- Greater Manchester encompasses the ten metropolitan authority areas of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford and Wigan, and is the largest of the 'NP11' areas in both population and output. It has long been in the vanguard of city-regional collaboration to support economic development, with the original Manchester Independent Economic Review published in 2009, the Combined Authority established in 2011, and a series of Devolution Deals agreed with Government subsequently. Globally, Greater Manchester has a powerful 'brand', building on its metropolitan scale, science and innovation base, and cultural assets.
- The Regional Centre of Greater Manchester covers parts of Manchester, Salford and Trafford, including the city centre, Oxford Road Corridor and Salford Quays. However, GM's economy is diverse, incorporating a network of towns: we say more about the distribution of output and jobs later in this pack.
- Greater Manchester is generally well-connected, with the UK's third largest airport; an extensive motorway network; direct rail links to London from central Manchester, Stockport and Wigan (and in the future, HS2 connections to London and Birmingham); and the largest mass transit system outside London. However, strategic east-west rail connections are more challenging.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

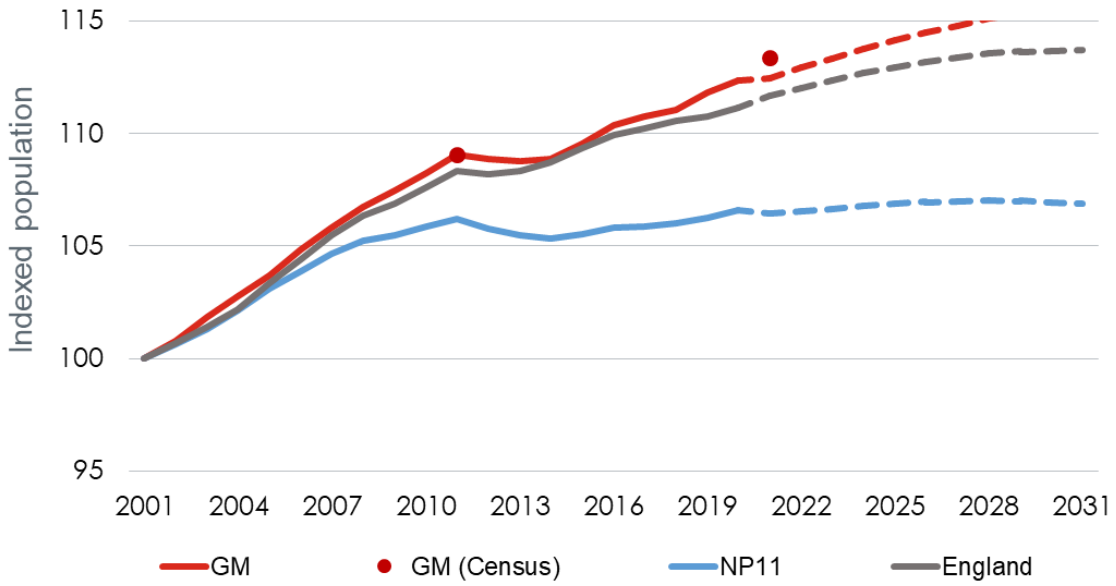
- Greater Manchester has a growing population. While the total population increased at a slightly slower pace than that of England in 2001-20, the working age population (i.e., those aged 16-64) increased at a faster rate than the national average (and at almost double the rate of the North overall).
- This trend is set to continue, with substantially faster working-age population growth than the rest of the country through to 2039 (and the fastest rate of working age population growth of any LEP or Combined Authority in the North).

Population 2021	
Total	2,868,400
Aged 16 to 64	1,827,900

Historic population growth (2001-2021), %	GM	NP11	England
All Ages	13.6	9.4	15.2
Aged 16 to 64	12.4	6.4	11.7

Forecast population growth (2022-2031), %	GM	NP11	England
All Ages	3.9	3.0	4.3
Aged 16 to 64	3.1	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base). Note that 'NP11' refers to the combined 11 LEP/ CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

Economic profile: Scale and productivity

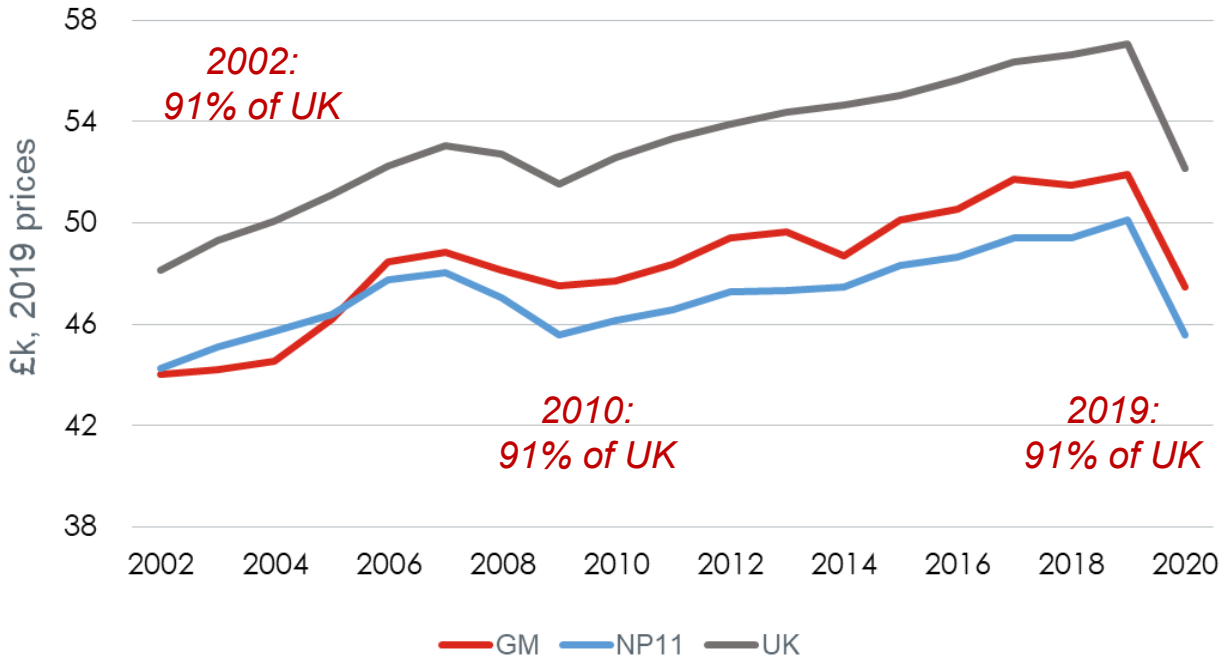
- Greater Manchester accounts for nearly 21% of the NP11's total GVA. Productivity (measured as GVA per filled job) lags behind the UK average despite having grown faster than the UK average in several of the years between 2010 and 2020. The latest refresh of the GM Independent Prosperity Review (October 2022) shows that GM has in recent years been one of the best performing areas of the UK in improving its productivity. This appears to be, at least in part driven by the growth in higher paid employment.

Overall GVA and productivity (2020)		
Total GVA	£69.41 bn	20.8% of NP11
GVA per filled job	£52.11 k	

GVA growth (CAGR, %)	GM	NP11	UK
2008-2013	0.9	0.1	0.6
2014-2019	3.3	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	GM	NP11	UK
2008-2013	0.6	0.1	0.6
2014-2019	1.3	1.1	0.9

GVA per filled job (£), 2002 to 2020



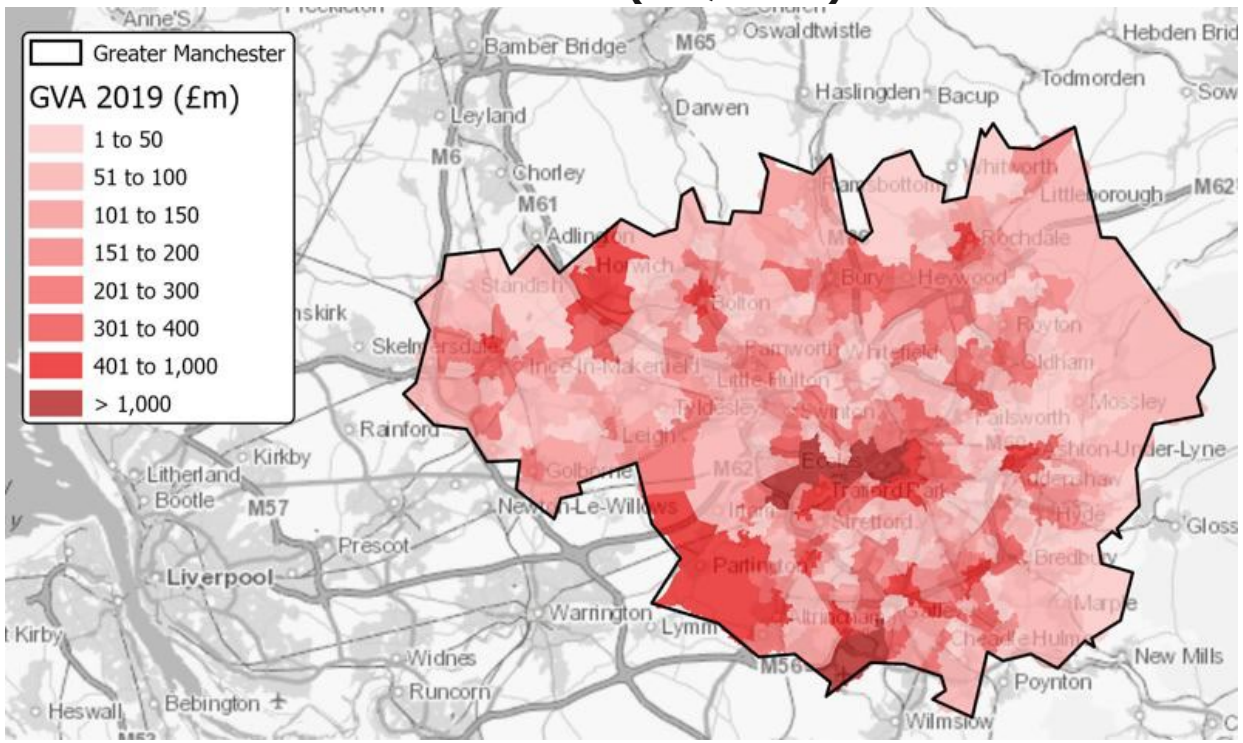
Source: ONS, GVA (B) per filled job, 2018 prices; SQW analysis

SQW

Economic profile: Concentrations of output

- The largest concentration of GVA in Greater Manchester is around Manchester (including Manchester city centre and Oxford Road Corridor), Salford (including the Quays) and Trafford. Activity in this area has expanded rapidly over the past 20 years with the relative growth of the service economy and the expansion of the area's research and scientific activity. The GMIPR notes that this regional core accounts for about 20% of all jobs in Greater Manchester[1].
- Other important concentrations include:
  - Extending west of the regional core, Trafford Park, with concentrations of manufacturing, creative digital and logistics activity; and extending east to Central Park.
  - Manchester Airport in the south, and the adjacent logistics and distribution operations at Airport City Manchester.
  - GM's network of town centres including Stockport, Altrincham, Bolton, Wigan, Oldham, Ashton, Bury and Rochdale.
- The submitted *Places for Everyone* plan observed that over recent years (GVA and population) growth has been concentrated in the three local authority areas of Manchester, Salford and Trafford. The plan identifies key locations that will help to maximise economic growth in an inclusive way including the six 'Growth Locations': Airport & Southern Growth Corridor, Central Growth Cluster, Eastern Growth Cluster North East Growth Corridor, Western Gateway, Wigan & Bolton Growth Corridor, and the seven main town centres.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

1. GMIPR, Reviewers' Report. The 'other major employment locations' refer to the eight main town centres outside the core centres of Manchester and Salford, Manchester Airport and Trafford Park.

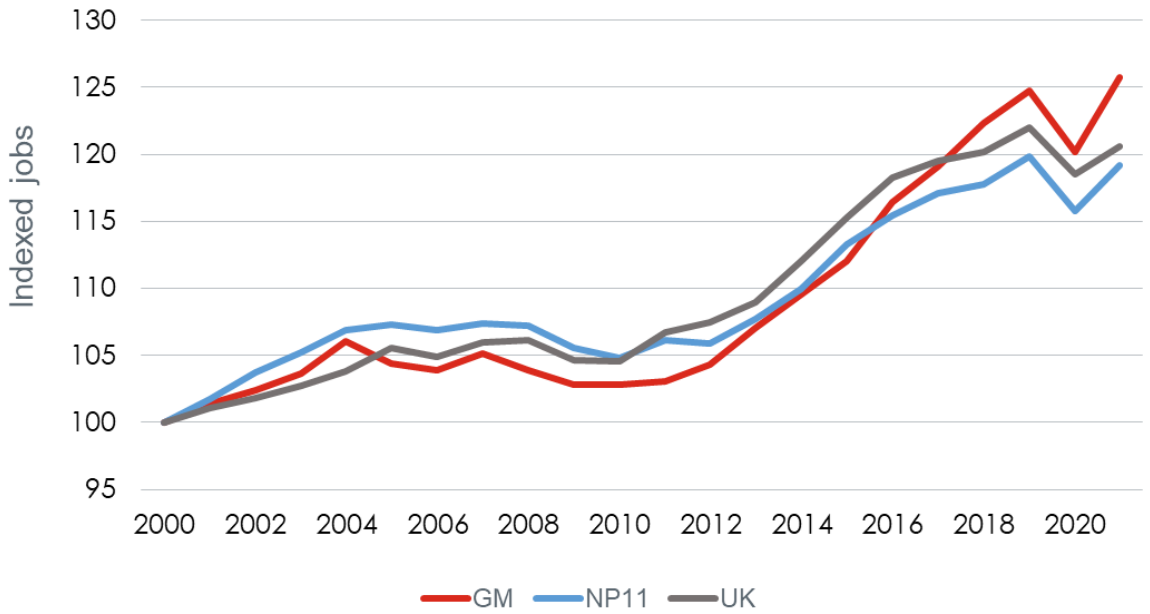
SQW

Economic profile: Jobs

- Greater Manchester has seen strong jobs growth over the past two decades, accelerating from 2012 onwards. As the GMIPR notes, *'Greater Manchester was well placed to benefit from the national shift towards a service-led economy, given its existing service economy and office market, its large labour pool, and its concentrations of critical growth assets (including its universities and airport)'.* This is borne out by the occupational data, which shows very strong jobs growth over the past decade in professional and associate professional and technical roles, offsetting declines in process, plant and machine and 'elementary' occupations.
- Active labour market policies (such as GM's Working Well programme) have been successful in bringing people back into work, although economic activity remains marginally lower than the national average (75.5% to 78.2%).

Jobs and jobs density			
	GM	NP11	UK
Total jobs, 2021	1,569 k	7,719 k	35,852 k
Jobs growth (CAGR,	1.10	0.84	0.89
Jobs density, 2021	0.86	0.81	0.85
Change in jobs dens	0.08	0.08	0.06

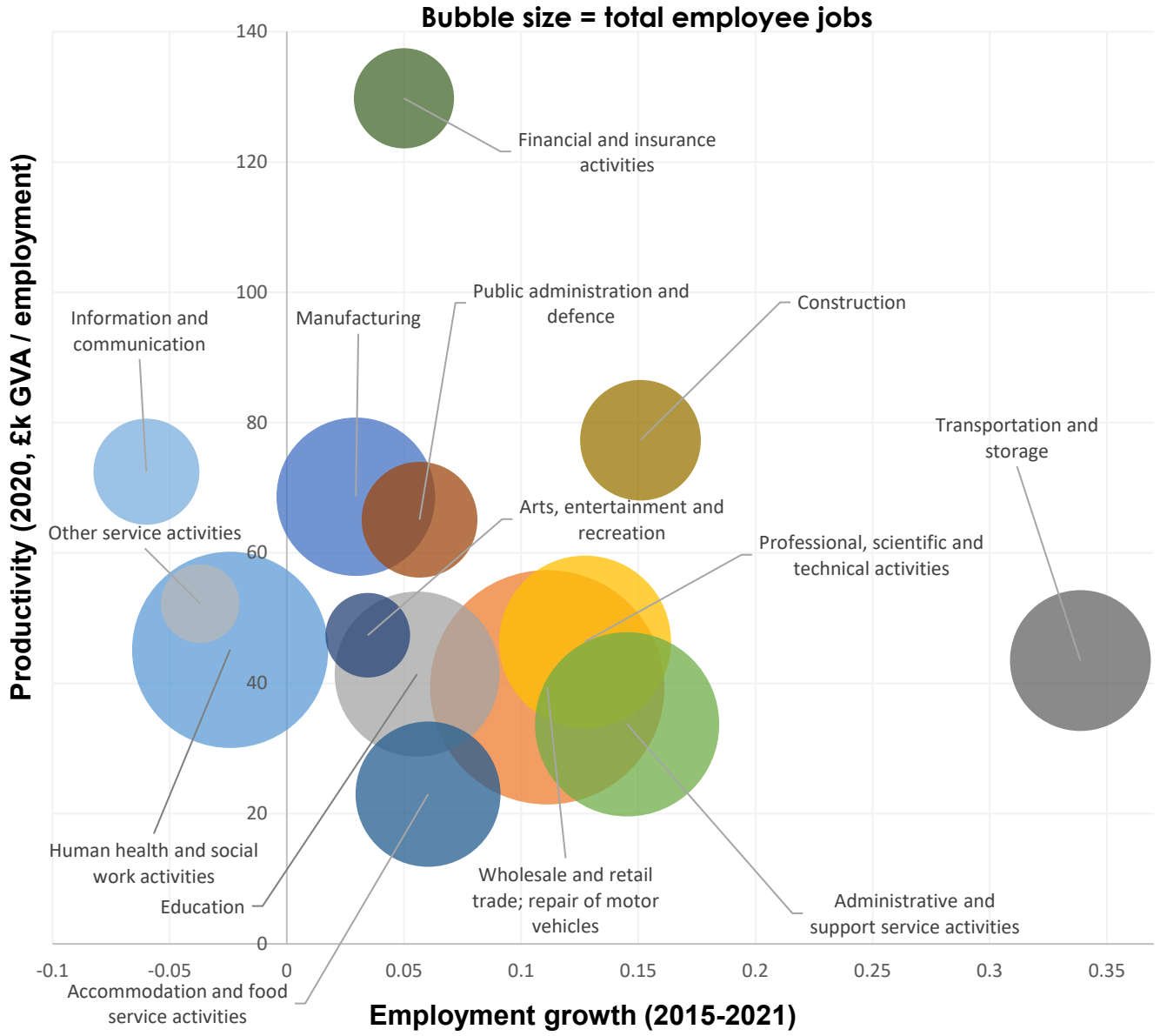
Index of total jobs growth (2000 = 100), 2000 to 2021



Source: ONS, Jobs Density

Economic profile: Sectors

- The GMIPR quotes analysis by the Office for National Statistics using the Krugman Specialisation Index (a measure of diversity in industry, jobs and output), that indicates that Greater Manchester is the most diverse city region economy in the UK and has identified strengths in four frontier sectors - advanced materials and manufacturing, health innovation, digital creative and media and clean growth.
- There is a group of six sectors with **moderate jobs growth, but relatively low productivity.** These account for the bulk of employment in the Greater Manchester. Similarly, transport and storage also had modest productivity (around £44k, less than the UK sector average of £52k) but has seen very high levels of jobs growth from 2015 to 2021.
- There is a group of sectors that have **increased job numbers and are relatively productive:** financial and insurance, manufacturing, public admin, construction, and arts.
- The IT sector, as broadly defined in the ONS statistics, whilst productive, is less productive than the UK average for the sector – and has seen a 6% decline in employment against a 13% increase in the country more broadly.



Source: ONS, GVA (B) and BRES, SQW analysis

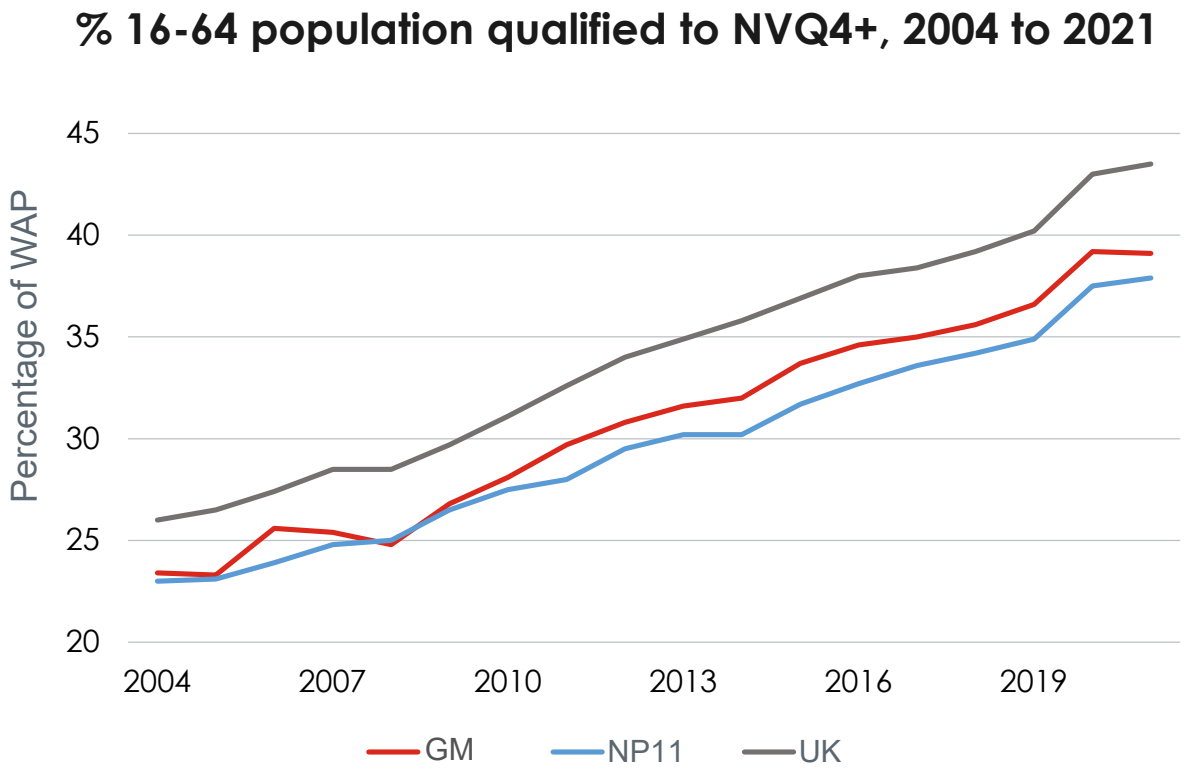
SQW

Economic profile: Workforce

- Greater Manchester trails the UK in workforce qualifications, and the number with no qualifications is relatively high. However, the trend has been positive over time.
- There are sizeable disparities between districts in Greater Manchester, with 44% and 45% of working age residents in Manchester and Stockport in 2020 having an NVQ4+ qualification, compared to just 27% and 28% in Oldham and Rochdale respectively.
- From a 'demand' perspective, contributions to the GMIPR highlight potential polarisation, with growth in jobs requiring higher level qualifications (and commanding higher pay) at the same time as strong demand in 'less qualified' service occupations.

% 16-64 qualified to…	GM	NP11	UK
NVQ4+	38.3	36.6	42.4
NVQ3+	56.9	56.4	60.5
NVQ2+	75.0	75.4	77.3
NVQ1+	85.3	86.0	87.0
Other qualifications	6.2	6.0	6.1
No qualifications	8.5	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21



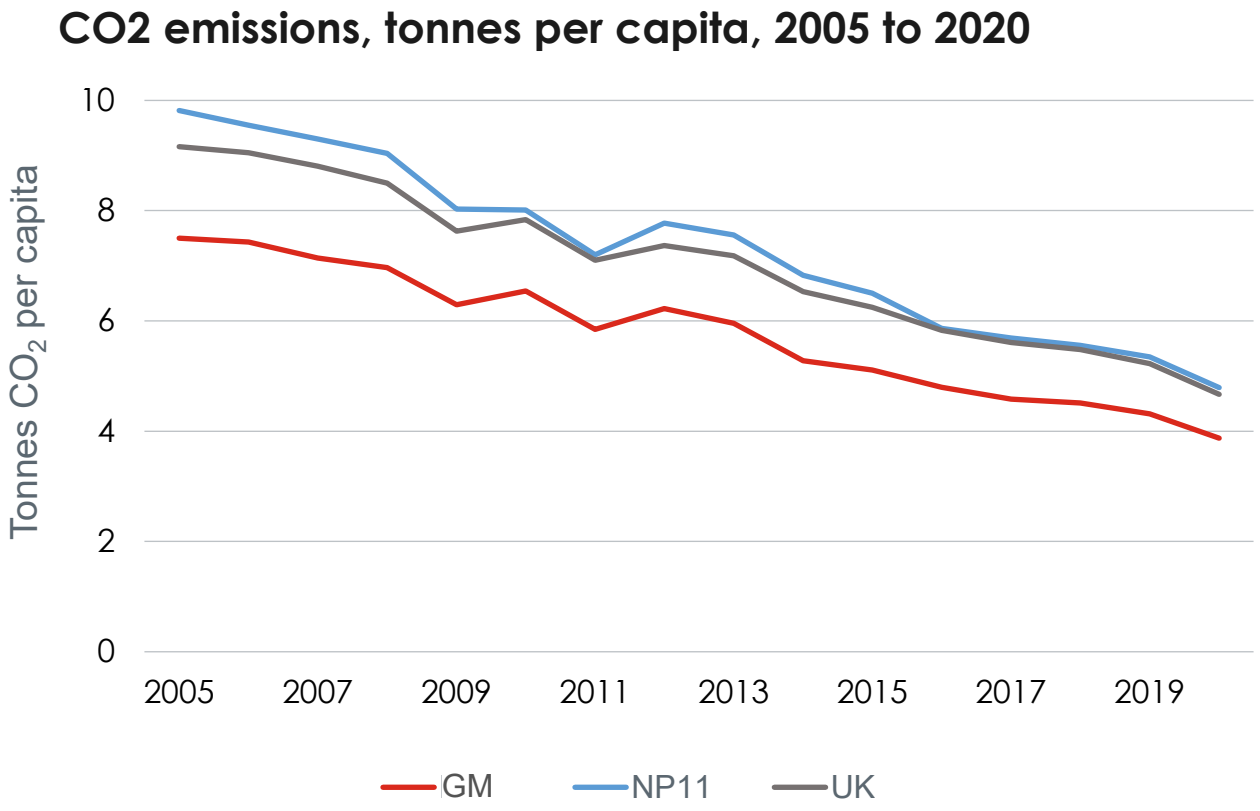
Source: ONS, Annual Population Survey

SQW

Economic profile: Carbon emissions

- Emissions have reduced by 39% since 1990, largely due to a shift in the source of electricity from coal, to gas and offshore wind power, and the trend has continued over time.
- In GM, emissions per capita and per £m are today significantly below Northern and UK averages, mainly due to the absence of energy-intensive industries in the city region.
- GMCA has set an ambitious target for decarbonisation, aiming to be net zero by 2038, well before the national target of 2050. Linked with this, the Local Industrial Strategy establishes Clean Growth as one of GM's Grand Challenges, aiming to deliver substantial carbon reductions alongside environmental, economic and health benefits.

Carbon emissions			
	GM	NP11	UK
Total CO2 (kt, 2020)	11,039	73,000	313,159
Tonnes per capita	3.88	4.79	4.67
Tonnes per £m GVA	159	218	172



Source: BEIS, local authority territorial CO_2 emissions

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Economic profile: Businesses

- Greater Manchester is home to a fifth of all businesses in the NP11, and a quarter of all 'high growth' firms.
- It has a higher 'business density' (the number of businesses per 100,000 working age population) than the rest of the North (although somewhat lower than the UK). Stock change was faster than the UK and Northern averages, and especially fast in Bury, Salford and Manchester.
- Likewise, the number of business starts per 100,000 working age people was lower than the UK average, but higher than for the NP11.
- The Beauhurst platform tracks 1,229 firms in GM because they pass high-growth or innovation thresholds. This 'tracking rate' of 1.02% of all firms is higher than the 0.98% rate in the Northern Powerhouse and higher than the 0.97% rate for the UK minus London.

Business demography, 2021			
	GM	NP11	UK
Total stock			
Total businesses	119,160	560,865	2,939,675
Business Starts	17,510	72,935	363,995
High growth firms	460	2,230	10,695
Business stock change, CAGR 2015-2021	2.6	1.8	1.6
Per 100,000 working age population			
Total businesses	6,519	5,910	8,257
Business Starts	958	768	1,022
High growth firms	25.2	23.5	30.0
Business stock change, CAGR 2015-2021	2.0	1.6	1.2

Source: ONS, Business Demography, 2021

SQW

Contribution to the North's 'prime capabilities'

Advanced manufacturing (i)

- Greater Manchester has a long history of manufacturing innovation. The sector accounts for around 107,000 jobs, (with a location quotient of 1.03), generates around £7.1 billion in GVA and includes leading manufacturers, such as Siemens (which has its UK headquarters in Manchester and has recently reinvested) and Kellogg's.
- **The region has core manufacturing strengths in sustainable advanced materials.** At the heart of this is substantial research expertise: graphene was first isolated at the University of Manchester in 2004, and subsequent investment has sought to build a 'world class' presence in 'two dimensional' materials for a range of applications. Building on the core materials research strengths at the **University of Manchester**, key research and translational assets include the National Graphene Institute, the BP International Centre for Advanced Materials, the Graphene Engineering Innovation Centre, and the Henry Royce Institute (the UK National Institute for Advanced Materials). In addition to graphene, GM has particular strengths in other 2-D nanomaterials, coatings, technical textiles, advanced machinery, and industrial digitalisation.
- **These research strengths are complemented elsewhere in GM's university base**, for example through the Institute for Materials Research and Innovation at the University of Bolton, and expertise in advanced materials, surface engineering and industrial digitalisation at Manchester Metropolitan University (MMU). MMU is home to PrintCity a unique digital manufacturing facility with an emphasis on additive manufacturing. The University of Salford has strengths in robotics, AI and automation, and the new North of England Robotics Innovation Centre (NERIC). Key areas for NERIC will include robotics for intelligent infrastructure, digital automation, and supply chain improvement. The University also offers world-class acoustic facilities at its Acoustic Research Centre, designed to meet the highest technical specifications and requirements of measurement standards.
- The **Greater Manchester Graphene, Advanced Materials and Manufacturing Alliance** (GAMMA), with its vision to identify advanced materials and industrial digital technologies that support advanced manufacturing to transition to net zero through the creation of an advanced manufacturing super-cluster in the North of England to drive a more productive, sustainable, highly skilled, and innovative industry. In doing so identifying opportunities to create a world class Made Smarter ecosystem. Further, the University of Manchester is developing plans for new city centre innovation district to develop university spinouts and attract new investors.

Contribution to the North's 'prime capabilities'

Advanced manufacturing (ii)

- More broadly, the **Advanced Machinery and Productivity Institute** (AMPI) in Rochdale is an industry-led project, funded through the UKRI Strength in Places programme, to offer prototyping, research and technical services to industry. Partners include PTG Holroyd Precision (a global precision engineering firm based in Milnrow, Rochdale), the National Physical Laboratory and universities across the North. A full business case has been recently developed for a **Sustainable Materials Translational Research Centre** in Rochdale are emerging and **Atom Valley** (which stretches out along the M62 in the North East Growth Corridor) in Rochdale and Bury has recently been announced as a Mayoral Development Zone and is expected to create thousands of high-quality jobs.
- There are also ambitions for an advanced manufacturing super-cluster in the North of England for advanced materials, advanced machinery and industrial digital technologies, with GAMMA as the coordinating entity for this work.
- In relation to energy, **Manchester Fuel Cell Innovation Centre,** led by MMU, combines materials research and engineering to address challenges in energy materials, conversion, and storage.
- Beyond the advanced materials 'frontier' sector, Greater Manchester has a diverse manufacturing base. Areas of specialism include food manufacturing and food products (e.g., Cargill at Trafford Park; Kelloggs, with its UK HQ in Salford; and Kraft Heinz in Wigan); textiles (a traditional industrial strength, and especially concentrated in Oldham and Rochdale) and speciality chemicals.

Contribution to the North's 'prime capabilities'

Energy

- **Manchester University has broad expertise and capabilities in energy**. In nuclear, key assets include the Dalton Nuclear Institute, which manages a series of specialist laboratories and facilities for fundamental and industry-focused nuclear research. The Dalton Institute works in collaboration with a number of industry partners based elsewhere in the North, including the National Nuclear Laboratory (based at Birchwood in Warrington), Sellafield in Cumbria (where the Dalton Institute has a satellite operation), and Rolls Royce (a partner in the Nuclear AMRC at Sheffield). Other areas of expertise include bioenergy (the University coordinates the UK's flagship interdisciplinary Supergen Bioenergy Hub), energy networks, and energy transitions (including the Sustainable Consumption Institute and Manchester Urban Institute).
- In the exploitation of **hydrogen**, the **Manchester Fuel Cell Innovation Centre** run by MMU focuses on testing and commercialising new hydrogen and fuel cell products. The **Hydrogen Electrolyser** (at up to 200MW) at Trafford Energy Park will be the UKs largest Green Hydrogen production facility and the CryoBattery on the same site is a world first using liquid air at a commercial scale.
- There are also **leading-edge research projects at University Salford**. **Energy House 2.0,** opened in early 2022, and is the largest test and research facility of its type and is expected to play a leading role in development of new low carbon homes and retrofit technologies. The **IGNITION Living Lab project** will collaborate with partners to establish innovative ways to build resilience to climate change.
- GM was one of the first city regions in the world to set a science-based target on carbon, aiming to be **carbon neutral by 2038**. The city-region is taking an ambitious approach to achieve this target by using a unique `mission based approach' engaging nearly 200 organisations in its delivery. To support GM's carbon neutrality target, the city-region is the first to develop Local Area Energy Plans which set out how each local authority can decarbonise the energy system. The **Greater Manchester Energy Innovation Agency**, bringing together public sector, academia and industry, has been established to accelerate the introduction of energy related innovation to tackle the net zero challenge and bridge the energy innovation gap.
- Key opportunities for carbon reduction exist within the transport system, for example, the Metrolink already runs on renewable energy and extending this to 50% of the bus fleet will be a significant step in creating the country's first zero carbon integrated network with £180m committed to develop this. A 'Bee Network' of sustainable and active travel routes has also been developed.
- **Retrofitting is a priority**, with £78m in retrofit and low carbon energy generation for over 150 public buildings in 2021 and the new GM Retrofit Accelerator will support people to take action to retrofit their homes. Furthermore, the draft Retrofit Action Plan ('retrofitGM') as recently published. There are also several low carbon developments in Greater Manchester, including the Atom Valley site in Bury/Rochdale, and incorporates the AMPI at Kingsway in Rochdale.

Contribution to the North's 'prime capabilities'

Health innovation

- Greater Manchester is the only city-region to have devolved control of its health budget of £6bn a year, helping drive innovation in **one of the UK's largest life sciences and health research clusters** outside the South East. These are quite strongly concentrated in central Manchester and Salford, with substantial NHS and commercial development (including Manchester Science Park and Citylabs) along the Oxford Road Corridor, although there are important links with complementary capabilities elsewhere in the North (especially Cheshire and Warrington and Liverpool City Region). Some of these are closely linked with GM's strengths in advanced materials and digital data (described elsewhere), but the region has a broad range of strengths.
- In **precision medicine,** Manchester has global strengths in genomics and diagnostics, imaging and biomarker discovery. Strengths include:
  - **Cancer research:** the Christie NHS Foundation Trust is Europe's largest cancer research centre, and has the world's largest early-stage clinical trials unit. The Christie's partnership with Cancer Research UK in the Manchester Cancer Research Centre hosts a number of centres of excellence in relation to specific cancers, and it also hosts a cancer imaging centre in partnership with Cambridge University.
  - **Cardiac research**: with major current collaborations including the 'Smart Heart' project between Medtronic, University of Manchester and the NHS.
  - **Testing and disease diagnosis:** The biotech company Qiagen has a major R&D centre in Manchester. Recently, it launched APIS Assay Technologies', a new business dedicated to developing novel techniques for diagnosing disease. The Diagnostics and Technology Accelerator with Manchester University NHS Foundation Trust supports the gathering of evidence to prioritise and commercialise new medical devices., and the £18m Stoller Biomarker Discovery Centre is industrialising the approach to finding new biomarkers of diagnosis, prognosis and responses to therapy in medicine.
  - **Christabel Pankhurst Institute for Health Technologies:** work in partnership with both SMEs and global corporates to develop transformative solutions for health and care and work alongside Manchester Molecular Pathology Innovation centre to refine the development pathway for new diagnostics and translate discoveries into commercially useable tests.
  - **Health Informatics / Analytics:** Health Innovation Manchester together with the GM Integrated Care Partnership have pushed forward with the development of the GM Integrated Digital Care Record which enables access to the digital care records of all 2.8mn residents of GM
- There are a wide range of facilities and institutions dedicated to **translational research.** Health Innovation Manchester, an internationally leading integrated academic health science and innovation system that is driving health improvements, GM's life sciences cluster and local economic impact. Key institutions include the Manchester Molecular Pathology Innovation Centre and Manchester Biomedical Research Centre, both part of the National Institute of Health Research (NIHR); the Manchester Centre for Genomic Medicine (one of the largest genetics units in Europe); the Biological Mass Spectometry Centre, and the new Christabel Pankhurst Institute (for health technology). In addition, there is the UK Biobank, a world leading biomedical research resource based in Stockport.
- The Local Industrial Strategy also placed an emphasis on opportunities associated with **healthy ageing,** with research supported by the University of Manchester Institute for Collaborative Research on Ageing (MICRA) and NIHR funded centres focused on health care systems and commissioning and older people and frailty. GM, along with Cheshire and Warrington, was also awarded a High Potential Opportunity (HPO) for 'health innovation in healthy ageing' by the Department for International Trade (DIT).
- In **digital health**, Salford Royal has been a pioneer in the use of patient data records (used in the recent Salford Lung Study). Manchester also offers a base for North West E-Health (NWEH), which provides clinical trial management by helping companies to build trust in data and use it safely. Beyond the use of NHS data, Greater Manchester has a range of digital incubator facilities with applications in health: e.g. Bruntwood Sci-Tech's incubator at Circle Square and accelerator at Manchester Science Park, and is home to organisations such as telehealth provider PushDoctor, and SMART healthcare technology companies including Howz, Safeteps and E-Lucid.

Contribution to the North's 'prime capabilities'

Digital

- Greater Manchester is the largest tech hub outside of London, with an eleven-fold increase in investment in the area by tech firms between 2017-2022 to over £500m pa, and its digital strengths substantially overlap those in relation to health innovation and advanced manufacturing, and the sophisticated use of data. GM is home to the fastest growing European digital ecosystem, with an eleven-fold increase in tech firms from 2017 to 2022, and the region's digital capabilities run across a number of specialisms.
- In **cybersecurity,** Greater Manchester has a cluster of digital security companies, including BeyondTrust (previously Avecto), Hedgehog, NCC Group and Secarma. Several defence industry firms have also established their cyber security divisions in GM (for example, BAE Systems, Raytheon and Northrop Grumman). Linked with this, GCHQ established a strategic hub in Manchester in 2019, and is seeking to expand. Creation of a NW Cyber Corridor between Manchester and Lancashire, in support of GCHQ and National Cyber Force (at Samlesbury), has the potential to grow this sector further. Manchester's role as a regional centre for a range of services also supports activity in public sector security, with the North West Cyber Resilience Centre established in 2019 as a joint venture between Digital Manchester (the regional industry association for digital businesses) and the combined North West police forces.
- There is a large **FinTech** sector, with MIDAS reporting that around 8,000 people work in the FinTech sector. This includes major firms such as Xero (SME accounting software), Worldpay and Moneysupermarket; as well as indigenous firms such as Nivo and Bankify.
- In **e-commerce**, access to digital expertise and talent, creative capabilities and access to an extensive distribution network supports firms in a range of sectors, including online fashion retail. Firms include AO, BooHoo, Booking.com, and The Hut Group.
- In **creative digital and media**, GM's global strengths in music and broadcasting support a wider content creation industry. The city-region's core assets include MediaCity, home to the BBC and ITV as well as a campus of Salford University, and Manchester Metropolitan University's strengths in creative design and digital arts (including the nearby School of Digital Arts). While these facilities are concentrated in the 'regional centre', there are concentrations of creative digital activity across GM (for example, at Ashton Old Baths innovation centre in Tameside, Oldham's creative quarter, and Internet in Rochdale), and across Greater Manchester there were over 69,000 roles advertised in the creative, digital and tech sector during 2022.
- Underpinning all these digital capabilities is a **strong academic base**. The University of Salford has UK leading expertise in computer science and software engineering. The University of Manchester's 'Digital Futures' is a highly interdisciplinary network of over 1,000 researchers across 30 centres that operates across the whole range of the University's digital research in areas such as health and care, Industry 4.0, FinTech and legaltech. The University is also a member of the Turing Institute, an area of rapid growth in cyber and digital security, based on a strategic partnership with GCHQ and collaborations with Lancaster, Salford and Manchester Metropolitan universities. This has led to support for over 300 businesses on the AI and Cyber Foundry programmes. The University also hosts the National Centre for Text Mining and Manchester Informatics.
- The city-region attracts a high level of inward investment with organisations such as PWC's "Tech Hub", Roku and Cloud Imperium alongside global VC investment in data specialist firms such as Peak AI and Matillion.
- Several regional initiatives have been taken forward to accelerate GM's digital capabilities. These include the Made Smarter pilot to promote industrial digitalisation within SMEs, investment in a Digital Skills Pilot, the Innovation Accelerator programmes agreed with Government and Cisco is constructing the world's largest software defined network infrastructure covering 1,200 public sites.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• Greater Manchester is home to the largest regional financial, professional, and business services (FPBS) industry outside of London, employing over 290,000 people, and generating revenues in excess of £17.5bn. It is the only UK city outside of the capital with all elements of the sub-sectors represented at scale – from banking, financial services and FinTech to insurance, accounting and legal – providing depth and diversity across a range of disciplines, with a strong concentration in the regional centre as well as around Manchester Airport. • Manchester has historically been the location of choice for back office and technology operations but now also attracts more complex middle and front office financial services roles due to the highly-skilled workforce the city region has developed. In finance, an established presence from firms such as Co-operative Bank, Barclays and RSA complement the large fintech sector described earlier. • Manchester is also a major regional and national centre for legal, accountancy and other professional services, including the 'big four' accountancy firms, DWF, Freshfields Bruckhaus Deringer, Eversheds, and Addleshaw Goddard .
Logistics	• Known as the Gateway to the North, Greater Manchester is one of the best connected and most accessible cities in the UK. Equipped with strong local and strategic transport networks, including excellent air, road, rail and water connectivity. Eight major motorways pass through Greater Manchester. Its location at the centre of the North-South and East-West road network providing it with excellent road connectivity to London and the South, the port of Liverpool on the West Coast, Hull on the East Coast, and Scotland, as well as all other major urban hubs in the UK. It will also benefit from the development of HS2. • The port of Salford is due to deliver the UK's first tri-modal inland waterway port, serviced by ship, rail and road, connecting Greater Manchester with the Atlantic shipping routes via the deepwater port of Liverpool. The development is to include an inland port, rail link, container terminal facility and 1.5m sq ft of logistics floor space. The first phase has been completed and the port is expected to commence operations in 2023. • Manchester Airport is the largest UK airport outside of London, and offers a freight hub, and commercial flights to 210 destinations in Europe, Asia and the USA. The area around the airport is a significant logistics cluster.
Education	• Greater Manchester has one of the largest and most diverse student populations in Europe across six universities, with a combined student base of c.100k. The universities boast world class specialisms, research centres of excellence and concentrated clusters of expertise across Manchester's sector strengths. University of Manchester is a leading research-intensive Russell Group university and ranks 27th globally according to QS World University Rankings. In the 2021 Research Excellence Framework, the university was ranked 5th in the UK for research power, and it has one of the largest research incomes of any university in the UK, underpinning many of the strengths (especially in relation to health innovation) highlighted earlier. The University of Salford is a major centre for engineering and computer science, with a strong history of industrial collaboration. Manchester Metropolitan University, Royal Northern College of Music (RNCM) and University of Bolton are also important institutions, while University Academy 92 in Manchester is a principally vocational institution focused on direct industry relevance.

Economic strategy and direction

- Greater Manchester Combined Authority adopted its **Local Industrial Strategy** in 2019. This sought to *'deliver an economy fit for the future, with prosperous communities across the city-region and radically increased productivity and earning power',* as well as respond to global challenges, including climate change, technological change, and the Fourth Industrial Revolution, and an ageing society. The LIS was one of the first such strategies to be developed by GMCA in conjunction with central Government: it aimed to tackle five key barriers to improving economic performance, in relation to population health, education & skills, infrastructure, innovation, and leadership & business.

- In line with the framework for developing local industrial strategies that was advanced by Government at the time, the LIS highlighted five routes to addressing the key issues it identifies, **Ideas**: innovation, partnerships and investment to drive prosperity and transformation; **People**: a skills and work system that ensures everyone reaches their potential and employers have the skills they need;, **Infrastructure:** integrated 21st century infrastructure for digitally driven, clean and inclusive growth; **Business Environment**: strengthening leadership, increasing innovation adoption, raising export levels; and **Places:** prosperous cities, towns and communities building on our strengths and opportunities. Supporting the foundations of productivity.

- A wider strategy for the city region is set out in the **Greater Manchester Strategy**, *Good Lives for All*, which was adopted in 2021, following the Covid-19 pandemic. The GM Strategy builds on previous iterations (the last version of the Strategy was adopted in 2018) and sets out a strong focus on the need for action to tackle climate change and inequality – reinforced through the GM Good Employment Charter and measures to support the foundational economy. These hemes run through the Strategy, which also seeks a balance between capitalising on GM's world-leading strengths and driving opportunities in all parts of Greater Manchester.

- The Greater Manchester Strategy highlights four 'frontier sectors' in which the city-region has core strengths. Building on the LIS and earlier analysis, these are: clean growth; health innovation; advanced materials and manufacturing; and digital, creative and media. GM's plan for innovation-led growth across the city-region is being delivered by Innovation GM (a triple helix partnership), and the Innovation Accelerator. The Strategy also describes an ambition to develop the 'foundational economy' in Greater Manchester, to support the creation of higher-paid, better jobs. Spatially, the Strategy seeks to expand opportunity across the conurbation, defining six 'growth corridors and clusters', with the aim of developing sites to meet local need and improving sustainable transport accessibility. The overall ambition is for growth that benefits all parts of GM, within the context of "ten distinctive places" across the city region. These ambitions have been boosted by the recent Devolution Deal and GM's new powers on skills and transport (including the Bee Network, an integrated London-style transport system to join together buses, trams, rail as well as cycling and walking), and increased capacity to invest in growth.

- GM's strategy is also informed by an extensive bank of research. GM's commitment to economic research is longstanding, with the Manchester Independent Economic Review underpinning the case for devolution. More recently, the GMIPR has informed the LIS and the GM Strategy and offers extensive analysis of the city-regional economy across the themes of productivity, industrial inter-connectedness, the future of work and other dimensions.

Strategy and evidence bibliography

- Greater Manchester Independent Prosperity Review, Evidence Review, November 2018
- Greater Manchester Independent Prosperity Review, The Emerging Impact of Devolution, November 2018
- Greater Manchester Combined Authority, Greater Manchester Strategy - Our People, Our Place, 2018
- University of Manchester, A Science and Innovation Audit Report, 2018
- Greater Manchester Independent Prosperity Review, Education & Skills Research Summary, March 2019
- Greater Manchester Independent Prosperity Review, Innovation and Global Competitiveness Research Summary, March 2019
- Greater Manchester Independent Prosperity Review, Prosperity and Pay Research Summary, March 2019
- Greater Manchester Independent Prosperity Review, Reviewers' Report, March 2019
- Greater Manchester Independent Prosperity Review, Transitions in Education and Skills, March 2019
- Greater Manchester Combined Authority, Greater Manchester Local Industrial Strategy, June 2019
- Greater Manchester Independent Prosperity Review, One Year On, September 2020
- Greater Manchester Combined Authority, Greater Manchester Infrastructure Framework 2040, 2020
- Greater Manchester Combined Authority, Greater Manchester Strategy – Good Lives for All, January 2022
- Greater Manchester Retrofit Task Force, retrofitGM: Accelerating the Renovation of Greater Manchester's Buildings, 2022
- Greater Manchester Combined Authority, Places For Everyone

Research, analysis and advice

SQW

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Hull & East Yorkshire

May 2022 | Updated March 2023

Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for Hull and East Yorkshire, drawing on nationally-available data, HEY LEP's new *Economic Growth and Workforce Wellbeing Strategy* and other relevant documents. It also provides a synthesis of the LEP's economic aspirations and priorities, and there are references at the end of this document.
- HEY LEP was launched in April 2021. Before then, the former Humber LEP included North Lincolnshire and North East Lincolnshire, as well as Hull and the East Riding of Yorkshire. This Area Profile is focused on the current HEY LEP geography). However, North and North East Lincolnshire are also contained within Transport for the North's area of operation, and there are important industrial and economic links across the Humber Estuary. We have therefore included a summary of data relating to North and North East Lincolnshire from page 18 of this profile.

Hull & East Yorkshire: Overview

- Hull and East Yorkshire encompasses the two local authority areas of Kingston Upon Hull and the East Riding of Yorkshire, to the north of the Humber Estuary. Economic activity is especially concentrated to the south of the area, which includes the city of Hull, with its important industrial, port-related and university assets. To the north, the East Riding is extensively rural, including the Yorkshire Wolds, the historic town of Beverley and a network of smaller settlements. The east coast includes the seaside town of Bridlington and an important visitor economy.
- The key transport corridor is the east-west M62/A63, connecting Hull with the A1(M), with links south from Hull provided by the A15 Humber Bridge. Hull is also connected by rail to the East Coast Main Line at Doncaster and the city has long benefited from early investment in digital connectivity. There are also the Ports of Hull and Goole, which are driving increased rail freight to the region.
- HEY has an important industrial economy, with strengths in energy, manufacturing and port-related activities – with the synergy between all three offering substantial potential for low-carbon industrial activity. This is supported by the Humber Freeport and network of Enterprise Zone sites; with the area also supporting a large agri-tech and food industry.

Key infrastructure and employment concentrations

Economic profile: Population and workforce

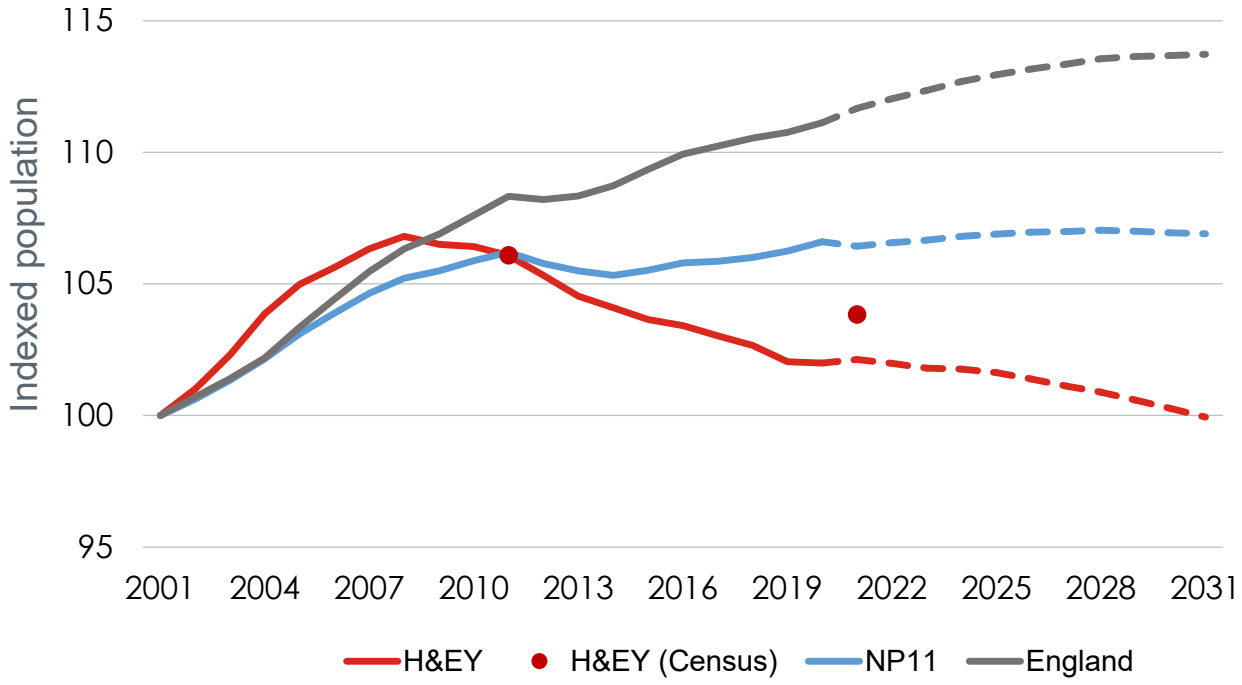
- Population growth (in all ages and in the working age population (WAP)) has been slower in HEY in recent years than in the NP11 or in England as a whole, with the working age population falling from about 2010 onwards.
- The WAP is forecast to contract by about 1.9% between 2022-31. There will be modest growth in the population overall however increasing the dependency ratio over time.

Population 2021	
Total	609,600
Aged 16 to 64	370,500

Historic population growth (2001-2021), %	H&EY	NP11	England
All Ages	7.1	9.4	15.2
Aged 16 to 64	2.1	6.4	11.7

Forecast population growth (2022-2031), %	H&EY	NP11	England
All Ages	1.5	3.0	4.3
Aged 16 to 64	-1.9	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base). Note that 'NP11' refers to the combined 11 LEP/ CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

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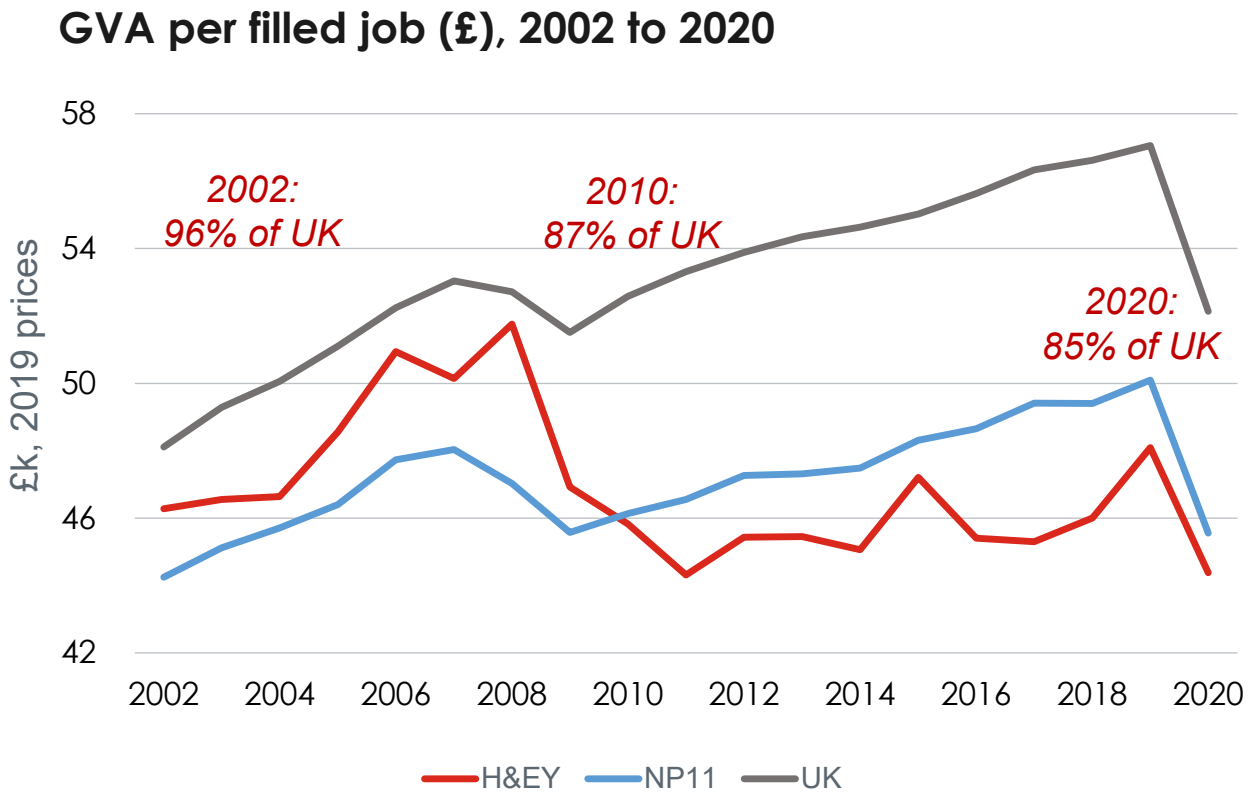
Economic profile: Scale and productivity

- The 'productivity gap' with the rest of the UK has widened since the financial crisis (although there has been improvement since 2016). Energy, food and agriculture, life sciences and other primary industries are all more productive here than they are nationally[1].

Overall GVA and productivity		
Total GVA	£12.29 bn	3.7% of NP11
GVA per filled job	£48.70 k	

GVA growth (CAGR, %)	H&EY	NP11	UK
2008-2013	-2.3	0.1	0.6
2014-2019	2.4	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	H&EY	NP11	UK
2008-2013	-2.6	0.1	0.6
2014-2019	1.3	1.1	0.9



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis.

[1] Cambridge Econometrics analysis (relating to former Humber area)

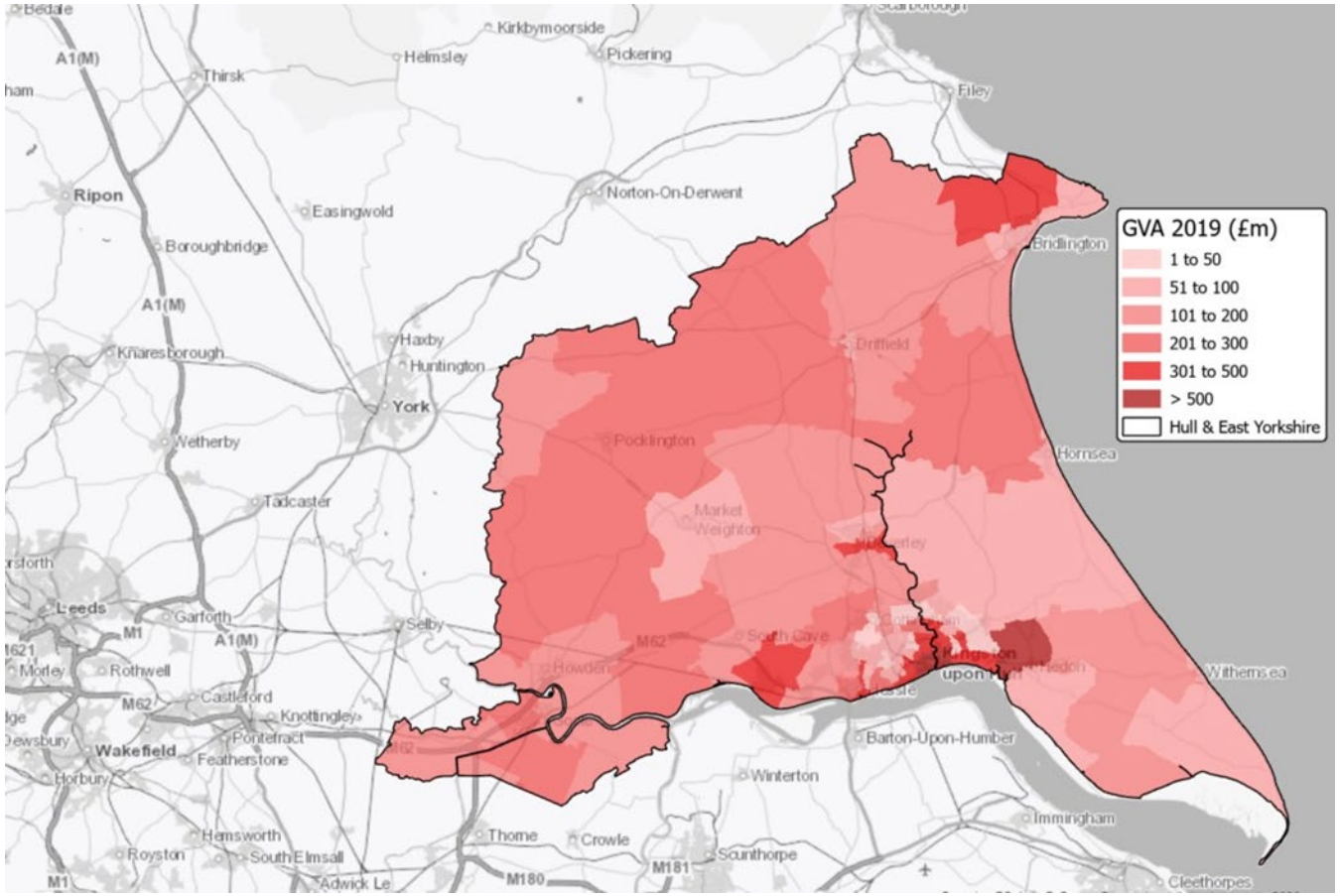
Economic profile: Concentrations of output

- Reflecting the population distribution, the highest concentration of economic activity is around the city of Hull, especially in Hull city centre, and the east of the city around the Saltend Chemicals Park (home to Ineos, Mitsubishi Chemical, Yara ammonia, BP, Saltend power station and a range of other chemicals and energy businesses). Along the Humber, there are also smaller concentrations of activity within the industrial parks along the A63 corridor.

- Beyond Hull and the A63/M62, economic activity is more dispersed, although there are concentrations around Beverley and Bridlington (including some manufacturing activity in the latter), Goole and East Riding's market towns and local centres.

Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

Local concentrations of GVA (£m, 2019)



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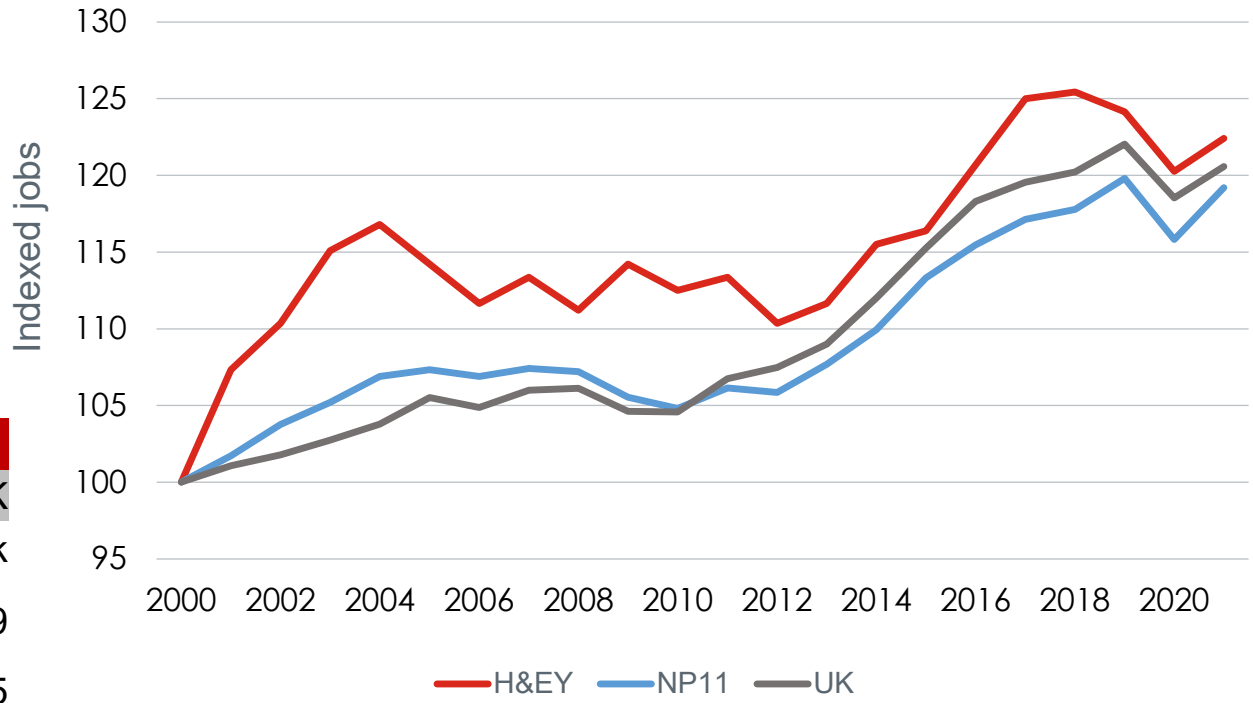
Economic profile: Jobs

- Hull and East Yorkshire has performed strongly in terms of job creation in recent years, outperforming the rest of the UK and with especially strong growth in 2012-16. As a consequence, the 'jobs density' (the number of jobs per working age population) has risen quite sharply (although it is still somewhat lower than the national average).

- Jobs growth in HEY has been especially strong in 'associate professional and technical' and 'caring, leisure and other service' occupations, with a contraction over the past decade in customer service and sales and skilled trades occupations.

Jobs and jobs density			
	H&EY	NP11	UK
Total jobs, 2021	284 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.97	0.84	0.89
Jobs density, 2021	0.77	0.81	0.85
Change in jobs density, 2000-2021	0.12	0.08	0.06

Index of total jobs growth (2000 = 100), 2000 to 2001



Source: ONS, Jobs Density

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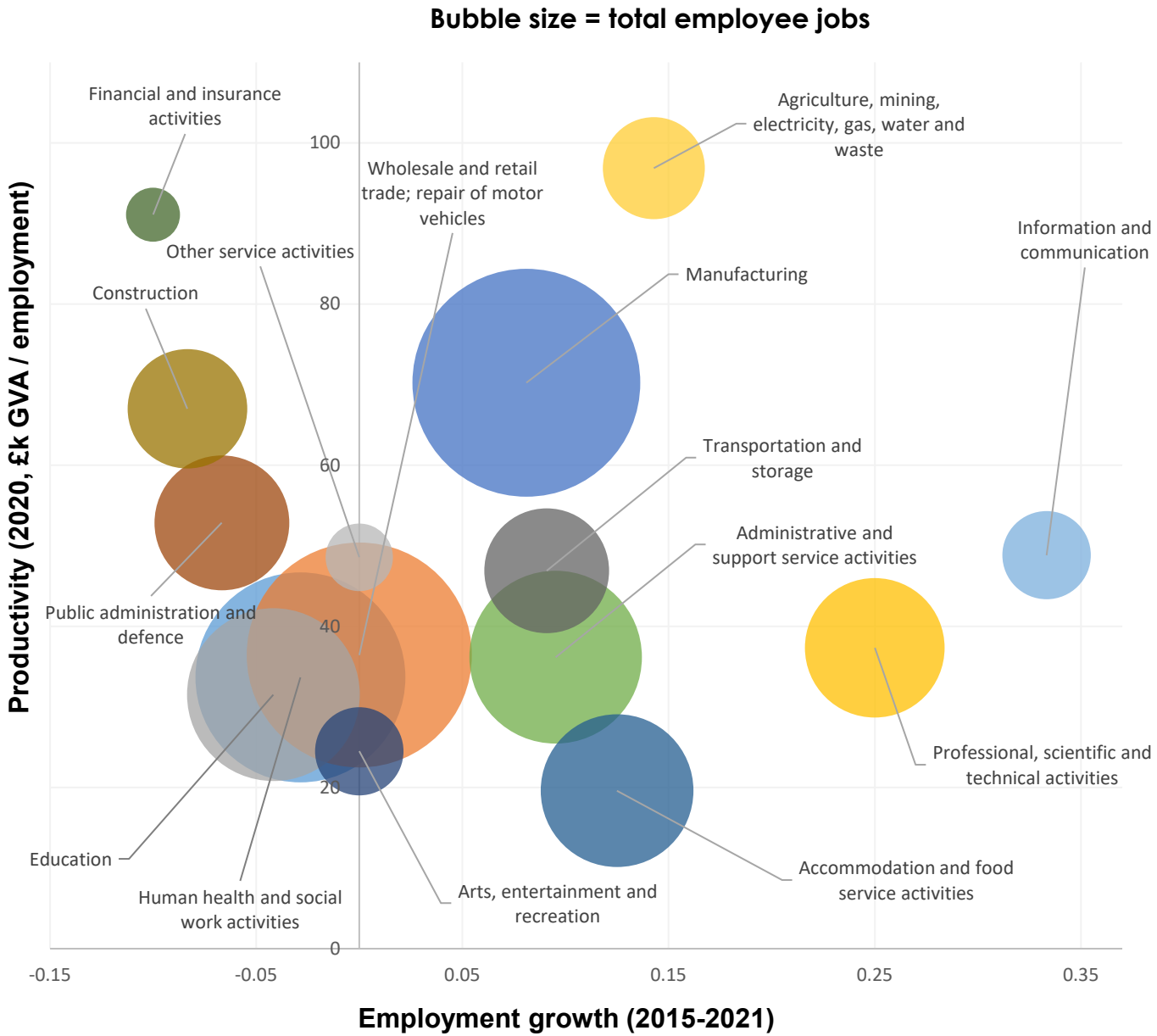
Economic profile: Sectors

- Information and communications, and profession activities recorded the greatest absolute growth in employment in 2015-21.
- Manufacturing sustains 40,000 jobs (with a high location quotient (LQ, a measure of employment concentration) of 2. Productivity within the manufacturing sector is also relatively high, with GVA of around £70,000 per employee. Manufacturing employment has been stable in recent years.
- Although relatively small in employment terms, primary industries are highly productive, and include the area's important energy sector. Finance and insurance is also highly productive, although small in employment terms and experiencing negative growth in 2015-21.



Source: ONS, GVA (B) and BRES, SQW analysis

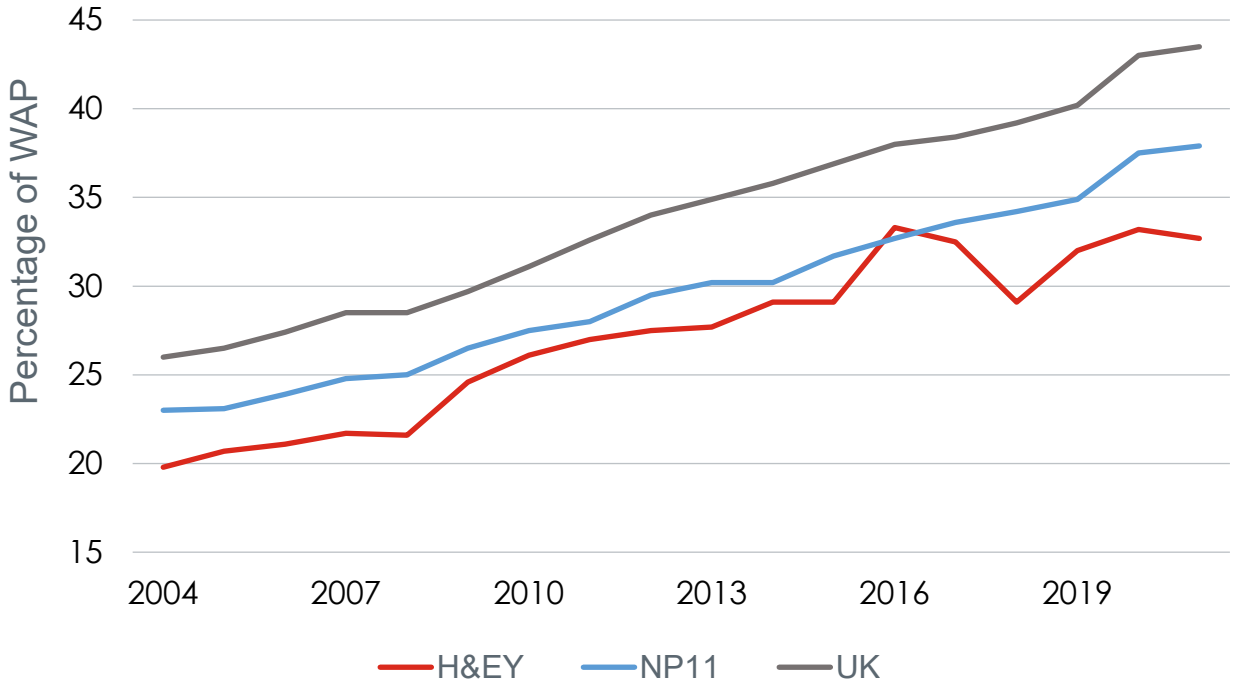
Economic profile: Workforce

- One third (36%) of the HEY working age population were qualified to NVQ4+ in 2019-21, lower than in the UK and the NP11 as a whole, although the trend towards higher qualifications broadly follows the national average.
- However, Working Futures projections anticipate that 46% of jobs will require Level 4 qualifications by 2030 – within interventions to close the 'higher-level skills gap' cited as a priority in HEY LEP's strategy[1].

% 16-64 qualified to…	H&EY	NP11	UK
NVQ4+	32.6	36.6	42.4
NVQ3+	53.8	56.4	60.5
NVQ2+	73.7	75.4	77.3
NVQ1+	86.1	86.0	87.0
Other qualifications	5.4	6.0	6.1
No qualifications	8.5	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



Source: ONS, Annual Population Survey

[1]. HEY LEP, Economic Growth and Workforce Wellbeing Strategy, p.56

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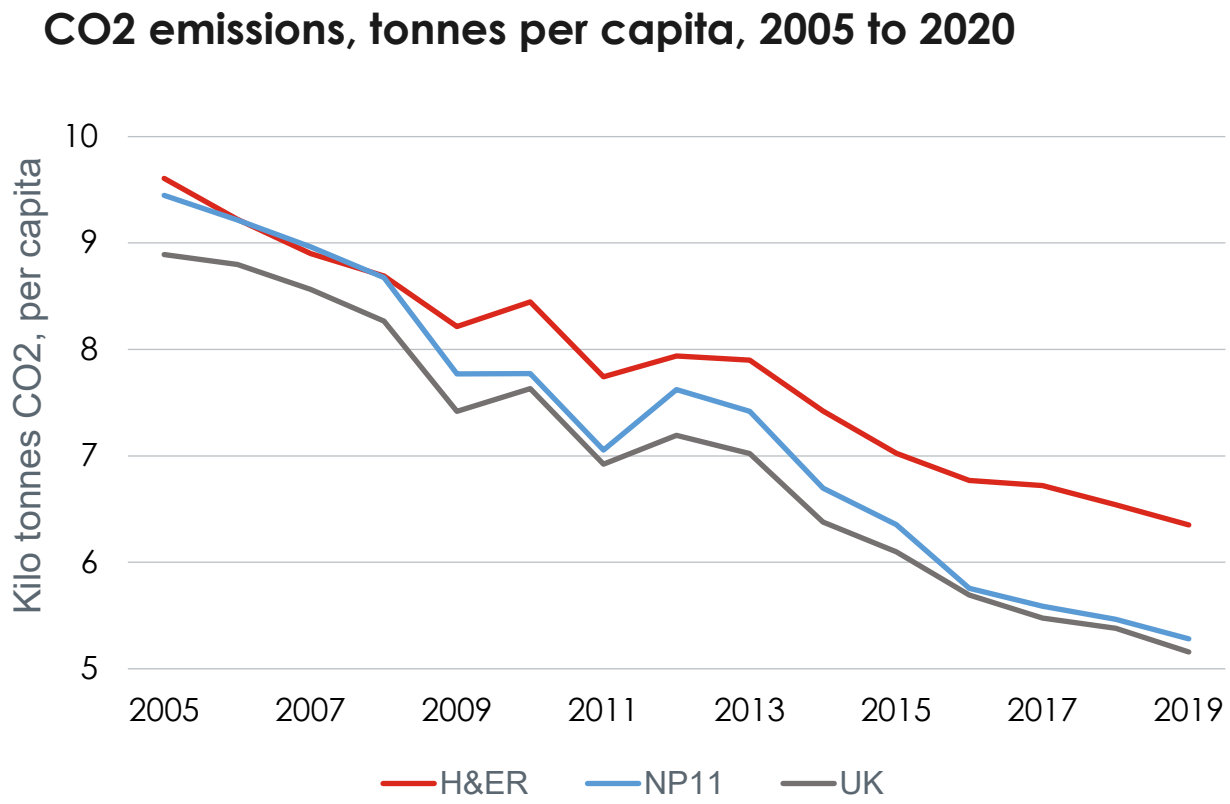
Economic profile: Carbon emissions

- HEY recorded a higher level of carbon emissions than the NP11 and the UK between 2005-20, with a somewhat slower rate of decline from 2009 onwards.
- This is partly due to high industrial emissions: which account for 30% of HEY's total CO2 emissions, compared with 23% nationally, reflecting the area's large manufacturing base. Nevertheless, in common with the rest of the country, industrial, commercial and domestic emissions have all fallen sharply, in contrast to emissions from the transport system, which have shown only a modest fall.

Carbon emissions			
	H&EY	NP11	UK
Total CO2 (kt, 2020)	3,532	73,000	313,159
Tonnes per capita	5.86	4.79	4.67
Tonnes per £m GVA	287	218	172



Source: BEIS, local authority territorial CO2 emissions

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Economic profile: Businesses

- In 2021, Hull and East Yorkshire had lower total levels of businesses, start-ups and high growth firms when adjusted for the population than the NP11 overall. Growth in the total business stock was also lower than the national and NP11 averages in 2015-21.
- According to the ONS, Hull and East Yorkshire has 20,500 firms. The business data and analytics firm Beauhurst tracks 160 firms in the area because they pass high-growth or innovation thresholds. This 'tracking rate' of 0.78% of firms is lower than the 0.98% observed across the Northern Powerhouse, and lower than the 1.15% rate for the UK as a whole.
- However, Hull has been cited as one of the "best places to start a business", driven by strong digital connectivity, local graduate retention rates and relatively low costs[1]. As elsewhere in the country, the business base mainly consists of small and micro businesses, with survival rates largely in line with the national picture (somewhat lower in Hull; somewhat higher in East Riding)[2].

Business demography, 2021	H&EY	NP11	UK
Total stock			
Total businesses	20,515	560,865	2,939,675
Business Starts	2,505	72,935	363,995
High growth firms	75	2,230	10,695
Business stock change, CAGR 2015-2021	1.2	1.8	1.6
Per 100,000 working age population			
Total businesses	5,537	5,910	8,257
Business Starts	676	768	1,022
High growth firms	20.2	23.5	30.0
Business stock change, CAGR 2015-2021	1.2	1.6	1.2

Source: ONS, Business Demography, 2021

1. StartupsGeek (https://www.creative.onl/startupsgeek/uk-startup-business-data/#hull)
2. HEY LEP Economic Growth and Workforce Wellbeing Strategy 2021-26, p.43

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- HEY LEP's strategy describes 'Engineering and Manufacturing and Assembly' as a key regional strength, with a diverse manufacturing and assembly base partly driven by proximity to the Humber ports and the ease of access that this provides for inputs and to export markets.
- Sub-sectors include mobile homes, modular buildings and specialist vehicles (including the UK's largest concentration of mobile home manufacturers at Hull and Bridlington); furniture and wood products; and fabricated metal products.
- The area's large **petrochemicals** industry has led to a significant presence in materials and components for food, pharmaceuticals, adhesives, packaging and other uses. Saltend Chemicals Park in East Riding is a major centre of activity (including Ineos' global technology and development team); while the speciality chemicals and ingredients firm Croda is based at Goole and maintains manufacturing capacity in the area (along with R&D facilities elsewhere in the North). This is also supported by the University of Hull's strong chemical engineering presence. The chemicals industry is an important part of the Zero Carbon Humber industrial cluster initiative (which is itself linked with Teesside through the wider East Coast Cluster proposal).
- In relation to the **offshore energy** market, Siemens Gamesa opened a major wind turbine blade factory in Hull in 2016. Siemens has announced a further investment of £168 million in 2021, substantially expanding the existing facility, creating 300 new jobs which will take the total to over 800 employees.
- Major investment is also currently underway in **rail industry manufacturing**, with Siemens Mobility's train manufacturing plant and supply chain rail village under construction at the Goole 36 Enterprise Zone site. When complete, the new factory will develop rolling stock for London Underground and mainline trains. Linked with the factory itself, plans are underway for a Rail Accelerator and Innovation Solutions Hub for Enterprise (RaISE) to support SME development linked with the rail industry supply chain.
- **Food manufacturing** has a large presence (e.g., Cranswick at Hull), linked with the area's wider agriculture/ food production sector.

Contribution to the North's 'prime capabilities'

Energy

- Hull and East Yorkshire have a long energy production history, which is closely linked with the Humber's concentration of energy-intensive industries. The Easington Gas Terminal at Holderness is one of six main terminals in the UK, processing North Sea gas. More recently, the Hornsea Wind Farm has been developed as one of three main offshore wind farms off the East Coast, contributing to the decision by Siemens Gamesa to develop their turbine blades manufacturing operation at Hull.
- The Zero Carbon Humber initiative incorporates a number of major energy projects within Hull and East Yorkshire. These include
  - The potential for CO2 capture and storage at the Easington terminal
  - The proposed 'H2H Saltend Project, involving low carbon hydrogen production at the Saltend chemicals park, enabling industry on the park to switch to lower carbon energy sources and opening up the potential for ammonia production for export
  - The world's first sustainable rare earth metal separation facility, proposed by Pensana, will also be at Saltend
  - Proposed low carbon hydrogen storage at Aldbrough on the east coast
  - Spencer Group's Energy Works Advanced Gasification Energy Recovery Facility (waste to energy) at Hull
- Just outside Hull and East Yorkshire, there are further low-carbon energy projects being taken forward as part of the wider Humber energy cluster. These include the conversion of Drax (just over the border in North Yorkshire) to bioenergy with carbon capture (generating negative emissions), and plans for hydrogen production and a hydrogen-fired power station on the southern bank of the Humber.
- The Aura Innovation Centre supports business access to research and the renewable energy supply chain.
- The area's energy potential is prominent in strategy, such as *The Humber: A 2030 Vision for Industrial Decarbonisation* and the *Clean Growth White Paper* (2019) developed for the former Humber LEP noting the scale of power generation assets and infrastructure alongside the need to decarbonise the high-carbon industrial base at scale.

Contribution to the North's 'prime capabilities'

Health innovation

- There is a substantial life science and health technology sector in Hull and East Yorkshire. Reckitt (formerly Reckitt Benckiser) was founded in Hull and is a leading global consumer healthcare, nutrition and cleaning brand. In 2019, Reckitt opened a new £200 million Science and Innovation Centre, focused on the development of consumer health products, and is also investing in the expansion of its Hull manufacturing operations.
- Following the establishment of the Hull-York Medical School (a joint venture between the Universities of Hull and York), investment has included the development of the £28m Allam Medical Building is at the heart of the University of Hull's Health Campus, with a simulated hospital environment and other high-tech facilities, as well as the new Institute for Clinical and Applied Health Research. Reckitt is also sponsoring drug development postgraduate courses at the University, linked with the medical school.
- In **medical technologies**, Smith and Nephew was founded in Hull. It currently has a manufacturing presence in the city, focused on high-technology wound care products, developing specialist coatings and films, and including an R&D centre. In 2022, the company announced its relocation to a new R&D, manufacturing and office centre at Melton, in East Riding. In 2018, Smith and Nephew also entered into a five-year collaboration agreement with the University of Hull (according to the University, around 25% of Smith & Nephew's wound research and development staff are University of Hull graduates).
- More broadly, the pharmaceutical and health care applications of some of Hull and East Yorkshire's chemicals activities were highlighted earlier (for example, Ineos Acetyls at Saltend Chemicals Park, and Croda at Goole).

Contribution to the North's 'prime capabilities'

Digital

- Excellent digital connectivity has been an important part of Hull's offer, building on the telecoms infrastructure delivered by its unique local provider KCOM. Ultrafast fibre to the premises is being rolled out across Hull and East Yorkshire (albeit with some rural gaps in provision, as is the case elsewhere in the country).
- TechNation identifies Hull as having a significant regional tech cluster. Locally-based software and tech companies include Connexin (internet of things and smart city technology) and 'software as a service' provider Bombyx. Incubator facilities are also offered by the Centre for Digital Innovation (C4DI) Campus in the Fruit Market in central Hull.
- The Press Association has a digital media centre at Howden, and HEY LEP notes the presence of computer programming activities at Pocklington, Beverley and Haltemprice.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• The financial and professional services sector is relatively small in Hull and East Yorkshire. While important in serving local markets, it is not cited as a priority sector in regional strategy and there is no nationally-significant presence.
Logistics	• The Humber is a major gateway to the UK, and there is a close relationship between parts of the manufacturing and engineering and energy sectors cited earlier and the area's ports and logistics infrastructure. The Port of Hull is the UK's largest softwood timber port and supports a container port and ferry services to continental Europe. Port of Goole is the UK's most inland port, supporting (among other products) bulk agri goods and construction materials. • Hull and Goole are both part of the Humber Freeport (along with Humber South Bank and Grimsby and Immingham), with the potential to support additional manufacturing and value-added activity.
Education	• University of Hull is a major research university, with around 14,000 students in 2019/20. • The Modal Training Centre in Immingham is a centre of excellence for maritime, logistics and safety training, and is part of the TEC Partnership. • Many businesses in the manufacturing cluster are active in supporting the development of the HEY workforce. Technical skills development is supported by the industry-led CATCH facility as well as through colleges and training providers. The Ron Dearing University Technical College (UTC), which opened in September 2017, specialises in digital technology and 'mechatronics' – the combination of computing and engineering.

Economic strategy and direction

- HEY LEP adopted its Economic Growth and Workforce Wellbeing Strategy in February 2022. The Strategy is focused on developing a more productive economy by creating the conditions for greater entrepreneurship, innovation and investment; maximising opportunities for clean growth; creating a more highly skilled and inclusive economy; and making he area a more attractive place to live and invest in. The Strategy takes a broad view of the economy, explicitly setting out the links between economic growth (and the *nature* of economic growth), health and the environment. There is also a focus on workforce skills development (a theme common to local industrial strategies and equivalents across the North) and to retaining and attracting younger people in the light of an ageing demographic.
- The Strategy identifies eight sectors with growth capacity. These fall into three categories: those sectors in which **productivity is relatively high and there are high levels of employment** (ports and logistics; engineering, manufacturing and assembly; agriculture, horticulture, food manufacturing and agri-tech; and construction); those in which **employment is relatively high but there is scope for productivity improvements** (health technologies, pharmaceuticals and health and social care; and tourism and culture); and **newer and fast-growing** sectors (digital and low carbon technologies).
- As the earlier analysis highlights, there are important links across these priorities. In particular, **the 'net zero' imperative has specific implications for Hull and East Yorkshire**, given the energy intensity of much of the area's industrial base (and the risks that this presents to energy costs and regulatory change) and its vulnerability to the impacts of climate change (with, for example, over 90% of Hull standing below the high-tide line). On the other hand, the region's energy generation opportunities are significant, and are highly integrated with the area's industrial base and ports infrastructure. The ambition to develop a 'net zero industrial cluster' by 2040 is important in this context, and the Humber Freeport could potentially contribute to this.
- In governance terms, there have been some changes over the past couple of years, with the rationalisation of LEP geographies and the establishment of HEY LEP. However, links with the area to the south of the Humber are important and are reflected in the Zero Carbon Humber proposition and the geography of the Freeport.

Local profile: North Lincolnshire and North East Lincolnshire

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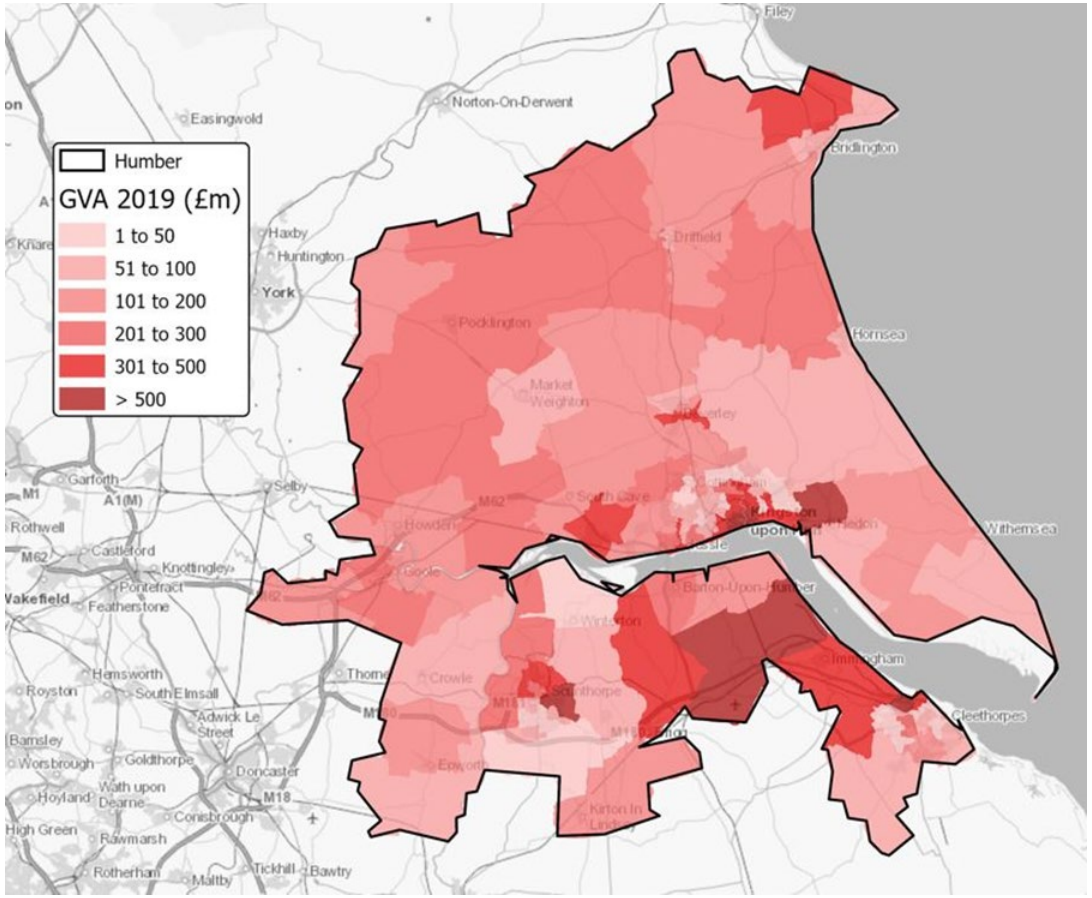
North and North East Lincolnshire and the wider Humber

- Although this Area Profile is focused on Hull and East Yorkshire, as as defined LEP area, the local authority areas of North Lincolnshire and North East Lincolnshire are within the Yorkshire and Humber 'ITL1' area commonly used for regional statistics, although form part of the Greater Lincoln LEP area.
- As part of the Greater Lincoln LEP area, the following LEP strategies and evidence are relevant to the reader, Greater Lincolnshire LEP, Consolidated Local Industrial Strategy Evidence Base, Local_Industrial_Strategy_2021 and Economic Plan for Growth 2021.
- The following pages highlight further key data and characteristics of North and North East Lincolnshire from official statistics.
- The map illustrates, economic activity is quite heavily concentrated south of the Humber, especially around the port and oil refineries at Immingham (Phillips 66's Humber Refinery and the Total Lindsey Oil Refinery, together account for around 25% of UK capacity, and the area also hosts biofuel producers like Greenergy); the British Steel works at Scunthorpe and, to a lesser extent, around Grimsby.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

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North and North East Lincolnshire profile

- In 2021, North and North East Lincolnshire (N&NEL) had a total population of 327,000 and a working age population of 197,000 (around 60% of the total). Population growth is forecast to be minimal over the next decade, with a contraction in the working age population.
- **GVA per filled job** is somewhat higher than in HEY LEP (and higher than the NP11 average), reflecting the importance of the (relatively high productivity) manufacturing sector locally). However, the area was hard hit in the five year period following recession in 2008 and recovery has been slow in the five years since.
- **Carbon emissions are relatively high** (among the highest in the country) reflecting the industrial base and the dominance of energy-intensive activities. The 23 tonnes of annual carbon emissions per capita compare with 6 tonnes in HEY and 5 nationally.
- **Workforce skills are relatively low**, with 28% qualified to NVQ4+ (three year average 2018-20), compared with about 40% nationally.

Population	2021	Growth % 2001-21	Forecast % 2022-30
Total	327,137	5.2	0.3
Aged 16-64	197,086	2.0	-3.1

Source: ONS Mid Year Population Estimates; Population Projections (2018 base)

Economy	2019	CAGR % 2008-13	CAGR % 2014-19
GVA	£7.58bn	-1.8	1.0
Productivity	£50.7k	-1.3	0.7

Source: ONS, GVA (B) per filled job, 2018 prices

Education	
16-64 pop qualified to NVQ4+	28%

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

Carbon emissions	
Total CO2 (kt, 2020)	7,708
Tonnes per capita	23.2
Tonnes per £m GVA	1,070

Source: BEIS, local authority territorial CO2 emissions

North and North East Lincolnshire

- In 2021 there were 168,000 jobs in N&NEL with a job density of 0.85. The period 2001-21 saw a 0.67% compound annual growth rate in job growth, translating to a 0.09 percentage point increase in job density. So the rate of job growth has risen faster than the working population.

- In 2020 there were around 11,000 businesses in the area and business growth rates recorded year on year increases between 2015-21 of 0.5%. The business density rate is comparable with that of Hull and East Yorkshire, although below the UK average.

- Sectorally, the North and North East Lincolnshire economy is quite distinctive. Around 20% of all employee jobs are in manufacturing (a location quotient of 2.6), with transport and distribution, construction and utilities also relatively highly concentrated.

Jobs and jobs density	
Total jobs, 2021	168,000
Jobs growth (CAGR, 2001-21), %	0.67%
Jobs density, 2021	0.85
Change in jobs density, 2001-21	0.09

Source: ONS, Jobs Density

Business demography, 2021	
Total stock	
Total businesses	11,020
Business starts	1,265
High growth firms	40
Business stock change, CAGR 2015-20	0.5%
Per 100,000 working age population	
Total businesses	5,591
Business starts	642
High growth firms	20

Source: ONS, Business Demography, 2021

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Strategy and evidence bibliography

- East Riding of Yorkshire Council, East Riding Economic Strategy 2018-2022, 2018
- East Riding of Yorkshire Council, East Riding Economic Strategy and Action Plan 2018-2022, 2018
- Greater Lincolnshire LEP, Greater Lincolnshire LEP, Consolidated Local Industrial Strategy Evidence Base, November 2019
- CATCH, the HEY LEP and industry partners, The Humber: A 2030 Vision for Industrial Decarbonisation, January 2021
- Hull & East Yorkshire LEP, Humber Estuary Plan, January 2021
- Greater Lincolnshire LEP, Local_Industrial_Strategy_2021, January 2021
- Greater Lincolnshire LEP, Economic Plan for Growth 2021, March 2021
- Hull City Council, Hull's Economic Strategy 2021-2026, 2021
- Hull & East Yorkshire LEP, HEY LEP Economic Growth & Workforce Wellbeing Strategy 2021-2026, February 2022

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Lancashire

June 2022 | Updated March 2023

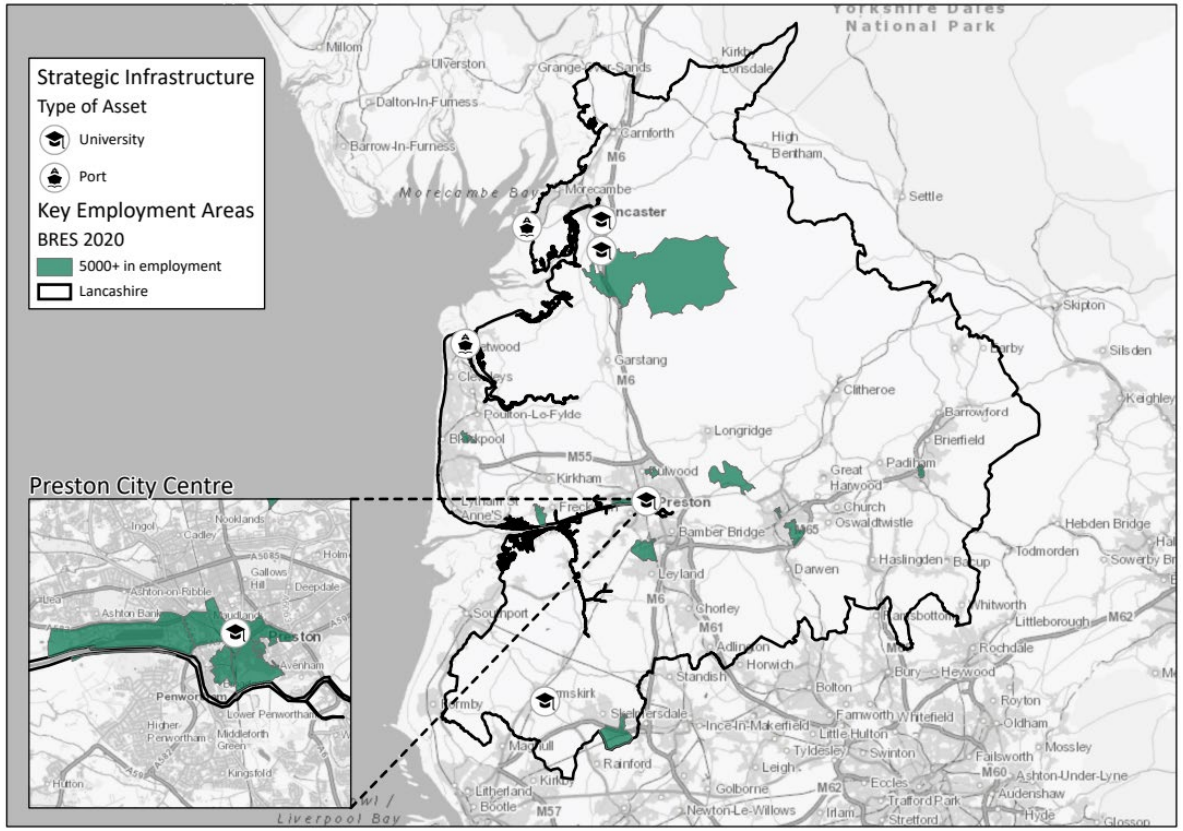
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for Lancashire, drawing on nationally-available data, as well as the analysis contained in extensive *Lancashire Independent Economic Review* (LIER) and the wider evidence base. It also provides a synthesis of the LEP's economic aspirations and priorities. Documents used are referenced at the end of this document.

Lancashire: Overview

- Lancashire consists of the Lancashire County Council area and its 12 districts and the two unitary authorities of Blackburn with Darwen and Blackpool.
- The county has a complex and diverse economic geography. Historically a major industrial centre (and still with a large manufacturing base), most people live within a 'central belt' running from Colne through Burnley, Accrington, Blackburn, Leyland and Preston to Blackpool on the west coast. Other key settlements include Morecambe, Heysham and the university city of Lancaster in the north; and Chorley. No single town or city dominates, and Lancashire's towns are a combination of coastal resorts and ports, and (post)industrial and commercial centres. Beyond the main towns, much of Lancashire is rural, including two AONBs; the Forest of Bowland and Arnside & Silverdale, and striking Pennine landscapes.
- The core transport links run north-south, along the M6 and West Coast Main Line, with east-west connections via the M65 to Blackburn and Burnley and the M55 to Blackpool and a series of east-west rail lines to Blackpool, Burnley and Clitheroe and beyond (and from Blackburn and Burnley to Manchester). However, the LIER highlights relatively weak east-west connectivity.
- Links beyond Lancashire are important: south to Manchester and Liverpool and north from Lancaster into Cumbria.
-

Key infrastructure and employment concentrations



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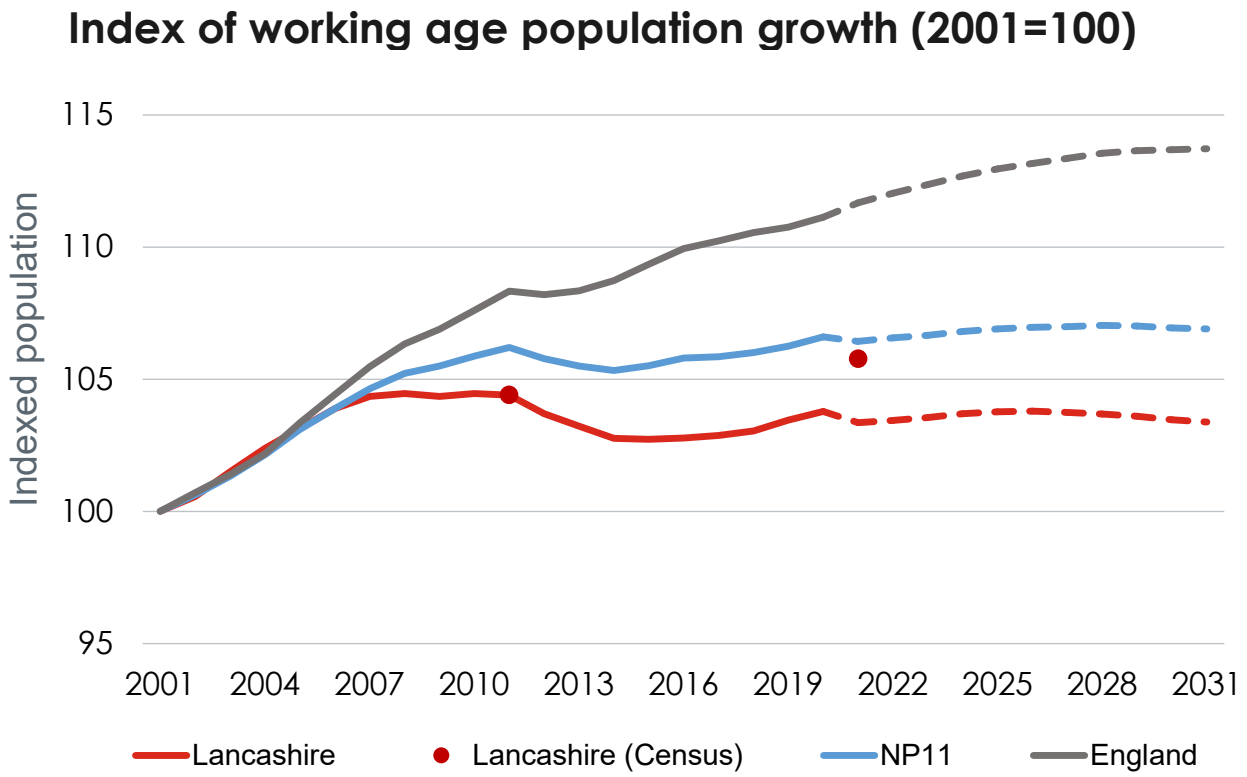
Economic profile: Population and workforce

- Lancashire's population has grown more slowly than that of the NP11 and England overall.
- Over the next decade, the *total* population is forecast to grow at a similar rate to the rest of the North. But the *working age* population is expected to be essentially static.

Population 2021	
Total	1,531,900
Aged 16 to 64	940,200

Historic population growth (2001-2021), %			
	Lancashire	NP11	England
All Ages	7.0	9.4	15.2
Aged 16 to 64	3.4	6.4	11.7

Forecast population growth (2022-2031), %			
	Lancashire	NP11	England
All Ages	2.9	3.0	4.3
Aged 16 to 64	0.1	0.5	2.0



Source: ONS Mid Year Population Estimates; Population Projections (2018 base)
Note that 'NP11' refers to the combined 11 LEP/CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

Economic profile: Scale and productivity

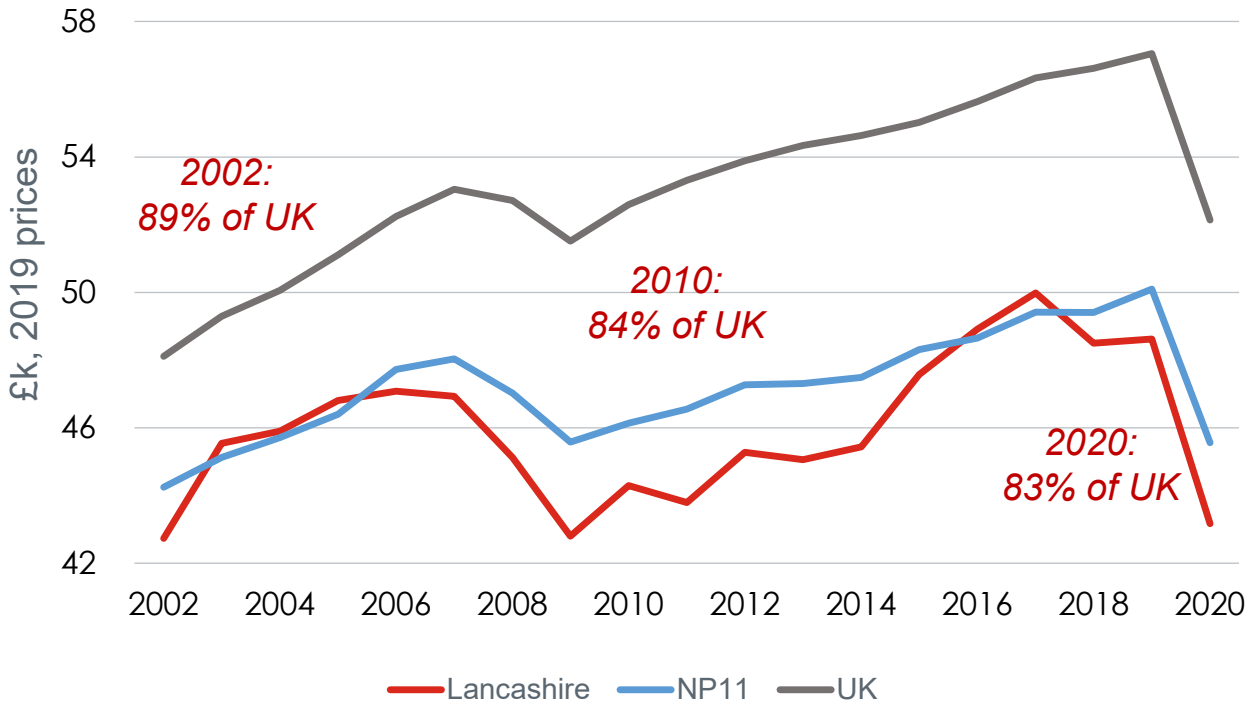
- Lancashire's 'productivity gap' with the rest of the UK is long-standing: in 2020, GVA per filled job in Lancashire was 83% of that of the UK. The gap with the North is narrower and appears to have closed from 2015.

Overall GVA and productivity		
Total GVA	£30.95 bn	9.3% of NP11
GVA per filled job	£48.43 k	

GVA growth (CAGR, %)	Lancashire	NP11	UK
2008-2013	-0.4	0.1	0.6
2014-2019	1.9	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	Lancashire	NP11	UK
2008-2013	0.0	0.1	0.6
2014-2019	1.4	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

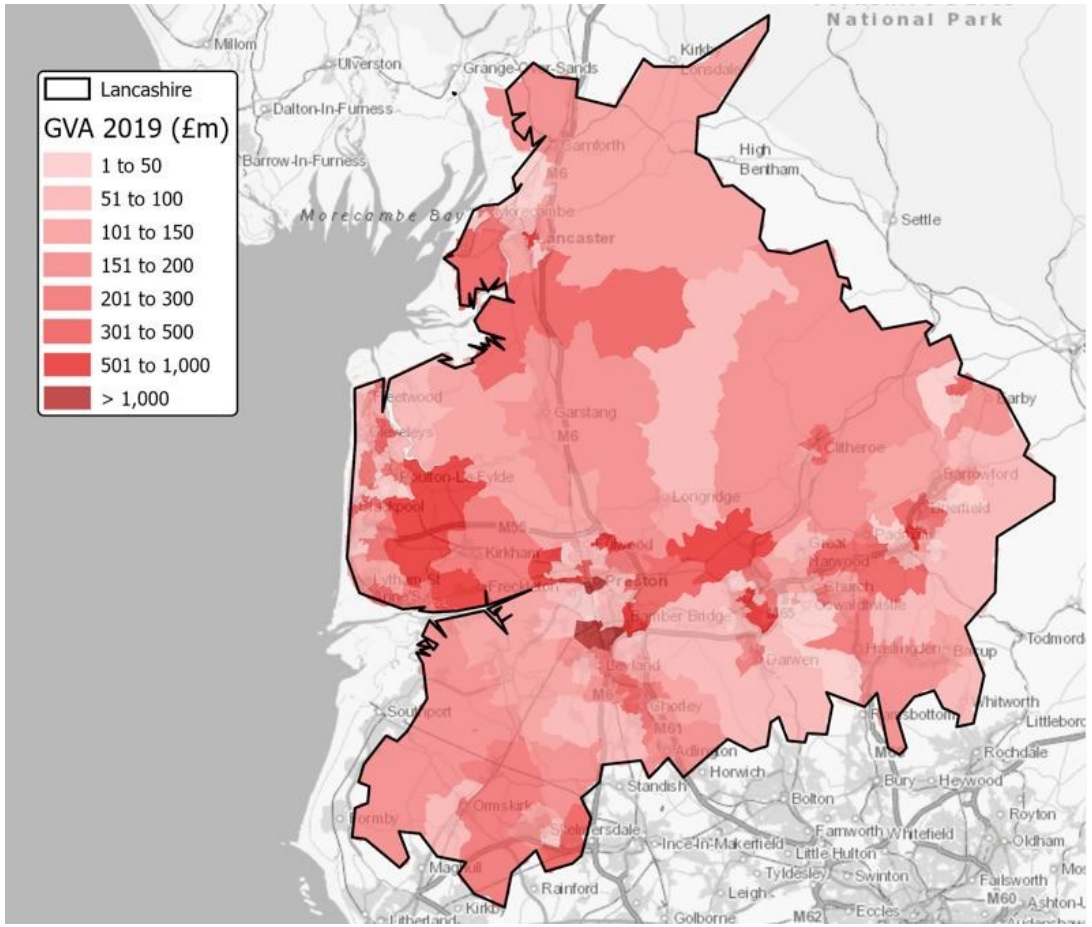
SQW

Economic profile: Concentrations of output

- Lancashire's concentrations of GVA partially, although not entirely, map onto the distribution of population (note for instance, relatively low local output concentrations in urban Blackpool).
- The largest concentrations of output include:
  - Leyland, including Leyland Trucks and a series of large business parks
  - Preston city centre, and to the north of the city, Millennium City Park and the concentrations of business parks in the North Preston Employment Area
  - Smaller town centre concentrations in Blackburn, Burnley and Lancaster
  - Some 'non-urban' concentrations – for example, north of Blackburn (including BAE Systems' military air and information advanced manufacturing and technology facility at Samlesbury); and east of Blackpool and the Fylde coast
- Although not visible on the output map, Lancashire has also historically had an important visitor and leisure economy (with significant investment in the pipeline at, for example, Eden Project Morecambe).

Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

Local concentrations of GVA (£m, 2019)



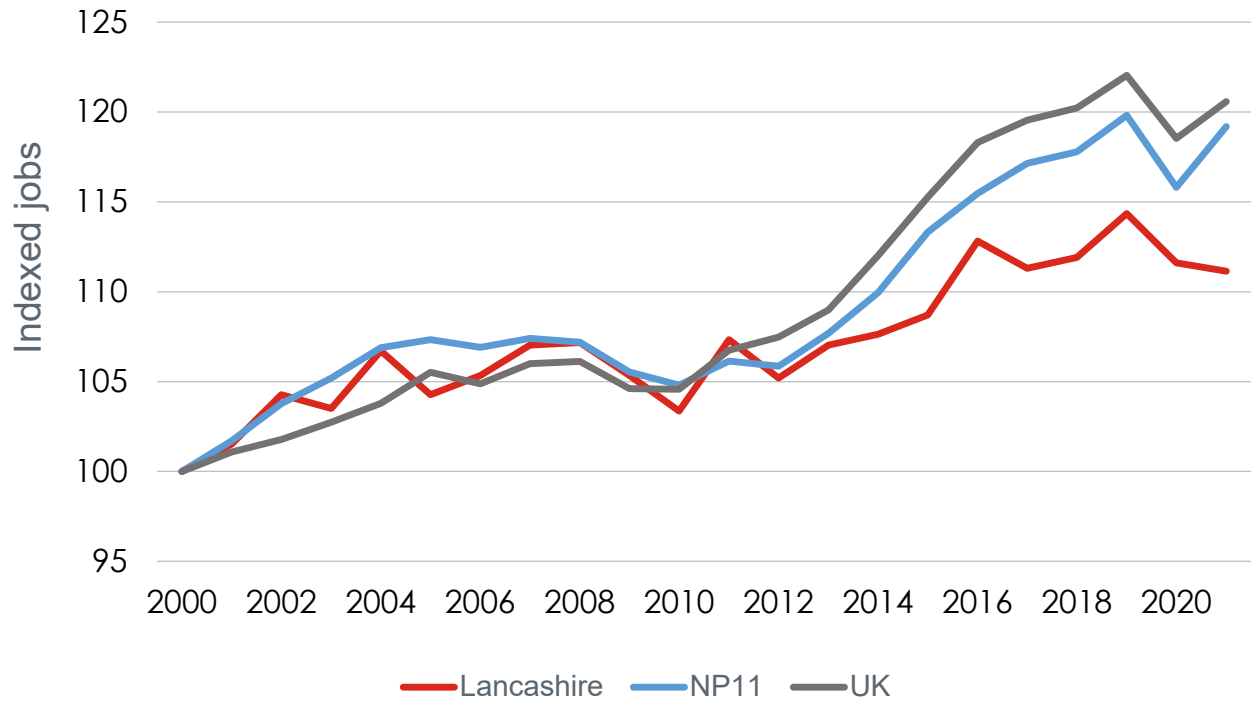
Economic profile: Jobs

- Jobs growth was fairly strong between 2012 and 2021, compared with the preceding decade. However, it was slower than in the rest of the UK (and the North as a whole). The jobs density (i.e. the number of jobs per person of working age) is also relatively low and has increased more slowly than the UK average.
- Jobs growth between 2010 and 2020 was strongest in managerial, professional and associate professional and technical occupations, with falling job numbers in skilled trades, process, plant and machine operatives, and 'elementary occupations'.

Jobs and jobs density

	Lancashire	NP11	UK
Total jobs, 2021	728 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.50	0.84	0.89
Jobs density, 2021	0.77	0.81	0.85
Change in jobs density, 2000-2021	0.03	0.08	0.06

Index of total jobs growth (2000 = 100), 2000 to 2021



Source: ONS, Jobs Density

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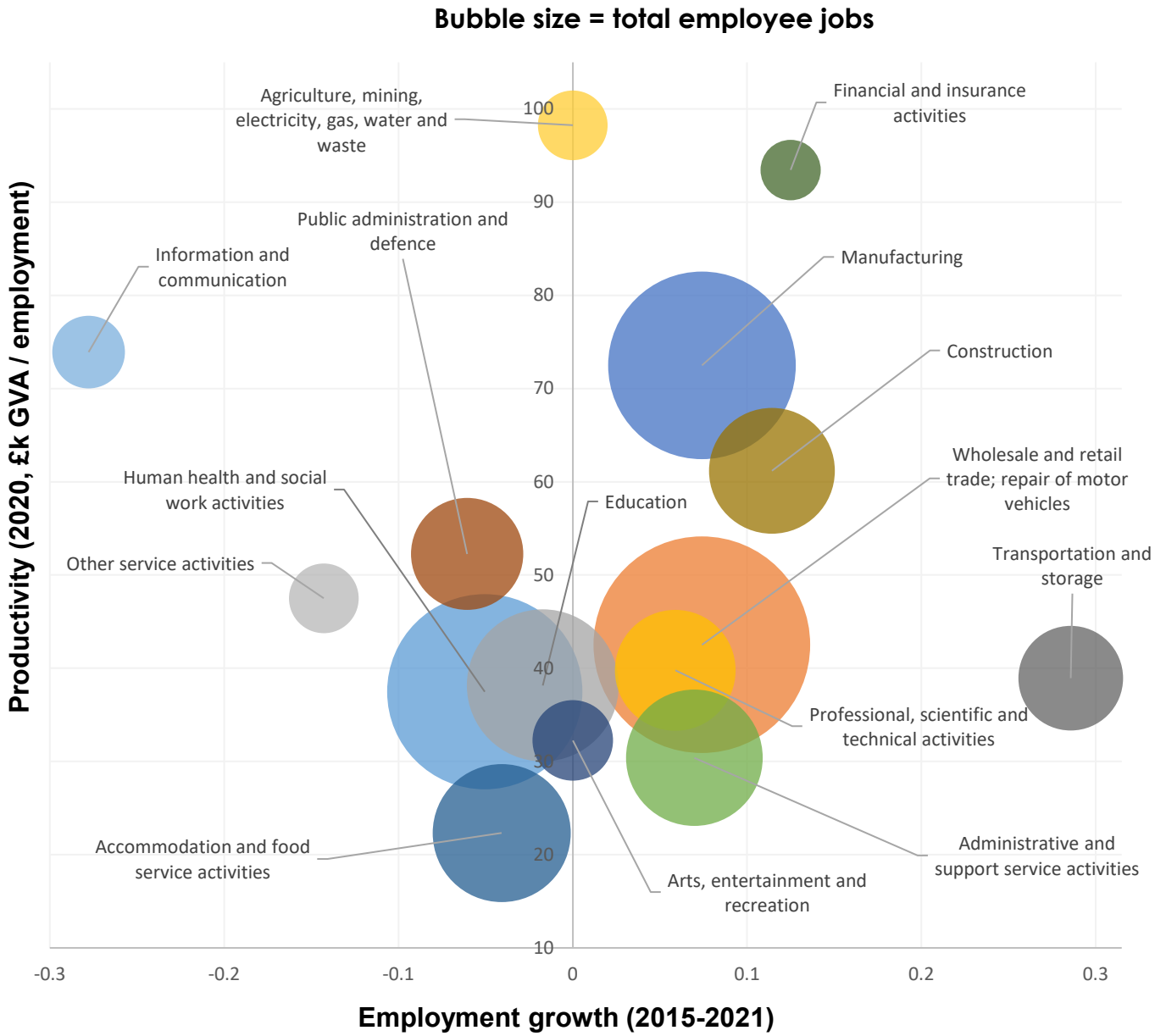
Economic profile: Sectors

- Manufacturing sustains around 87,000 jobs in Lancashire, with a 'location quotient' (LQ, a measure of relative employment concentration) of 1.7. Manufacturing employment has been resilient in recent years, increasing by almost 7.4% between 2015 and 2021. The sector is also relatively productive, generating around £72k per filled job (compared with an all-industries average of £55k).
- The largest employment sectors are health and social work and wholesale and retail, both of have slightly low productivity of around £40k per job.
- Professional, scientific and technical services and transport and storage have also seen growth in recent years.
- Although relatively small in employment terms, information and communications is relatively productive, although employment has fallen since 2015.



Source: ONS, GVA (B) and BRES, SQW analysis

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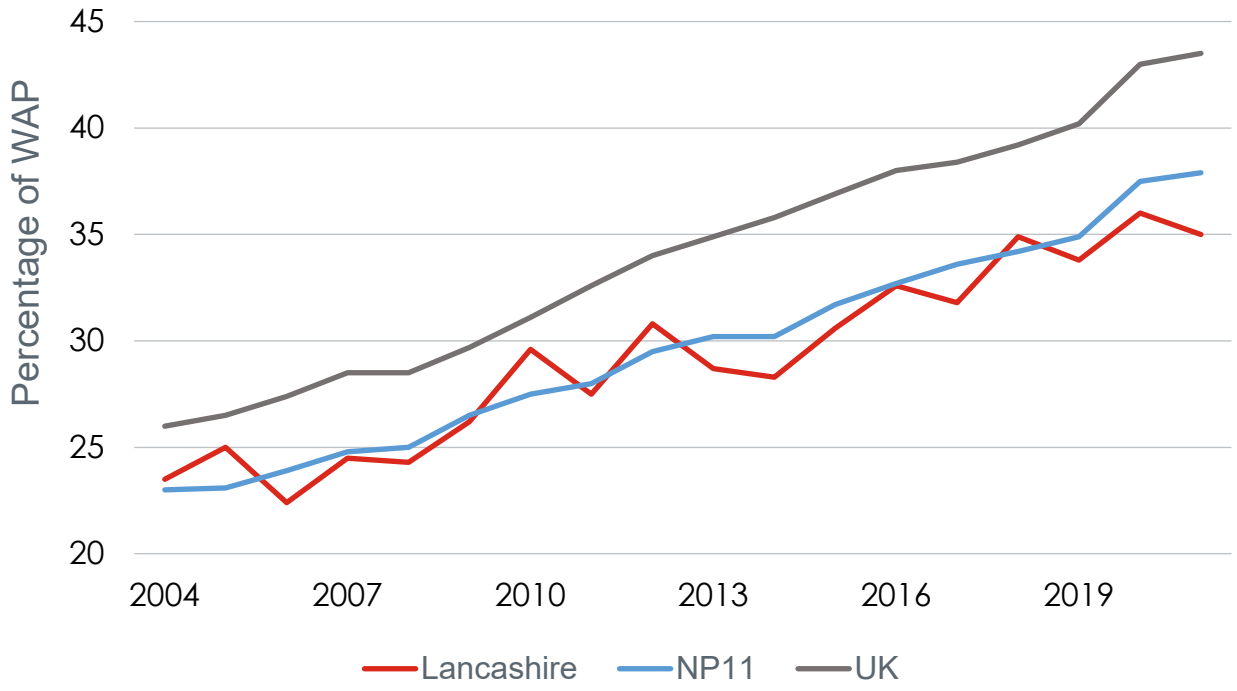
Economic profile: Workforce

- The proportion of the working age population qualified to NVQ4+ has increased over time, with Lancashire following the NP11 trajectory. However, there is a deficit with the rest of the UK.
- The LIER notes significant *intra*-county disparities, suggesting that relatively low skills are both a supply and demand issue (i.e., raising employer demand for skills is as important as improving the supply). It also finds that the lowest performing 'life stages' are in early years and in working years.

% 16-64 qualified to…	Lancashire	NP11	UK
NVQ4+	34.9	36.6	42.4
NVQ3+	55.3	56.4	60.5
NVQ2+	75.3	75.4	77.3
NVQ1+	87.1	86.0	87.0
Other qualifications	5.1	6.0	6.1
No qualifications	7.9	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021

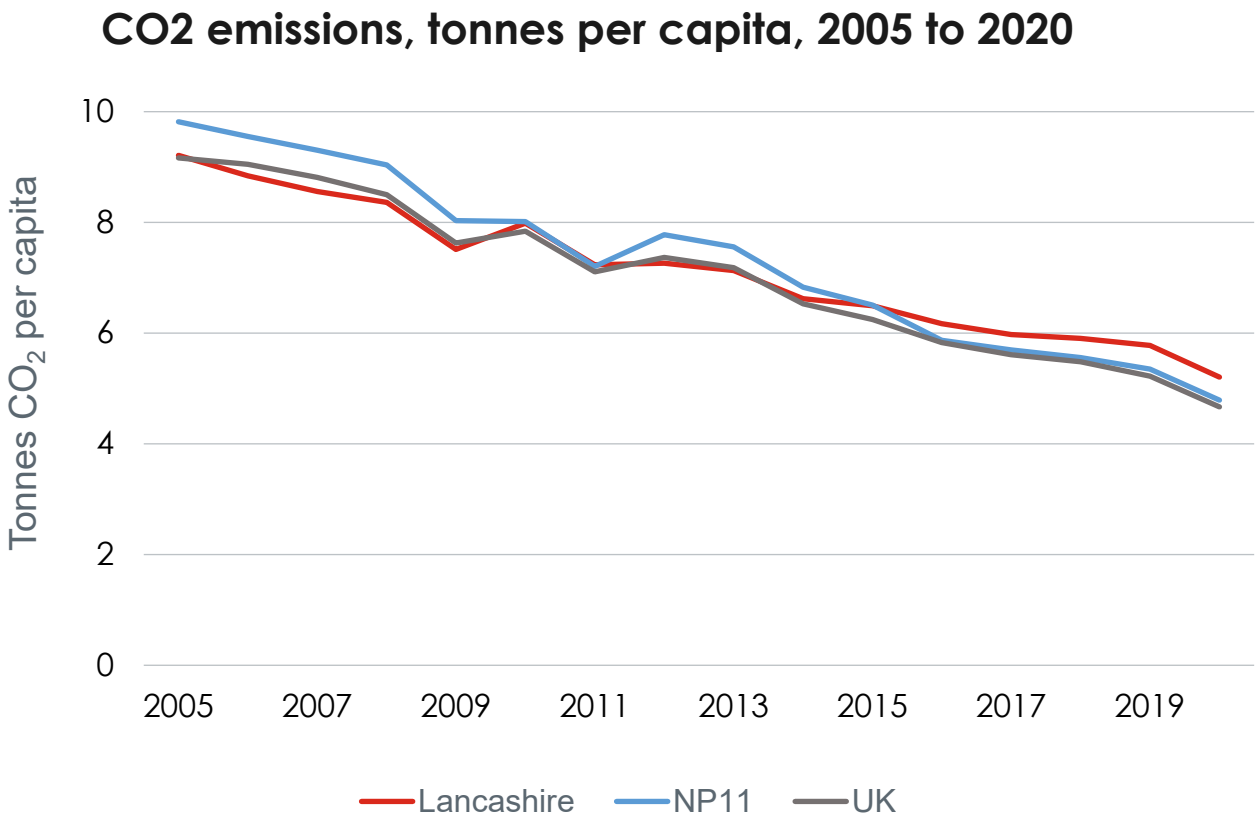


Source: ONS, Annual Population Survey

Economic profile: Carbon emissions

- CO2 emissions per capita are largely the same in Lancashire as in the rest of the UK and have been on a consistent downwards trajectory for several years.
- Over time, the largest falls in emissions have been in industrial uses (and to a lesser extent residential), although transport emissions have been slower to decline.

Carbon emissions			
	Lancashire	NP11	UK
Total CO2 (kt, 2020)	7,882	73,000	313,159
Tonnes per capita	5.20	4.79	4.67
Tonnes per £m GVA	255	218	172



Source: BEIS, local authority territorial CO2 emissions

Economic profile: Businesses

- In 2021, Lancashire had a somewhat higher level of 'enterprise intensity' (the number of businesses per 100,000 working age population) than the North overall, although this was still below the UK average.
- The number of active businesses in Lancashire (per 100,000 of the working age population) has increased year on year since 2015. However, this has been at a slower rate compared to the NP11 and the UK.
- The Beauhurst data company tracks 428 firms in Lancashire because they pass 'high-growth' or 'innovation' thresholds. This tracking rate of 0.75% of the total business stock is lower than the 0.98% rate in the Northern Powerhouse and lower than the 1.15% rate for the UK as a whole.

Business demography, 2021			
	Lancashire	NP11	UK
Total stock			
Total businesses	57,640	560,865	2,939,675
Business Starts	7,515	72,935	363,995
High growth firms	230	2,230	10,695
Business stock change, CAGR 2015-2021	1.6	1.8	1.6
Per 100,000 working age population			
Total businesses	6,131	5,910	8,257
Business Starts	799	768	1,022
High growth firms	24.5	23.5	30.0
Business stock change, CAGR 2015-2021	1.1	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- Historically, Lancashire had a strong manufacturing presence, and the sector today is substantial, accounting for around 19% of the county's GVA. Research for the LIER highlighted strong recent GVA growth, finding that Lancashire accounted for 18% of *national* manufacturing growth between 2010 and 2019.
- **Aerospace** is a specific strength with the LIER finding a location quotient of 7.1 (and around 12,500 jobs) in 'air and spacecraft and related machinery'. Major employers include BAE Systems, which has two major sites in Lancashire, at Samlesbury and Warton. BAE maintains its Academy for Skills and Knowledge at the Samlesbury site. Elsewhere in the aerospace sector, Rolls-Royce manufactures Trent jet engine blades at Barnoldswick.
- Beyond aerospace, **Lancashire's manufacturing sector is diverse**, with strengths in automotive (e.g. Leyland Trucks), paper, plastics and food manufacturing. As part of the LIER, a 'deep dive ' into Lancashire's manufacturing sector found that:
  - Only about 35% of employment in the manufacturing sector is 'advanced' (based on a SIC code-based definition used for the LIER). But the report notes that the county's diverse SME base is *"too important to Lancashire's economic success to be overlooked by a narrow focus on advanced manufacturing",* highlighting niche strengths in sub-sectors that are increasingly advanced in production methods and processes even if the final product does not meet the 'advanced' definition.
  - Local supply chain intensity varies between manufacturing sub-sectors, with the aerospace supply chain largely national and global, but with greater local intensity in (for example) food manufacturing.
- Key manufacturing assets include the **Advanced Manufacturing Research Centre (AMRC)** at Samlesbury, located on the Samlesbury Enterprise Zone (EZ). Building on the success of the original AMRC at Sheffield, this aims to connect the manufacturing ecosystem with advanced technologies and facilities. The Samlesbury EZ is part of a network of Enterprise Zones with different sectoral foci, with Hillhouse Technology EZ near Blackpool housing a number of firms with strengths in polymers and plastics technology.

Contribution to the North's 'prime capabilities'

Energy

- Lancashire has a long history of **nuclear power** generation. While the existing Heysham 1 and 2 nuclear power stations will close in 2024 and 2028 respectively, there is a major centre for nuclear fuel manufacturing at Westinghouse's Springfield site, near Preston. Work is underway to develop a Clean Energy Technology Park at Springfield, providing a hub for demonstrating and accelerating the commercialisation of nuclear-related technologies. Springfield is also home to the National Nuclear Laboratory. The county's nuclear capabilities – which, within the recent North West Nuclear Arc are shared with Cumbria and the wider region – are also supplemented by university research strengths at Lancaster and at the University of Central Lancashire's Nuclear Chemistry Laboratory at Preston.
- Most current and potential **renewable energy generation** is through wind. The Irish Sea is a major offshore wind location, including the existing Walney offshore wind farm and plans for new wind farms off Blackpool and Morecambe Bay. Onshore, the Scout Moor wind farm in Rossendale is one of the largest in the country, although the Lancashire Energy Strategy notes that total generation is still only a small proportion of capacity (less than 5% of potential in most Lancashire districts). The Energy Strategy also highlights potential for hydroelectric generation in Wyre and biomass in Chorley and Hyndburn. There is also scope for shale gas production.
- In terms of **research assets**, in addition to those highlighted above, Energy Lancaster based at Lancaster University specialises in the demand, supply and storage of energy; the Dynamics of Energy, Mobility and Demand Centre, also based at Lancaster University, focuses on the social science of future energy systems.
- More broadly, energy efficiency and the demands of a net zero economy are 'cross cutting' and highly relevant to Lancashire's manufacturing base. Lancashire Energy HQ is a STEM training centre based at Blackpool Airport EZ, supporting a range of skills for industry; recognising these links, the network of Lancashire Enterprise Zones has also been refocused as the Lancashire Advanced Manufacturing and Energy Cluster.

Contribution to the North's 'prime capabilities'

Health innovation

- In terms of **academic research strengths**, Lancaster University's Biomedical and Life Sciences capabilities focus on neurology, cancer biology and microbes, pathogens and immunity:
  - In relation to neurology, Lancashire Neuroscience is a collaboration between Lancaster University, UCLan and Lancashire Teaching Hospitals NHS Trust, focusing on mental and physical health expertise.
  - Lancaster University also supports a medical school and health research expertise in relation to ageing, mental health and wellbeing and public health.
  - UCLan established MedTech Solutions in 2020 to bring together expertise in manufacturing and computer science to respond to identified NHS challenges.
- Recently, Lancaster University has developed the **Health Innovation Campus** at Lancaster University, a 350,000 sq ft facility offering the space and opportunity for academics, healthcare providers, science and technology firms and SMEs to collaborate with students to drive forward developments in some of the UK's most significant health and wellbeing challenges.
- Lancashire's presence in commercial life sciences is limited. However, in digital health, locally-based companies include Alcidion (an Australian health informatics company with its UK base in Burnley), and Redmoor Health (project management and digital services for the Health Service, based in Chorley). Contract medical device manufacturers Mi3 are also based in Blackburn.
- The development of a Health Sector Plan is also underway to look at utilising Lancashire's existing capabilities in digital and advanced manufacturing to develop a MedTech cluster in the county.

Contribution to the North's 'prime capabilities'

Digital

- The *Lancashire Digital Economy Report* (2021) highlights the 'cross-cutting' nature of digital technology, especially in relation to Lancashire's **advanced manufacturing capabilities**. The AMRC at Samlesbury now hosts the 5G Factory of the Future, an "open access industrial testbed" to use digital technology to support future industrial development. Partners in the Factory of the Future include the AMRC, BAE Systems, IBM and the Digital Catapult, as well as two Lancashire-based technology companies, MTT and Miralis.
- Lancashire's substantial defence sector contributes to an important **cyber security** presence. As well as BAE Systems;' own capabilities, firms include Mitigate Cyber, based at Lancaster University. Lancaster University also hosts the Lancashire Cyber Foundry to support SMEs developing cyber security technologies, as well as the Lancaster Cyber Security Centre of Excellence, CREST Security, the Data Science Institute, the Cyber Threat Laboratory and the SecureD University Enterprise Zone. The UK government's new National Cyber Force (NCF) will be located in Samlesbury and the county will take the lead in the UK's cyber capabilities.
- In **creative digital,** the *Digital Economy Report* highlights 'creative clusters' at Preston (e.g., MotionLab), Burnley (e.g., digital production company AMS Neve) and Lancaster. Other digital clusters include Fraser House and ElecTech, both in Lancaster, Strawberry Fields in Chorley and The Landmark in Burnley.
- There is also an extensive **e-commerce** industry, linked with Lancashire's large distribution sector. Examples include the e-commerce platform provider EKM, based in Preston; webuybooks in Rossendale, and several specialist software and e-commerce businesses.
- As well as the capabilities at Lancaster University highlighted above, Edge Hill University's Tech Hub includes the CAVE, "the UK's first super immersive 3D virtual environment". The Centre for Data and Complex Systems focuses on data analytics, data representation and visualisation. UCLan also hosts the Research Centre for Digital Life, focused on digital governance and security and its links with education, health and wellbeing.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• Despite not being highlighted as a core strength in the sub-regional strategy, Financial and Professional Services account for approximately 5,200 businesses and 40,000 workers in Lancashire. Key businesses in this sector include: Begbies Traynor, Chesnara PLC, Chorley Building Society, Danbro, Farley Solicitors, Forbes Solicitors, Key Retirement Solutions, Marsden Building Society, Moore and Smalley, Napthens Solicitors, National Savings and Investments, PM+M, RSM and Taylor Patterson.
Logistics	• Lancashire is well connected via the M6 and West Coast Main Line and has a substantial distribution and logistics industry, especially around Preston and the central M6 Corridor. • It also supports two main ports, at Heysham (services to the Isle of Man and freight services to Ireland, as well as a support base for the Morecambe Bay gas fields); and Fleetwood. There are also small-scale operations at Glasson Dock, in Lancaster.

Education	• Lancashire is home to four universities:
	  • Lancaster University, a major research university, ranked 15th out of 101 UK universities in the Times Higher Education World University Rankings for 2022, and with 35% of research classed as 'world;-leading' in the 2014 Research Excellence Framework.
	  • University of Central Lancashire (UCLan), with campuses in Preston and Burnley (as well as at the Westlakes science park in Cumbria). There has recently been substantial investment in UCLan's Preston Campus, including the new Engineering Innovation Centre and Drone Zone.
	  • Edge Hill University at Ormskirk, which specialises in health and care, education and arts and sciences
	  • University of Cumbria, which operates a campus in Lancaster.
	• In addition, further education plays an important role in delivering HE: for example, Blackpool and Fylde College has recently expanded its higher education offer; and alongside an a key visitor attraction and environmental asset, there will be a significant educational component to the new Eden Project Morecambe, recently awarded £50 million via the Levelling Up Fund.

Economic strategy and direction

- In 2019, substantial work took place on the development of an evidence base for a new Local Industrial Strategy for Lancashire. However, with changes in Government policies and priorities (and in the light of the Covid-19 pandemic), a new programme of work was launched in 2020, through a **Lancashire Independent Economic Review (LIER)**. This consisted of an extensive programme of research, which as well as producing an interim evidence base highlighting the key issues for the economy, considered four topics through 'deep dives': economic geography and the future of towns; infrastructure; health and wellbeing; and manufacturing.
- In terms of overarching strategy, the LIER calls for a balanced approach, which recognises the need for an increase in productivity to maintain living standards and raise rates of pay, but which also notes that "productivity must be put in the service of prosperity", in relation to environmental sustainability and individual opportunities and outcomes.
- The recommendations of the LIER will need to be crystallised into policy and strategy. At high level, they are summarised in the box opposite, setting out a substantial agenda for the future.

Recommendations of the Lancashire Independent Economic Review

- Developing 'Lancashire Grand Challenges' for manufacturing, energy and low carbon technologies and health innovation
- Stimulating innovation through targeted SME funding
- Focusing investment approaches on high value international markets
- Increasing the focus on early years (i.e., seeing family support as a central component of a long-term strategy)
- Developing a 'good work' charter for Lancashire
- Developing Lancashire's lifetime skills guarantee
- Increasing health and work programmes, with a focus on housing resilience and renewal
- Delivering a major green housing programme
- Reviewing sites for business
- Developing an east-west connectivity programme to integrate economic corridors and maximise the benefit of HS2
- Reviewing the bus market
- Developing a full-fibre programme
- Working to support each town to maximise its opportunities

Strategy and evidence bibliography

- Lancashire Enterprise Partnership, Lancashire Innovation Plan, March 2019
- Lancashire Enterprise Partnership, Lancashire Local Industrial Strategy Evidence Base, August 2019
- Lancashire Enterprise Partnership, Lancashire Energy & Low Carbon Sector, June 2021
- Lancashire Independent Economic Review Final Report: A New Prosperity, December 2021 (and supporting reports)
- Lancashire Enterprise Partnership, Lancashire Digital Strategy, September 2022
- Lancashire Enterprise Partnership, Lancashire Internationalisation Strategy, October 2022
- Lancashire County Council, Lancashire Digital Economy Report, October 2021

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Liverpool City Region

May 2022 | Updated March 2023

Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for Liverpool City Region, drawing on nationally-available data, as well as the analysis contained in LCR's Plan for Prosperity and other strategic documents, referenced at the end of this document.

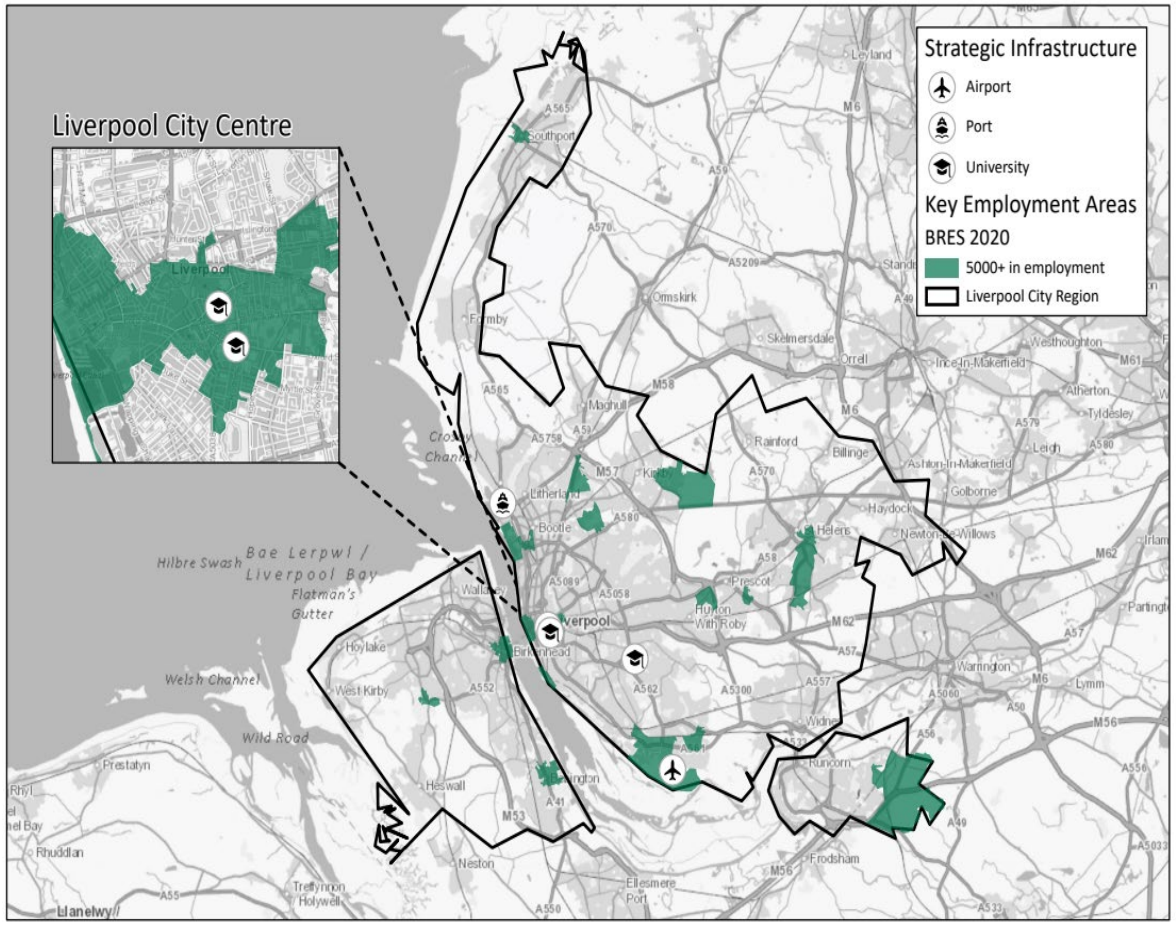
Liverpool City Region: Overview

- Covering the six local authorities of Liverpool, Halton, Knowsley, Sefton, St Helens and Wirral, LCR, as one of the country's largest population centres, is a major contributor to the UK economy. It benefits from a strategic position as a key gateway to and from the North as well as important economic links to NE Wales. LCR boasts a globally renowned city, a diverse network of major towns, a large river estuary with impressive coastlines, an internationally strategic port and international airport, direct access to the West Coast Main Line (although strategic rail connectivity is relatively poor compared to other UK city-regions), and an extensive motorway network. Since April 2014, the LCR Combined Authority has been administrative body for the area. The city region's economic development is also supported by the LCR Local Enterprise Partnership, established in 2012 and integrated into the Combined Authority in 2023.

- The recent refresh of LCR's Science and Innovation Audit highlighted distinctive and established strengths in infection prevention and control, materials chemistry and AI solutions and emerging technologies. It also noted a 'developing capability' in net zero and maritime. Industrial digitalisation within the manufacturing sector is also recognised as a key strength, and LCR is renowned for its cultural vibrancy, creativity, and strong visitor economy offer (5th most visited city in the UK); a key aspect of the region's transformation.

- Despite these exciting growth opportunities, LCR faces deep-rooted structural challenges as it transitions to a more knowledge intensive and increasingly innovation-led economy. The city-region has set an ambitious target of investing 5% of the city-region's GVA in R&D by 2030, based on the potential of its innovation ecosystem and R&D assets: achieving this would have transformational productivity impacts.

Key infrastructure and employment concentrations



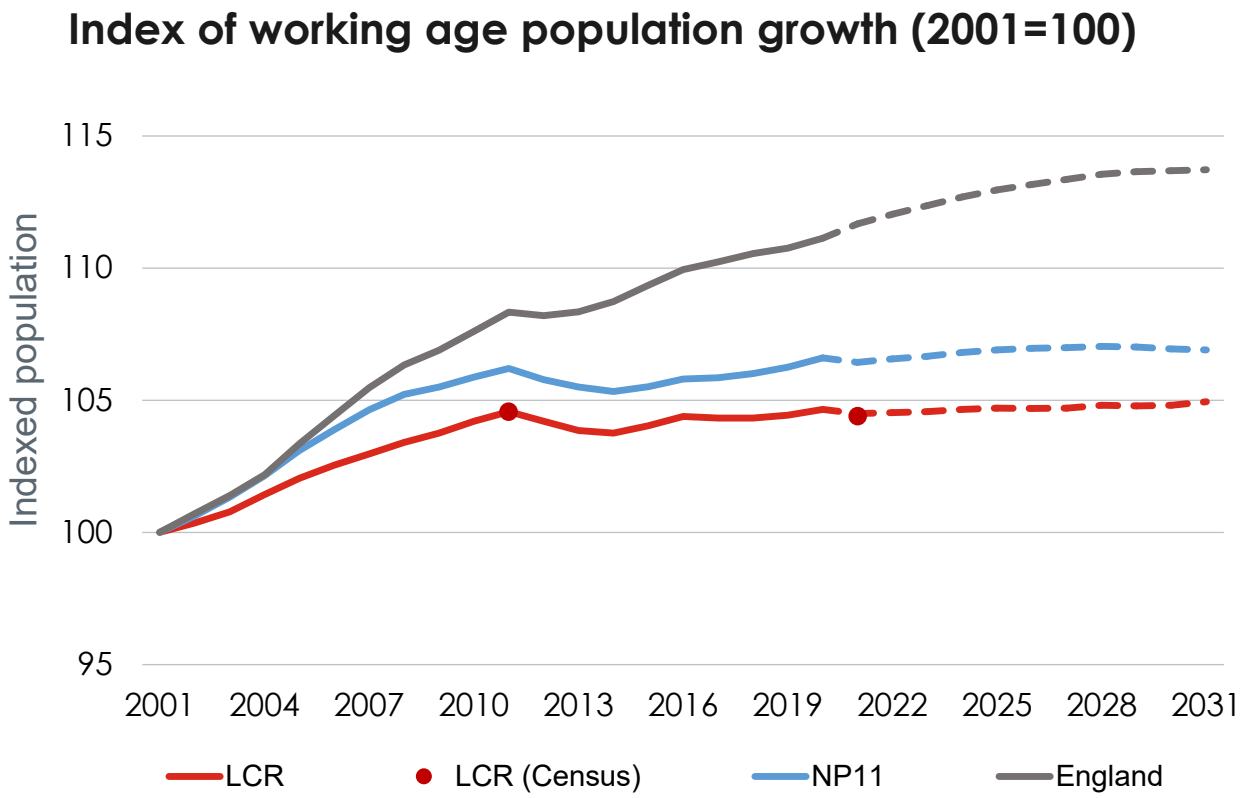
Economic profile: Population and workforce

- Over recent decades, there has been slower population growth in the LCR compared to the NP11 and England. Over the next decade, LCR's population is expected to grow at a rate that is similar to NP11, but lower than what is forecast for England as a whole. And in the longer term the ONS forecasts the population to decline.

Population 2021	
Total	1,551,700
Aged 16 to 64	977,100

Historic population growth (2001-2021), %			
	LCR	NP11	England
All Ages	5.8	9.4	15.2
Aged 16 to 64	4.5	6.4	11.7

Forecast population growth (2022-2031), %			
	LCR	NP11	England
All Ages	3.4	3.0	4.3
Aged 16 to 64	0.3	0.5	2.0



Source: ONS Mid Year Population Estimates; Population Projections (2018 base)
Note that 'NP11' refers to the combined 11 LEP/ CA areas in the North (excluding North and NE Lincolnshire).

Economic profile: Scale and productivity

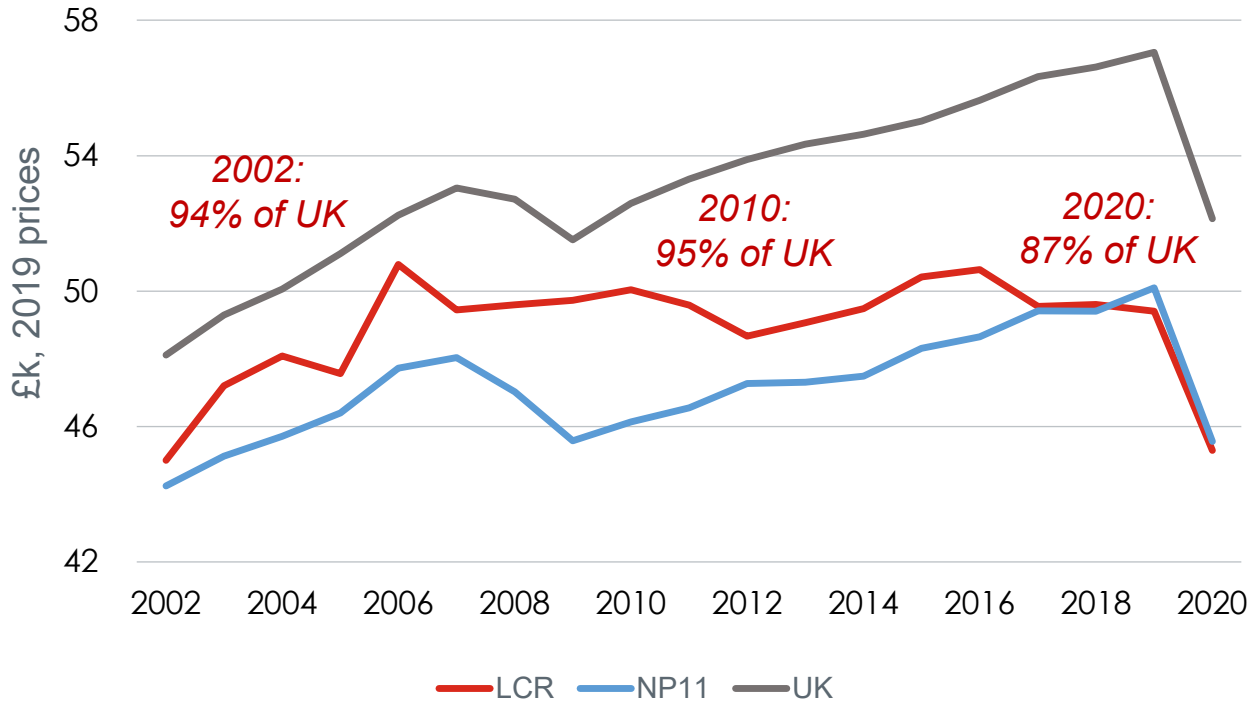
- The LCR's 'productivity gap' with the rest of the UK has widened over recent years. In 2020, GVA per filled job in LCR stood at 87% of the UK level, compared to 94% in 2002 and 95% in 2010.

Overall GVA and productivity (2020)		
Total GVA	£31.14 bn	9.3% of NP11
GVA per filled job	£49.64 k	

GVA growth (CAGR, %)	LCR	NP11	UK
2008-2013	-0.5	0.1	0.6
2014-2019	1.5	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	LCR	NP11	UK
2008-2013	-0.2	0.1	0.6
2014-2019	0.0	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

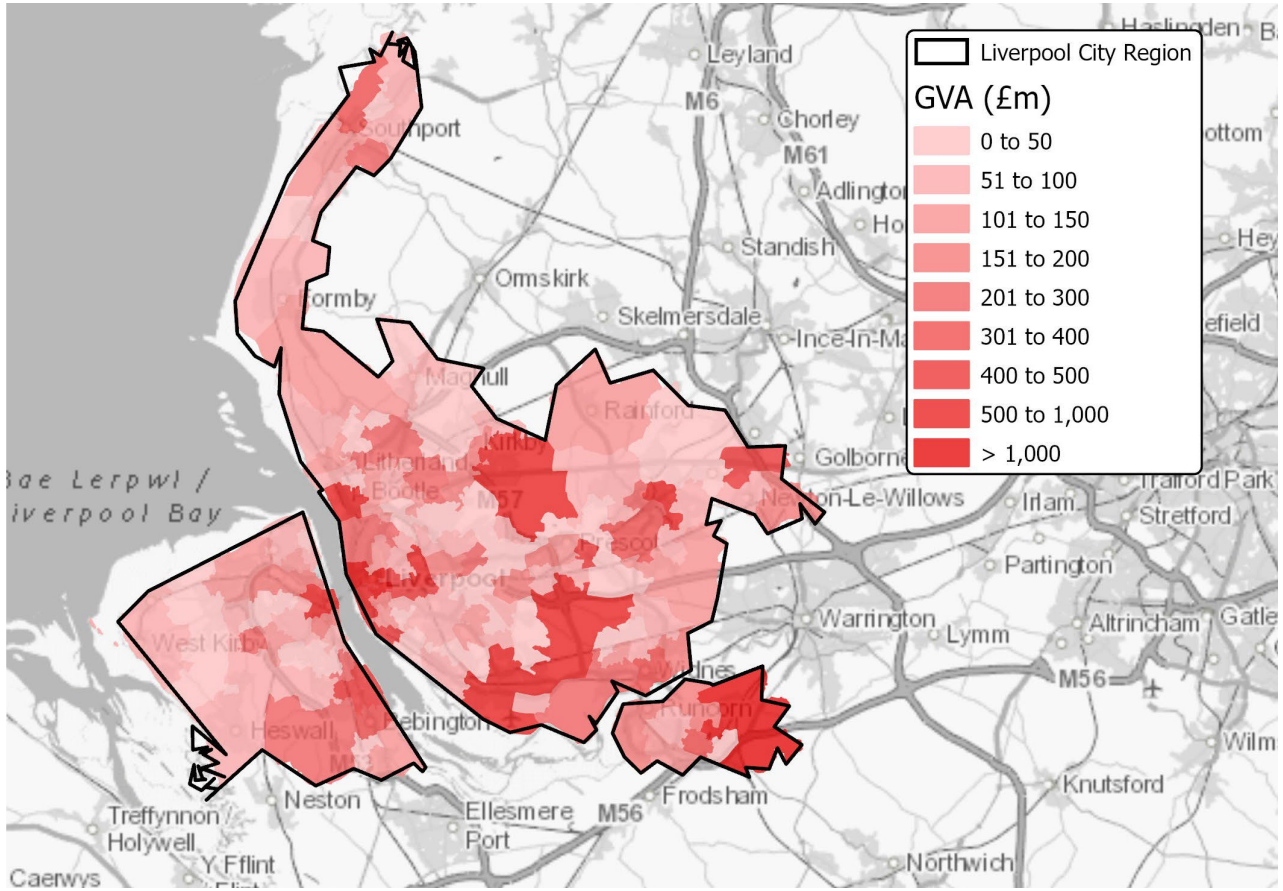
SQW

Economic profile: Concentrations of output

Economic activity in the city region is highly dispersed. However, as shown on the map opposite, there are notable concentrations of activity in:

- **Liverpool City Centre** (including the KQ Liverpool innovation district and universities, as well as the growing digital tech cluster at Baltic Triangle)
- **Bootle** (including the Port of Liverpool and wider Liverpool Waters programme, which forms part of the Mersey Waters Enterprise Zone and LCR Freeport)
- **Southport** (a major tourist centre and hub for professional services and retail)
- **Birkenhead** (the Wirral Waters regeneration scheme, part of the LCR Freeport, and advanced manufacturing activity e.g. Lairds, Unilever)
- **Kirkby** (including Knowsley Business Park, which is the largest in the LCR)
- **St Helens** (home of the new Glass Futures innovation facility and the Parkside site, part of the LCR Freeport)
- **Speke/Garston** (the location of Liverpool John Lennon Airport and a nationally significant bio-manufacturing cluster)
- **Halewood** (with largescale automotive manufacturing facilities)
- **Runcorn** (a major chemicals industry hub)
- **Daresbury** (Sci-Tech Daresbury,, a national science and innovation campus, and UKRI's primary base in the North of England)

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

SQW

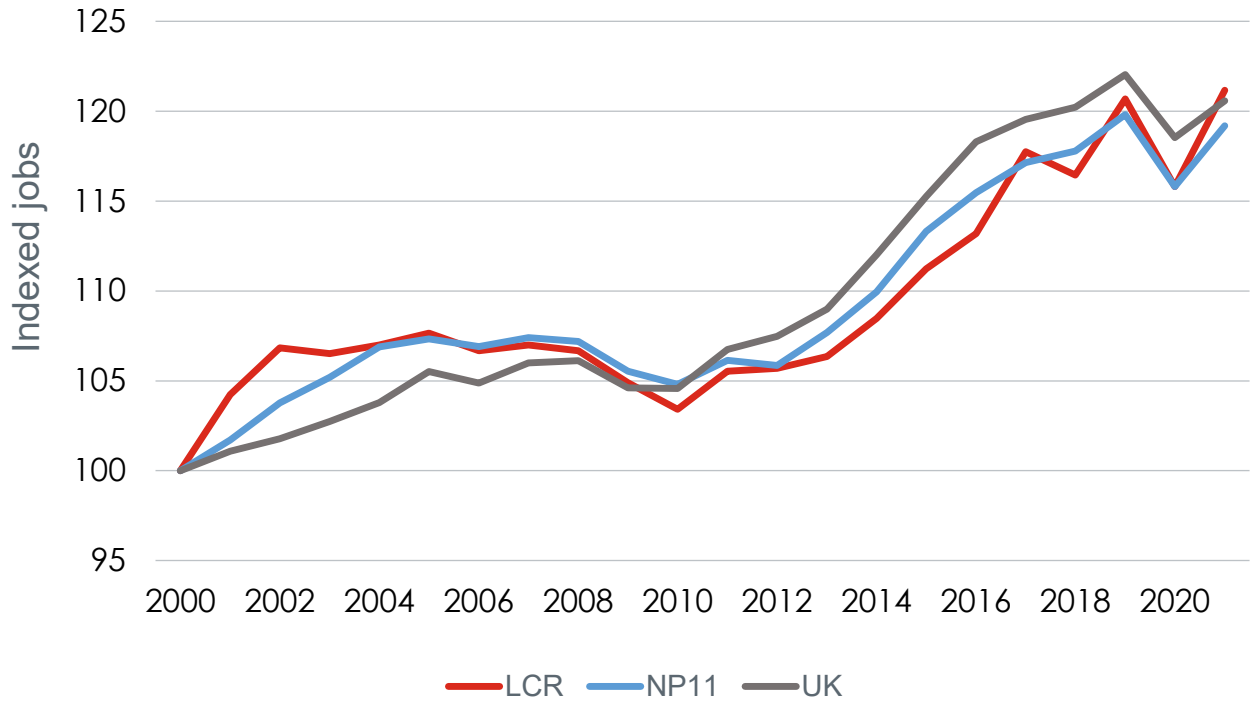
Economic profile: Jobs

- In 2021, the total number of jobs in LCR was approximately 744,000, accounting for c. 9.6% of all jobs in the NP11 economy.
- Between 2000 and 2021, the rate of jobs growth in LCR exceeded that of the NP11 and the UK. The LCR also recorded a notably lower jobs density figure in 2021. However, encouragingly, LCR has outperformed the NP11 and the UK as a whole, in terms of its uplift in jobs density since 2000.
- Long-term sickness is a particular barrier to economic activity in the area. Economic inactivity due to long-term sickness in the LCR was 34.7% compared to a national average of 25.8% (*ONS, Jan-Dec 2022)*.

Jobs and jobs density

	LCR	NP11	UK
Total jobs, 2021	744 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.92	0.84	0.89
Jobs density, 2021	0.76	0.81	0.85
Change in jobs density, 2000-2021	0.10	0.08	0.06

Index of total jobs growth (2000 = 100), 2000 to 2021

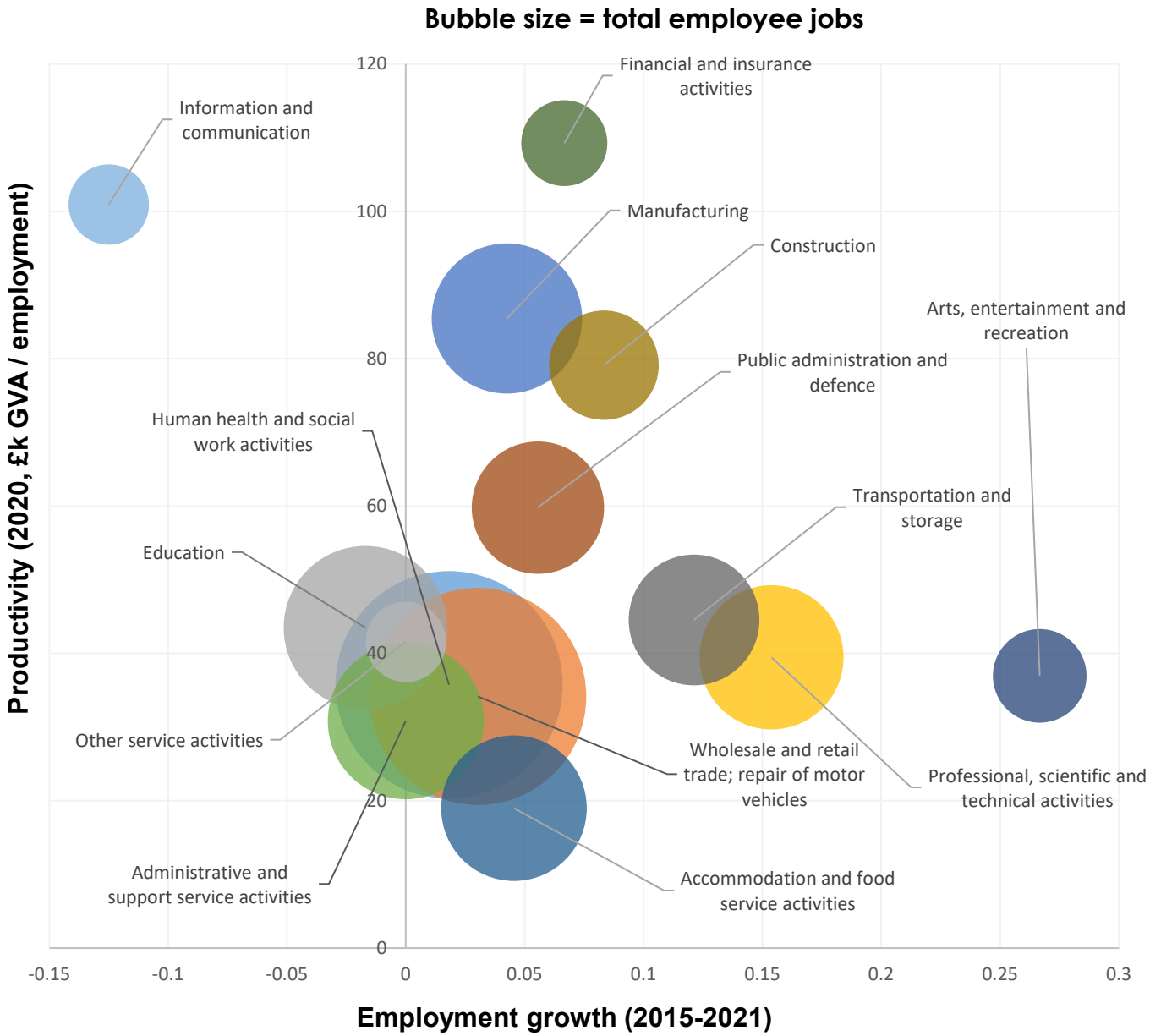


Source: ONS, Jobs Density

SQW

Economic profile: Sectors

- The largest sectors (in terms of the number of jobs) in the LCR in 2020 were *'Human Health and Social Work Activities'* and *'Wholesale and Retail Trade'*. These sectors have fairly low levels of productivity and have achieved a slight increase in employment over the last five years *('Human Health and Social Work Activities'* more so).
- The '*Arts, entertainment and recreation'*, and the *'Professional, Scientific and Technical Activities*' sector were the fastest growing sectors in terms of employment between 2015 and 2021. '*financial and insurance activities'* and *'Information and Communication'* recorded the high productivity in 2020 (but the '*agriculture'* and '*real estate'* sectors are even higher and not displayed on this chart).
- According to data from Cambridge Econometrics, LCR's Transport Equipment Manufacturing sector had an impressive employment LQ of 1.57 in 2019 and a GVA LQ of 1.81, demonstrating its strategic importance both to the NP11 and wider UK economies. The data also suggest that the city-region's education, life sciences, food & agriculture, chemicals & materials, distribution & warehousing , energy & power, accommodation & hospitality, and foundational industries sectors are significant either in scale or productivity terms.



Source: ONS,, GVA (B) and BRES, SQW analysis

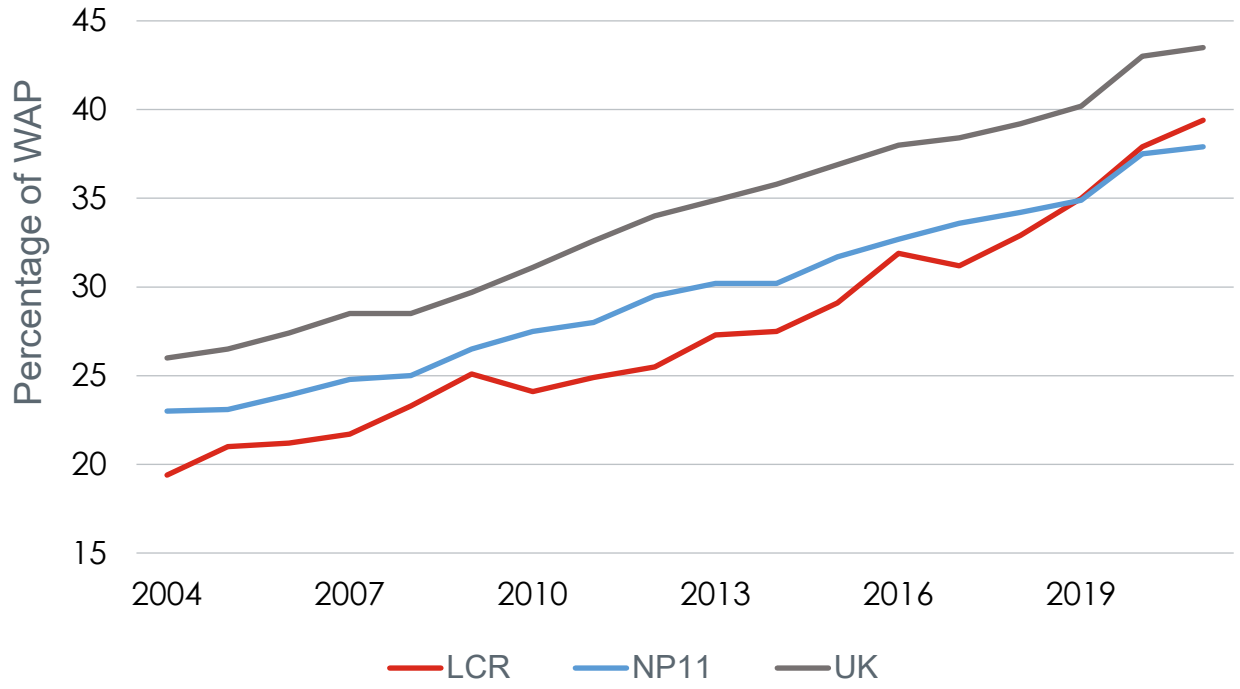
Economic profile: Workforce

- In 2021, the percentage of the working age population in LCR qualified to NVQ4+ and above was higher than the NP11 as a whole, but substantially lower than the national average.
- The LCR also recorded a higher percentage of the working age population with no qualifications, highlighting the scale of the skills challenge facing the city-region.

% 16-64 qualified to…	LCR	NP11	UK
NVQ4+	37.4	36.6	42.4
NVQ3+	56.4	56.4	60.5
NVQ2+	75.9	75.4	77.3
NVQ1+	85.0	86.0	87.0
Other qualifications	5.9	6.0	6.1
No qualifications	9.1	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



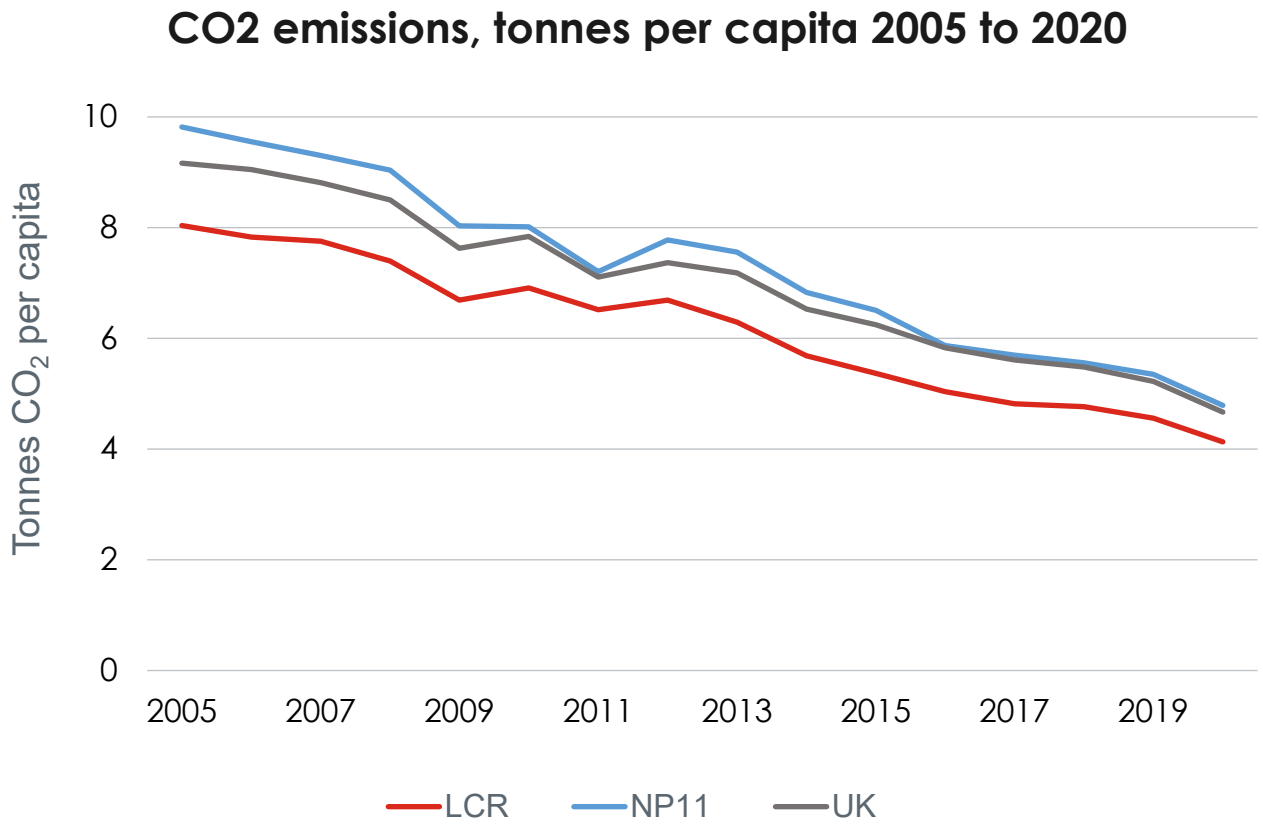
Source: ONS, Annual Population Survey

Economic profile: Carbon emissions

- CO2 emissions per capita in LCR were estimated at 4.13 tonnes in 2020, lower than the NP11 and the UK, and have fallen in line with the rest of the UK since 2005.

- Industrial emissions accounted for around 20% of total emissions in 2019 (marginally lower than the UK average). Industrial emissions fell by 61% from 2005 to 2020, compared to 52% nationally. But transport emissions fell more slowly both regionally and nationally (a fall of 11% in LCR and 6% in the UK).

Carbon emissions			
	LCR	NP11	UK
Total CO2 (kt, 2020)	6,455	73,000	313,159
Tonnes per capita	4.13	4.79	4.67
Tonnes per £m GVA	207	218	172



Source: BEIS, local authority territorial CO2 emissions

SQW

Economic profile: Businesses

- In 2021, the LCR had slightly lower levels of total businesses and high growth firms when adjusted for population compared to NP11, and much lower when compared to the UK as a whole.
- However, the number of active businesses across the LCR (per 100,000 of the working age population) has increased year on year since 2015 at a faster rate than that of the NP11 and the UK.
- According to the ONS, the LCR LEP area has 49,965 firms.
- Beauhurst currently tracks 433 high-growth and/or innovative firms within the LCR LEP geography, which is equivalent to 0.86% of all LCR firms (lower than the 0.98% rate for the NP11 and 1.15% for the UK as a whole).

Business demography, 2021			
	LCR	NP11	UK
Total stock			
Total businesses	49,965	560,865	2,939,675
Business Starts	7,450	72,935	363,995
High growth firms	205	2,230	10,695
Business stock change, CAGR 2015-2021	2.3	1.8	1.6
Per 100,000 working age population			
Total businesses	5,114	5,910	8,257
Business Starts	762	768	1,022
High growth firms	21.0	23.5	30.0
Business stock change, CAGR 2015-2021	2.3	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- Advanced Manufacturing, and in particular the opportunities associated with industrial digitalisation, is a key growth driver for LCR. Notable assets include:
  - Unilever's internationally significant Advanced Manufacturing Centre at Port Sunlight
  - The Materials Innovation Factory in Liverpool's Knowledge Quarter (one of the world's most advanced facilities of international significance for robotics-enabled and high-performance computing aided materials discovery and design)
  - The Faculty of Engineering and Technology at Liverpool John Moores University
  - The Digital Manufacturing Accelerator, based at SciTech Daresbury
  - The Manufacturing Technology Centre and Centre for Process Innovation at Liverpool Science Park
  - Leading industrial businesses such as Jaguar Land Rover, Ford, Pilkington, AstraZeneca, Seqirus, TriRx Pharmaceutical Services, Cammell Laird, Ineos, ABB and Alstom
  - Substantial strengths in chemicals and chemistry-related activities. These include Croda UK, which maintains its biotechnology laboratory at SciTech Daresbury and a Centre of Innovation for Formulation Science at the MIF
- LCR is also developing a globally leading National Packaging Innovation Centre and the Glass Futures pilot plant innovation facility. The region is also part of North West Made Smarter, designed to support manufacturers to adopt transformational technologies.

Contribution to the North's 'prime capabilities'

Energy

- LCR has net zero assets/potential in offshore, hydrogen, tidal, and carbon capture and storage.
- The region has one of the largest clusters in the UK for clean power generation and is at the heart of Hynet North-West: the UK's leading industrial decarbonisation project.
- The Burbo Bank Offshore Wind Farm is a 348 MW offshore wind farm located on the Burbo Flats in Liverpool Bay.
- Sci-Tech Daresbury is an Enterprise Zone and nationally significant science and innovation campus which is home to companies specialising in energy and environmental technologies. Danish multinational energy company Ørsted also has a major presence in Liverpool.
- 'Net zero and maritime' is identified as a 'developing capability' within the refreshed Science and Innovation Audit. As well as HyNet North West, other major industrial decarbonisation projects include the Glass Futures innovation facility and programme.
- Plans have also been advanced for the Mersey Tidal Project, which would be the UK's first tidal range energy schemes and could generate four times the amount of electricity as all of the wind turbines currently operational in Liverpool Bay. The scale of investment required is significant however, with Mersey Tidal Power estimated to cost between £5-14 billion.

Contribution to the North's 'prime capabilities'

Health innovation

- LCR has proven excellence in Health Innovation, illustrated recently by the opening of the Pandemic Institute, the development of the infection innovation consortium (iiCON), led by the led by Liverpool School of Tropical Medicine, and recognition of the region by Government of the High Potential Opportunity (HPO) in vaccines discovery, development and manufacturing. The foundations of the health innovation ecosystem include:
  - A designated MedTech Cluster at Daresbury; Liverpool School of Tropical Medicine; the Faculty of Health and Life Sciences at the University of Liverpool (and associated centres of excellence and research institutes)
  - Life Sciences Accelerator and the wider Paddington Village innovation district within the Knowledge Quarter, which includes the northern HQ of the Royal College of Physicians; two NIHR Health Protection Research Units
  - Several specialist NHS Trusts
  - The Civic Data Co-operative (CDC), a data system established by the University of Liverpool in 2019, which links the NHS, local authorities and citizen-generated data. This is the UK's first citizen-involved data system and was accelerated during the pandemic through the Combined Intelligence for Population Health Action (CIPHA) initiative
- There are also a number of global companies that have invested in LCR, including Bristol Myers Squibb, Pharmaron and Nestlé Health Science.
- The recently-updated Science and Innovation Audit specifically focuses on LCR's capabilities in **infection prevention and control**, noting that LCR hosts the largest concentration of translational public R&D and innovation into infection in the UK. In addition to iiCON, key assets include the Innovative Vector Control Consortium (IVCC), the Open Innovation Hub for Antimicrobial Surfaces (OPHIAS) and the National Biofilms Innovation Centre, linked with University of Liverpool.
- Health Innovation is enabled by partnerships including the Innovation Agency (AHSN), Liverpool Health Partners and the innovation focused Lyva Labs. Health Innovation will be a key sectoral focus for the next phase of the Paddington Village innovation district focused on the Spine Building and Hemisphere, housing specialist research facilities as well as business space to support the growth and development of the city-region's health and life sciences cluster.
- Key pipeline projects include the further development of iiCON (including lab space and a translational R&D facility), the Medical Glass Manufacturing and Innovation Centre alongside Glass Futures, and opportunities to expand vaccines manufacturing.

Contribution to the North's 'prime capabilities'

Digital

- LCR is a pioneer in the digitalisation of industry, with the refreshed SIA highlighting its capabilities in AI solutions and emerging technologies. Key assets in this area include:
  - The Hartree National Centre for Digital Innovation, the UK's most powerful supercomputing facility dedicated to industrial applications and the cornerstone of a key partnership with IBM. Home to the only IBM discovery accelerator outside the USA.
  - The Virtual Engineering Centre at the University of Liverpool
  - The DCMS funded Liverpool 5G Testbed
  - PsiQuantum has opened an R&D facility at Daresbury to develop quantum computing after a £9m Government investment
  - The Atos Quantum Learning Machine (a complete on-premise environment designed for quantum software developers)
  - The Digital Innovation Factory, which brings together complementary areas of expertise in computer science, robotics and engineering, and enables collaborative R&D and support for businesses that exploit digital technologies
  - Collaboration to develop AI-enabled robotic lab technologies, via the Materials Innovation Factory
- Liverpool also has a substantial video games and digital entertainment industry. Sony Interactive Europe, previously based at Wavertree Technology Park for several years, has moved to a new 65,000 sq ft campus in the city centre; while its subsidiary, the video games developer Firesprite, recently announced a relocation to a 50,000 sq ft centre in Ropewalks.
- Ultra fast digital infrastructure is being delivered under the LCR Connect programme; a 212km gigabit capable fibre network is being delivered via an innovative international commercial joint venture with NTE (France) & ITS (UK).

Contribution to the North's 'enabling capabilities'

Finance and professional services	• The LCR is home to a diverse range of world class maritime companies, which amongst other things, provide national and global expertise in maritime financial and wider professional services. More broadly, LCR has a large wealth management sector (e.g., Rathbones), and insurance and banking industry (e.g., RSA, Santander). There is also growing fintech activity, (e.g., Cybertill in retail software and the banking and insurance applications of the technology developed at the Hartree Centre).
Logistics	• There is a sizeable freight and logistics sector in the LCR. Assets underpinning this sector include the Port of Liverpool (of international significance and the largest west-facing port in the UK through which 45% of transatlantic freight passes with growth of container traffic continuing through Liverpool2), inland ports, Liverpool John Lennon Airport, Mersey Multimodal Gateway (3MG), Knowsley Industrial and Business Park and the Manchester Ship Canal. These multi-modal assets will be reinforced by the new LCR Freeport. • Ambitious plans are progressing to expand the advanced logistics offer in the city region through major developments in Knowsley, at Parkside and Omega West in St Helens and Liverpool International Business Park – all designed to accommodate additional space for logistics related activity (in part in response to the long-term structural changes observed during the COVID-19 pandemic that have reaffirmed the importance of online retail and its associated supply chain infrastructure).
Education	• LCR is home to five higher education institutions: the University of Liverpool; Liverpool John Moores University; Liverpool Hope University; Liverpool School of Tropical Medicine; and Liverpool Institute of Performing Arts. LCR's universities produce world leading research in Chemistry, Computer Science, General Engineering, Electrical and Electronic Engineering, Sports Science, Physics, and Infectious Disease. There are also examples of cross HEI collaboration within LCR, for example the University of Liverpool and Liverpool John Moores University (with Lancaster University) are working on a Low Carbon Eco-Innovatory project, which supports businesses to create innovative low carbon goods, processes and services, facilitating the development of a low carbon economy. The National Oceanography Centre also has a site on the University of Liverpool campus.

Economic strategy and direction

The Liverpool City Region Plan for Prosperity sets out a strategy for a fairer, cleaner and stronger city region.

The plan has twin headline targets of reaching annual R&D investment of 5% of GVA by 2030 and net zero by 2040. It notes that LCR must capitalise on its distinctive proposition (particularly with regards to its innovation assets and cultural offer); strengthen the foundations of the city-regional economy (echoing several of the actions outlined on the previous slide); and focus on strategic priorities relating to inclusive growth, the Green Industrial Revolution and boosting trade and investment.

Examples of specific actions outlined in the Plan for Prosperity with regards to strategic priorities include:

- **Inclusive City Region –** support progressive procurement across the public and private sector; make sure that narrowing health inequalities and promoting health equity becomes an integral part of economic development planning and outcome measurement; ensure the benefits of digital transformation are felt across all LCR communities and prioritise digital inclusion.
- **Green Industrial Revolution -** build on the city-region's impressive natural assets and technical capabilities to increase renewable energy production (offshore wind, hydrogen, Mersey Tidal) and position LCR as the UK's Renewable Energy Coast; deliver opportunities linked to decarbonising glass production (Glass Futures) and sustainable packaging (the National Packaging Innovation Centre); and embed the principles of a circular economy.
- **Trade and Investment** – expand international business networks; capitalise on LCR's position as a global gateway to the UK economy; maximise opportunities linked to the LCR Freeport; develop clear and coherent messages that support/position the LCR as a distinctive and compelling investment proposition.

The **Plan for Prosperity** builds on an earlier draft Local Industrial Strategy, which identified opportunities in relation to industrial digitalisation, open health innovation, LCR's role as a global cultural capital and social innovation.

Supporting the Plan for Prosperity, LCRCA has also published an **Innovation Prospectus**, setting out the city region's strengths in the areas highlighted within the 2022 Science and Innovation Audit refresh, focused on infection control and health sciences, materials chemistry, AI solutions and net zero innovation.

Strategy and evidence bibliography

- Liverpool City Region Combined Authority, Building Back Better Economic Recovery Plan, July 2020
- Liverpool City Region Combined Authority, Plan for Prosperity, December 2021
- Liverpool City Region Combined Authority, Science & Innovation Audit Refresh 2022, 2022
- Liverpool City Region Combined Authority, Innovation Prospectus, 2022

Research, analysis and advice

SQW

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: North East

May 2022 | Updated March 2023

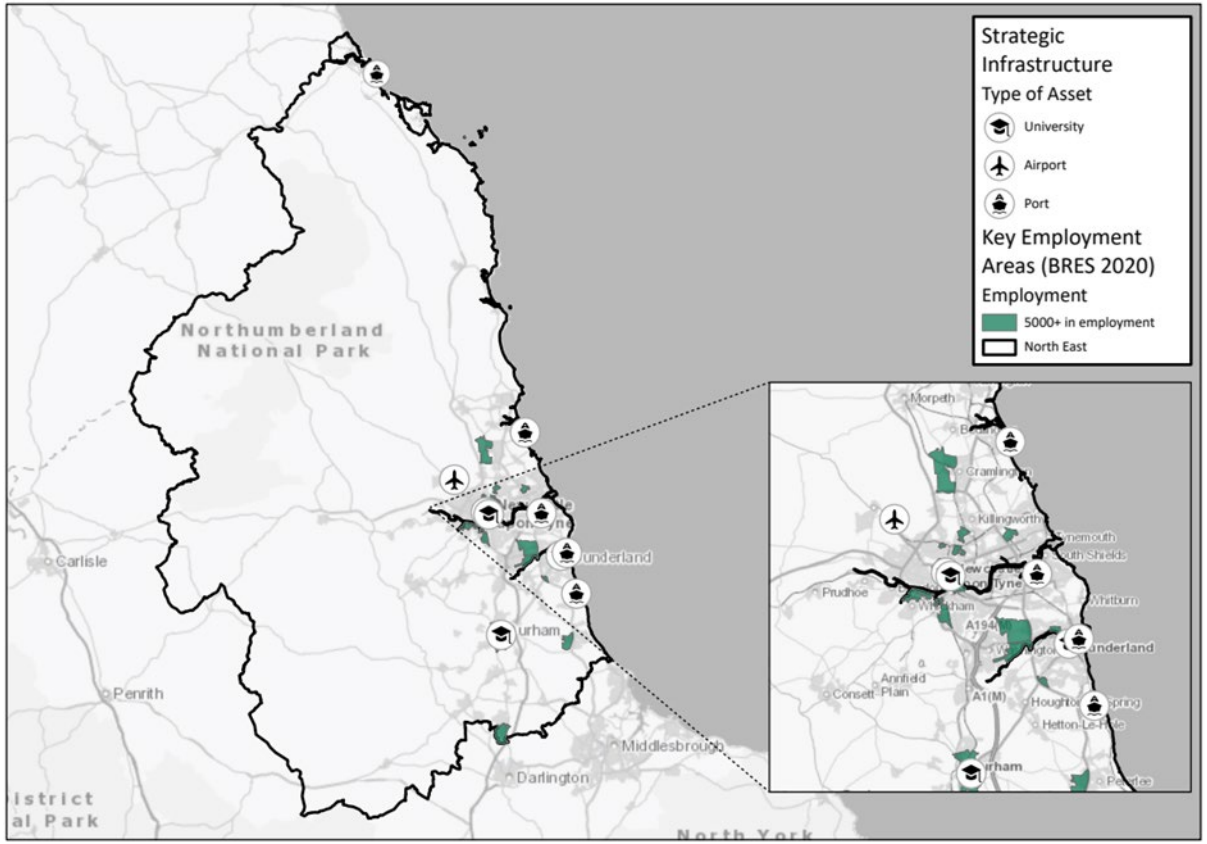
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for the North East, drawing on nationally-available data, as well as the analysis within the North East LEP's *Our Economy* report. It also provides a synthesis of the LEP's economic aspirations and priorities, as outlined in its *Strategic Economic Plan,* sector strategies for energy and life sciences and the recent Science and Innovation Audits for offshore wind and digital manufacturing, referenced at the end of this document.

North East: Overview

- Covering seven local authority areas (Durham, Gateshead, Newcastle, North Tyneside, Northumberland, South Tyneside and Sunderland), most of the North East population live in the south east quadrant of the region, in the conurbations in the former Tyne and Wear metropolitan county and in the towns of east Durham and south east Northumberland. To the north and west are rural areas, including the Northumberland National Park, dotted with market towns and villages. Key infrastructure assets include Newcastle International Airport, the strategic A1 and A1(M) and East Coast Main Line routes and the Tyne and Wear Metro system, as well as five ports.
- The North East has a strong industrial heritage, and the transition to a 'post-industrial' economy has been challenging. The area benefits from a substantial manufacturing base (especially automotive and energy engineering), important links between the pharma and wider chemistry-based sector and the development of battery and electrification technologies. This is supported by innovation assets including four universities and a series of Catapults, as well as an extensive network of industrial sites and business parks, including 21 Enterprise Zones (EZs).
- In addition to the 21 EZ sites, the Newcastle and Gateshead Advanced Development Zone is focusing investment into 5 sites in the urban core of the region into science. commercial and professional services, and tourism and events sectors.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

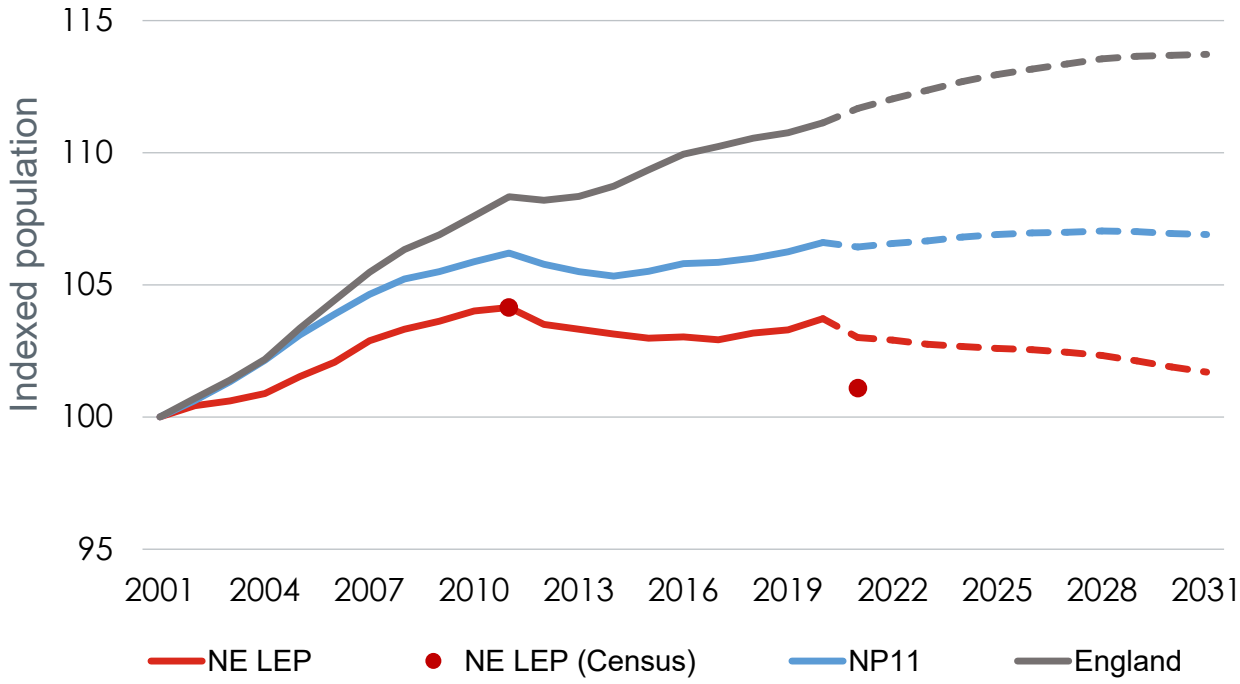
- Since 2001 there has been much slower population growth (in all ages and the WAP) in the NE than in NP11 and England.
- The NE's WAP is forecast to contract by 1.1% between 2022 and 2031 (although with slight growth forecast in Newcastle and North Tyneside).

Population 2021	
Total	1,968,600
Aged 16 to 64	1,220,900

Historic population growth (2001-2021), %	NE LEP	NP11	England
All Ages	6.1	9.4	15.2
Aged 16 to 64	3.0	6.4	11.7

Forecast population growth (2022-2031), %	NE LEP	NP11	England
All Ages	2.2	3.0	4.3
Aged 16 to 64	-1.1	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base)

SQW

Economic profile: Scale and productivity

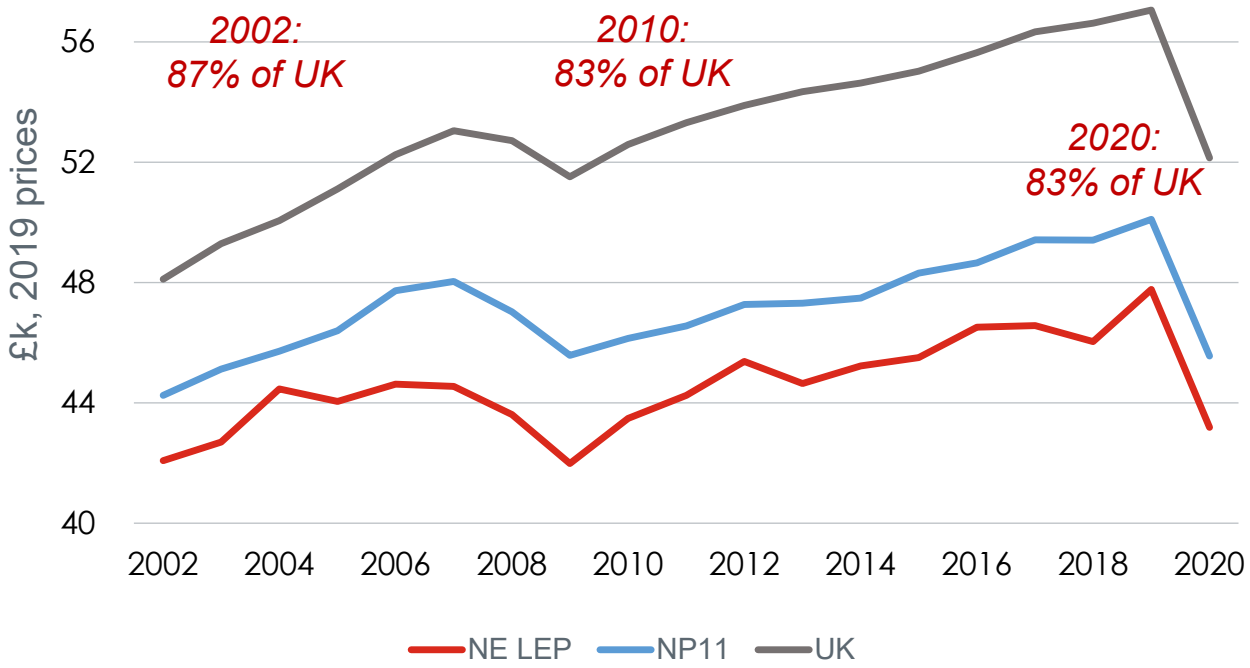
- The 'productivity gap' with the rest of the UK has widened over time (albeit with some slight recent catching up). However, transport equipment manufacturing, chemicals and materials, machinery, foundational industries and water and waste are all more productive in the North East than they are nationally.[1]

Overall GVA and productivity (2020)		
Total GVA	£37.72 bn	11.3% of NP11
GVA per filled job	£48.06 k	

GVA growth (CAGR, %)	NE LEP	NP11	UK
2008-2013	-0.1	0.1	0.6
2014-2019	1.7	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	NE LEP	NP11	UK
2008-2013	0.5	0.1	0.6
2014-2019	1.1	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

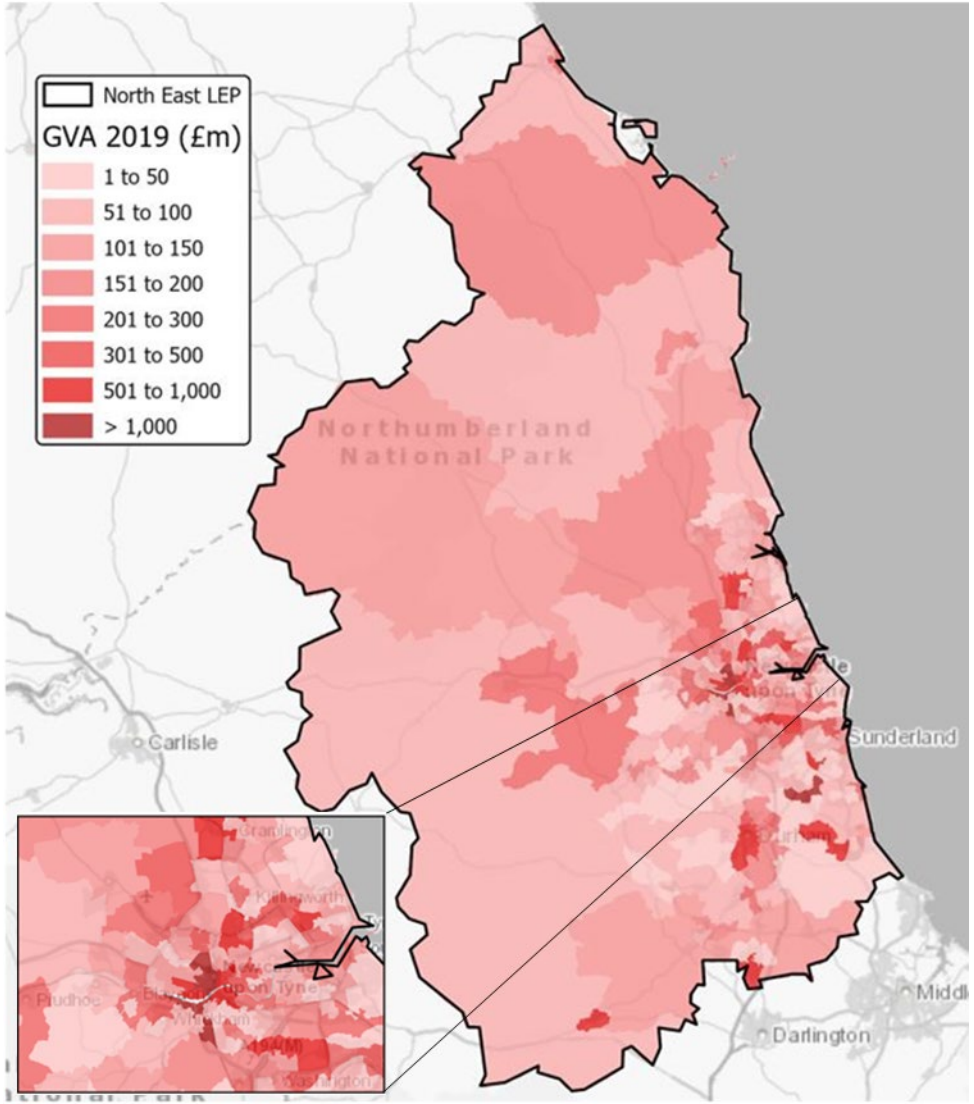
[1]. Cambridge Econometrics analysis

SQW

Economic profile: Concentrations of output

- Reflecting the population distribution, economic activity in the North East is heavily concentrated in the mainly urban areas along the coast and the rivers Tyne and Wear.
- As expected, local concentrations of GVA are most intense in the Tyne and Wear metropolitan area, given the density of the digital, service and manufacturing sectors, supported by higher education institutions and main transport hubs; with a substantial concentration around the city of Durham. However, as the map illustrates, localised concentrations are quite widely distributed within the coastal urban and semi-urban area, reflecting the importance of 'out of town' industrial sites and business parks, and the industrial investment around the Ports of Blyth, Tyne and Sunderland, as well as Newcastle International Airport.
- Further, Nissan, other automotive OEMs and the wider supply chain at the International Advanced Manufacturing Park in Washington is also an important driver of productivity.
- Other key concentrations of output include the North East Technology Park (NETPark) at Sedgefield, home to key facilities owned by the Centre for Process Innovation (CPI), the Space Catapult and the radiation detector firm Kromek. To the north, Cramlington is an important pharmaceuticals manufacturing base, and within the rural North East, there is a significant concentration of activity around Barnard Castle, linked with GSK's major facility.

Local concentrations of GVA (£m, 2019)



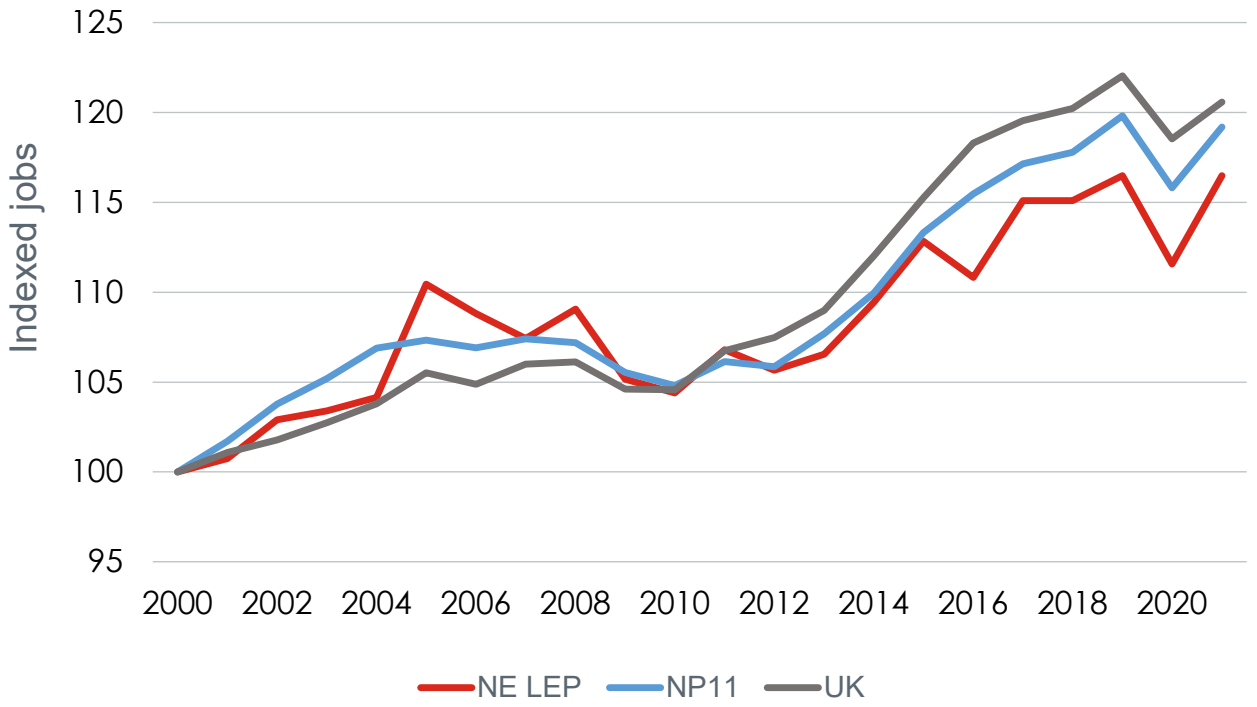
SQW

Economic profile: Jobs

- NE jobs growth has lagged behind the growth recorded by NP11 and England in recent years, although the gap in the employment rate has narrowed over time.
- Job density remained lower in comparison as well, with fewer jobs available per person in the NE (although the jobs density rises to 0.95 in Newcastle).
- Growth in NE employment has been driven by additional jobs in professional occupations (as well as in 'caring and leisure' occupations), outstripping overall growth and having remained resilient during the pandemic. Foreign direct investment is also an important source of employment generation, creating over 1,300 jobs in 2020/21.

Jobs and jobs density			
	NE LEP	NP11	UK
Total jobs, 2021	926 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.73	0.84	0.89
Jobs density, 2021	0.76	0.81	0.85
Change in jobs density, 2000-2021	0.10	0.08	0.06

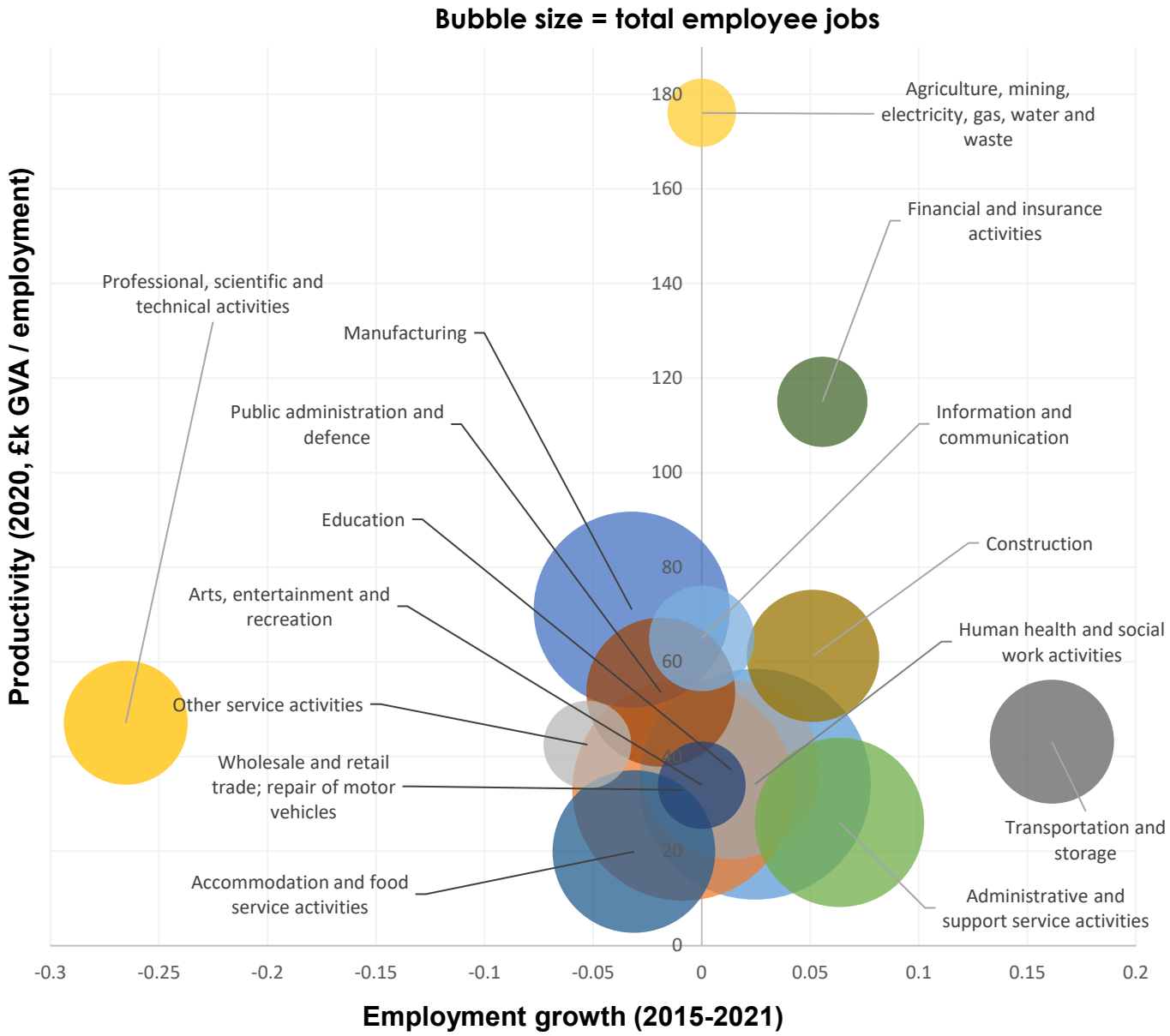
Index of total jobs growth (2000 = 100), 2000 to 2021



Source: ONS, Jobs Density

Economic profile: Sectors

- Transportation and storage grew by the largest amount, in employment terms, from 2015 to 2021.
- Manufacturing sustains 90,000 of jobs (with an LQ of 1.05) and is one of the most productive sectors, and the pharma sector more recently has sustained a 25% uplift in employment resulting from the pandemic response.
- The public sector is an important employer. Public admin and defence has an LQ of 1.39. Between 2015-21 employment grew in health and social work, and education.
- Finance and insurance, and agriculture, while sustaining fewer jobs recorded the highest level of productivity.
- Looking to 2027, Working Futures estimates the largest growth to be in Health and social work, Professional services, Support services and Information technology.



Source: ONS, GVA (B) and BRES, SQW analysis

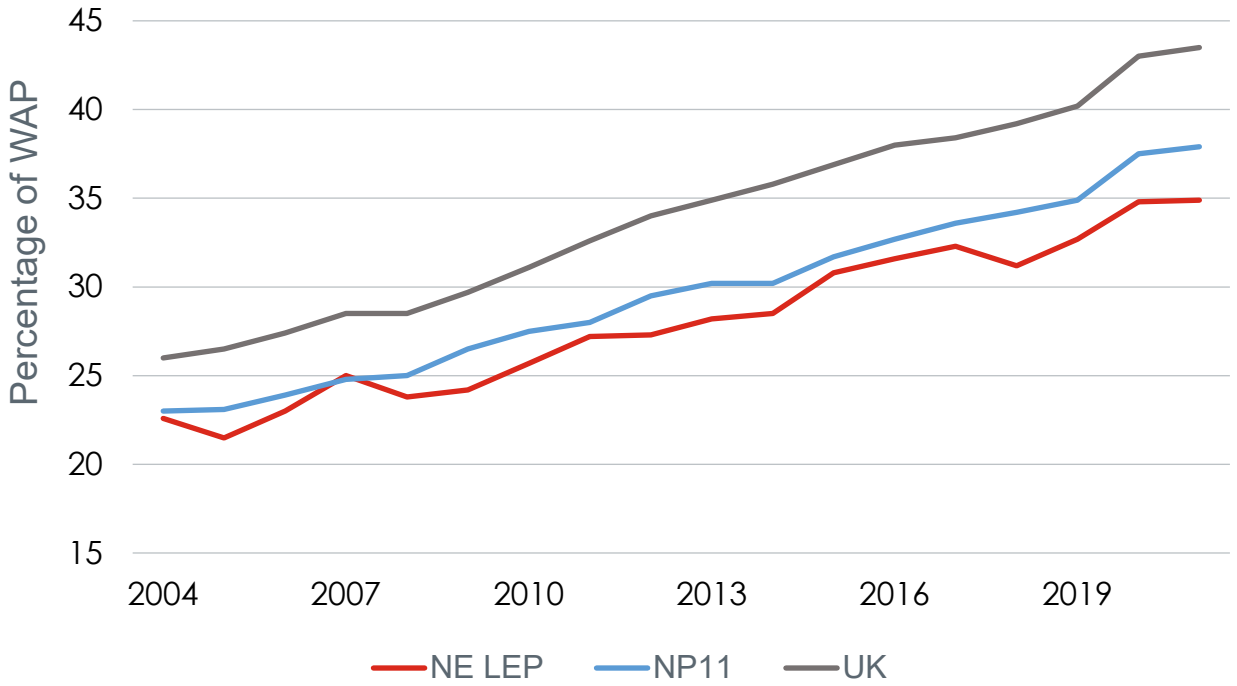
Economic profile: Workforce

- One third (36.7%) of the NE WAP were qualified to degree level on average between 2019-21, marginally lower than the NP11 (36.8%) and slightly lower than the UK (42.2%). The NE percentage is increasing, although the rate of improvement is slower than in the rest of England excluding London. The NE LEP also reports good progress in improving local graduate retention rates, although there is more to be done.

% 16-64 qualified to…	NE LEP	NP11	UK
NVQ4+	34.1	36.6	42.4
NVQ3+	54.0	56.4	60.5
NVQ2+	74.9	75.4	77.3
NVQ1+	85.5	86.0	87.0
Other qualifications	6.0	6.0	6.1
No qualifications	8.5	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



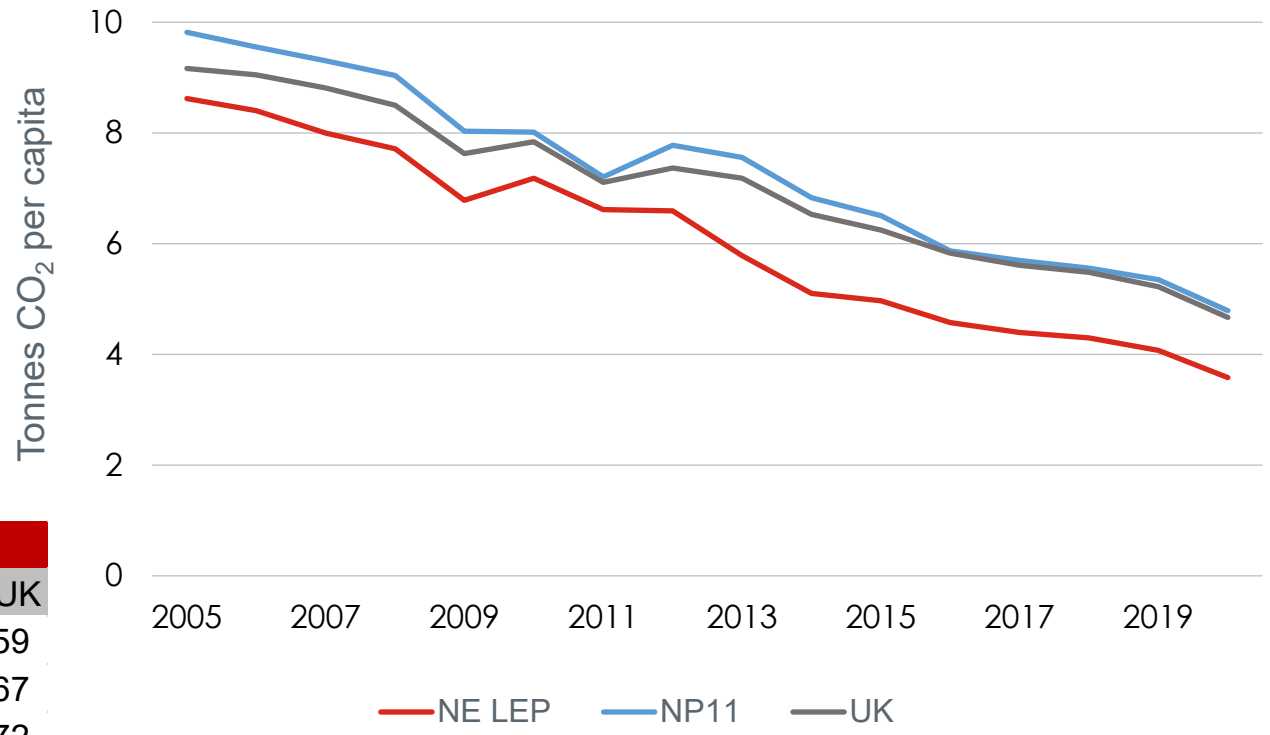
Source: ONS, Annual Population Survey

Economic profile: Carbon emissions

- CO_2 emissions were estimated at 7.1 million tonnes in 2020. This was equivalent to 3.6 tonnes per person, compared to 4.8 in the NP11 region. The emissions total includes the net emissions from land use, land use change and forestry (LULUCF) which are negative in the NE. The NE rate has fallen faster than the NP11 and wider UK since 2005.
- Domestic emissions constituted 33%, a larger percentage of the total than in England (28%). Industry emissions were responsible for 16% compared to 21% in England. Transport is the largest contributor to CO_2 emissions in the NE, accounting for 37% of emissions.

Carbon emissions			
	NE LEP	NP11	UK
Total CO2 (kt, 2020)	7,168	73,000	313,159
Tonnes per capita	3.58	4.79	4.67
Tonnes per £m GVA	190	218	172

CO_2 emissions, tonnes per capita, 2005 to 2020



Source: BEIS, local authority territorial CO_2 emissions. Note, data does not include emissions from aviation, shipping and military transport.

SQW

Economic profile: Businesses

- In 2021, according to ONS statistics, the NE had lower total levels of businesses, start-ups and high growth firms when adjusted for population compared to the NP11 overall and the UK.
- Analysis for NELEP shows that In 2019 over 4,300 NE businesses were foreign-owned, 5% of all businesses. These businesses contributed 26% to the NE's 2019 GVA. Europe accounted for 63% of foreign owned businesses, with 43% owned within the EU *(ONS, Annual Business Survey).* The region has also performed strongly in job creation through foreign direct investment.
- In February 2022, 76% of NE businesses were highly confident in their ability to survive the next three months, compared to 73% of businesses in England *(ONS, Business insights and impact on the UK economy).*

Business demography, 2021			
	NE LEP	NP11	UK
Total stock			
Total businesses	58,015	560,865	2,939,675
Business Starts	7,460	72,935	363,995
High growth firms	250	2,230	10,695
Business stock change, CAGR 2015-2021	1.7	1.8	1.6
Per 100,000 working age population			
Total businesses	4,752	5,910	8,257
Business Starts	611	768	1,022
High growth firms	20.5	23.5	30.0
Business stock change, CAGR 2015-2021	2.0	1.6	1.2

Source: ONS, Business Demography, 2021

- However on an alternative measure, Beauhurst tracks 766 firms in the LEP because they pass high-growth or innovation thresholds. This tracking rate of 1.33% of firms is higher than the 0.98% rate in the Northern Powerhouse and that of the 1.15% rate for the UK as a whole, indicating that the North East outperforms the North and the UK as a whole on scale ups.

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- The NE specialises in automotive and pharmaceutical advanced manufacturing, with the Centre of Process Innovation (NETPark, Sedgefield), part of the High Value Manufacturing catapult, supporting innovation in production. Strategic sites include 21 Enterprise zones and the International Advanced Manufacturing Park (£500m development, immediately adjacent to Nissan).
- The region hosts major automotive manufacturers including Nissan at Sunderland (the UK's largest car plant and the most productive in Europe), Komatsu in Gateshead; Caterpillar at Peterlee; and Cummins at Stanley.
- The Envision battery giga site based at IAMP is already operational and there is an £100m investment by Turntide Investments into Hyperdrive and Borg Warner, also in the battery sector. Further significant opportunities in low carbon production include the proposed 'Gigafactory' at Blyth, which adds to the region's capabilities in battery research (for example linked with the North East Battery Alliance led by Newcastle University and the Faraday Institution's new presence in Newcastle).
- The region also has important strengths in energy-related manufacturing and the chemistry-based sector.

Contribution to the North's 'prime capabilities'

Energy

- Expertise in offshore energy and subsea technologies is evident in the National Renewable Energy Centre (£150m, Blyth). This centre is part of the Offshore Renewable Energy Catapult, and hosts test, validation and demonstration facilities specialising in wind, wave and tidal energy generation technology.
- The main bases for Equinor and SSE's development of the Dogger Bank wind farm have been announced on the River Tyne and there have been a number of significant supply chain investments in excess of £100m by businesses such as JDR Cables and Osbit.
- The NE Energy Catalyst leads a collaboration on the Integrated Smart Energy Lab (£9m) to produce smart energy research, demonstration and industry engagement across multiple locations. ISE combines existing assets in the region: Smart Grid Laboratory (Newcastle and Durham), Urban Science Building Energy Storage Test Bed, and the National Renewable Energy Centre.
- Regional energy innovation such as developments mining and geothermal energy sources and heat networks through the Gateshead District Energy Centre, and Durham Energy Institute and the Swan Centre for Energy Research, explore and test new energy technologies and processes for energy decarbonisation and the transition to net zero.

Contribution to the North's 'prime capabilities'

Health Innovation

- The region's universities (especially Newcastle University) make a strong contribution to the region's health and life science capabilities. The National Innovation Centre for Ageing (£40m development, 2014, Newcastle upon Tyne) hosts industry / healthcare partners who collaborate to develop, build, test and market new products and services designed to support ageing populations. Co-located at the Newcastle Helix (a city centre quarter for data and life science businesses) with the National Innovation Centre for Data (£30m development, 2019).
- This is supported by an innovative and research-oriented health system. Newcastle Hospitals NHS Trust has a nationally-significant clinical trials presence and the region's NHS trusts recently opened a joint manufacturing facility. Pharmaceutical exports have also increased since the start of the Covid pandemic, and the regional Health, life sciences and medicines manufacturing strategy will drive future policies and activities.
- The NE hosts and leads one of the 3 National Accelerated Treatment Centres created by the Cell and Gene Therapy Catapult, to drive forward the UK's leadership in these treatments. The Northern Alliance co-ordinates work in Leeds, Edinburgh, Newcastle and Belfast.

Contribution to the North's 'prime capabilities'

Digital

- Two national catapult centres are based here: the Digital Catapult (Sunderland Software City) and the Space Catapult (Business Durham), which is attracting satellite and defence manufacturing, as well as data-related activities. Areas of strategic digital specialism cover: software, cloud computing, communications, buildings information modelling, gaming and defence-related applications.
- The NE digital community includes the HQ of FTSE 100 software leader, Sage, shared service centres for Hewlett Packard Enterprise, Accenture, BT, IBM and innovation centres for Ubisoft, ENGIE and Red Hat, alongside over 2,000 SMEs. It also hosts PROTO, Europe's first digital production facility (Baltic Quarter Gateshead, part of the Digital Catapult NETV network) for animators, film makers and games developers which offers access to 3D scanning, motion capture and sound recording tech to start-ups. This is reinforced by the BBC's commitment to regional production, and the potential for cross-sectoral applications of VR and AR technologies.
- Faster and more reliable digital connections with national/ international networks is under development through the installation of the North Atlantic Optical Fibre Loop by Aqua Comms. This links the UK's largest purpose built datacentre campus in North Tyneside, Stellium, with Denmark, and creates an attractive asset in the NE for data rich businesses.

Contribution to the North's 'enabling capabilities'

Finance and professional services	There is a strong financial and professional services sector in the NE underpinned by key brands such as Virgin Money and Newcastle Building Society (which also provides back office services for other parts of the banking sector).There is also a fast growing fintech cluster, including Worldpay, Atombank and Scott Logic. The area is a net exporter of services, with financial and insurance activities accounting for the highest percentage of service exports (35%) (2018 latest data).
Logistics	Economic activity is largely concentrated along the NE coast with the five ports (Port of Berwick, Port of Blyth, Port of Sunderland, Port of Tyne and Seaham Harbour) key enabling assets. Ports at Blyth, Tyne and Sunderland provide 7km deep water quayside access and the Port of Tyne is one of the UK's major deep sea ports. Ports at Tyne and Sunderland service major freight flows out to the Netherlands and Germany, and manage high volume in flows from the USA and Ukraine. The Tyne and Wear Metro is the largest light rail system in the UK outside of London, with 60 stations across the region and over 36 million passengers annually, supporting links between communities, residents and employment and leisure opportunities. Newcastle International Airport is the second most used airport in the Northern Powerhouse after Manchester, and is currently developing a freight strategy.
Education	Annual student intakes are over 80,000 across the four HEIs in Durham, Newcastle, Northumbria and Sunderland. In 2020, over 80% of the research output submitted by Durham and Newcastle universities was assessed as either world-leading or internationally excellent. The Northern Accelerator programme has significantly accelerated spin-outs from the region's universities. Nine Further Education colleges provide additional HE capacity and support strong apprenticeship provision.

Economic strategy and direction

The North East LEP adopted its Strategic Economic Plan in 2019, and subsequently updated it in 2022 to reflect post-Brexit and post-Covid conditions. The Plan is focused on growing a more productive, inclusive and sustainable regional economy, specifically achieving higher levels of job growth through higher numbers of workers in skilled occupations. Key economic targets are focused on closing the gaps on employment rates, economic activity, private sector employment density and productivity levels between NE, the wider NP11 and the rest of England.

Broadly consistent with the NPIER, the updated SEP identifies Advanced Manufacturing, Health and Life Sciences, Energy, Tech and Business Services as "areas of strategic importance". It also identifies three 'enabling services: Education, Transport and Logistics, and Construction. Recognising their impact on all parts of the economy, it recognises decarbonisation and the drive to net zero, and digital transformation as cross-cutting themes. Recently, the LEP has also developed 'thematic' strategies for Energy for Growth (focusing on opportunities for clean energy production, links with the manufacturing supply chain and opportunities to address fuel poverty) and Health, Life Sciences and Medicines Manufacturing (focused on building relationships with NHS partners, increasing the stock of life science businesses in the region, and strengthening the innovation ecosystem). A Trade and Export Strategy has been prepared jointly with the Department of Business and Trade, and work is underway to develop a Net Zero strategy.

Through the SEP, NELEP's delivery programmes focus on business growth, innovation, skills, transport and connectivity, and investment and infrastructure. Enabling and sustaining high levels of inward investment which the NE experienced prior to the pandemic is also identified as a key priority, particularly in relation to new job creation through offshore wind assets, and recent data suggests a strong FDI performance.

In governance terms, close partnership working between the North East Combined Authority and the North of Tyne Combined Authority is recognised as being essential to stimulating economic growth across the seven local authorities and accessing opportunities from external partners, particularly UK Government. A £4.1billlion devolution deal covering the whole of the North East LEP/LA7 area was signed in December 2022 between Government and Regional leaders and consultation on this was completed in March 2023. It is intended that this deal will deliver the creation of a new North East Mayoral Combined Authority led by an Elected Mayor for the region in May 2024. The new Combined Authority will draw together the two Combined Authorities, the North East LEP, Transport North East and Invest North East England into a new organisation.

Strategy and evidence bibliography

- North East LEP, Our Economy 2021, 2021
- North East LEP, Our strategy for regional growth and national change in health, life sciences and medicines manufacturing, January 2021
- North East LEP, Energy for Growth Strategy, March 2021
- North East LEP, Our Economy: insights into the impact of COVID-19 and EU transition on the North East economy. Executive Summary, September 2021
- North East LEP, The North East Strategic Economic Plan: Creating more and better jobs, 2019; updated May 2022
- Department for Levelling Up, Housing & Communities with North East Partners, North East Devolution Deal, January 2023

Research, analysis and advice

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: South Yorkshire

May 2022 | Updated March 2023

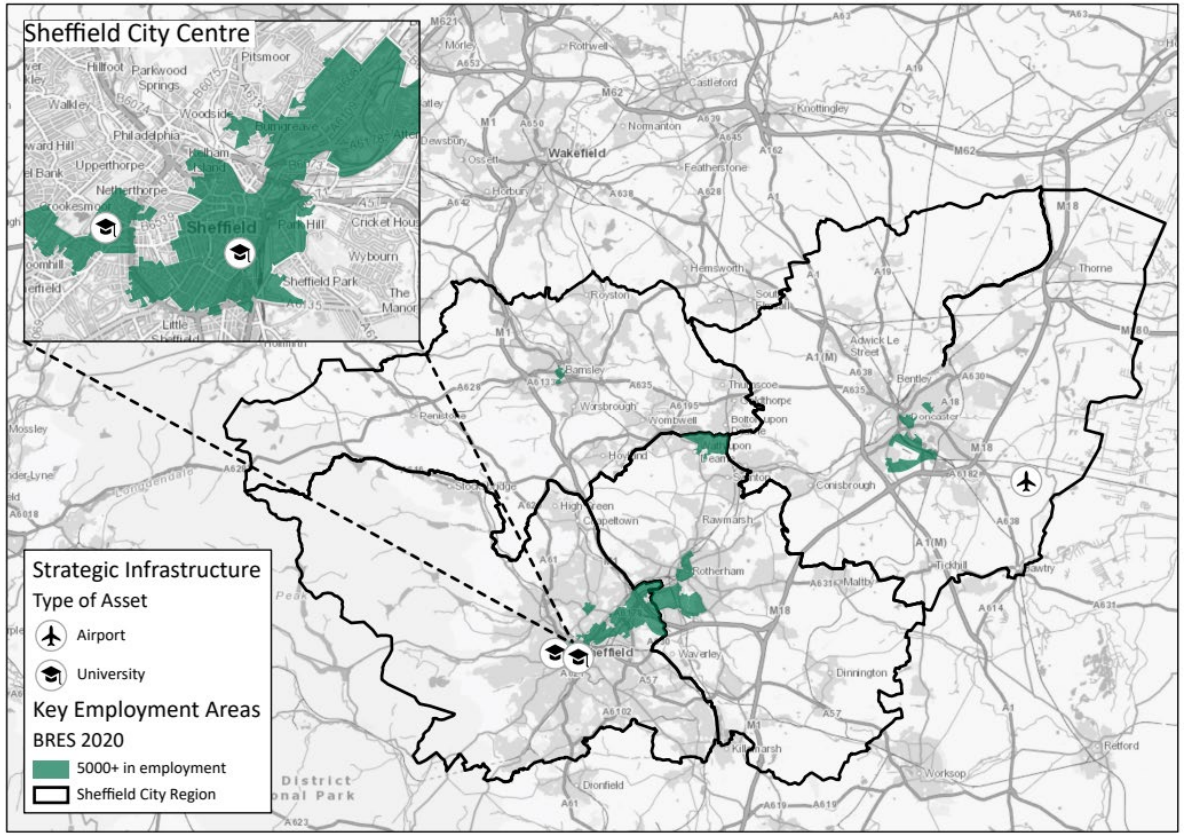
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for South Yorkshire, drawing on nationally-available data, as well as the analysis contained in the Sheffield City Region *Strategic Economic Plan*, its supporting evidence base and other relevant documents. It also provides a synthesis of the Combined Authority's economic aspirations and priorities. Documents referred to are referenced at the end of this document.

South Yorkshire: Overview

- South Yorkshire encompasses the four metropolitan districts of Barnsley, Doncaster, Rotherham and Sheffield.
- Historically, South Yorkshire was a major industrial centre, especially in mining, metals and engineering. As in much of the North (and industrial Britain generally), transition has been long-term and challenging. But today, the area has a diverse and well-connected economy, comprising a dynamic core city, several large towns, the nationally-significant advanced manufacturing park at Catcliffe, high-quality countryside; and two leading universities. The area has sectoral strengths in high precision engineering, advanced manufacturing, healthcare, digital and creative technologies, education and future mobility.
- South Yorkshire's central location gives it good access to strategic transport links, including the M1, A1(M) and M18 motorways; and the Midland Mainline (to Sheffield) and East Coast Mainline (via Doncaster), although *intra*-regional connectivity is frequently cited as a challenge. The M18 corridor (Doncaster-Sheffield) is a key location for large scale investment and growth including at iPort and Unity. Doncaster-Sheffield airport is also an important asset, although currently closed to passenger traffic.
- Links beyond the region are important. The wider Sheffield city region extends to north Nottinghamshire and north Derbyshire, with important functional links to the Midlands as well as the North.

Key infrastructure and employment concentrations



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Economic profile: Population and workforce

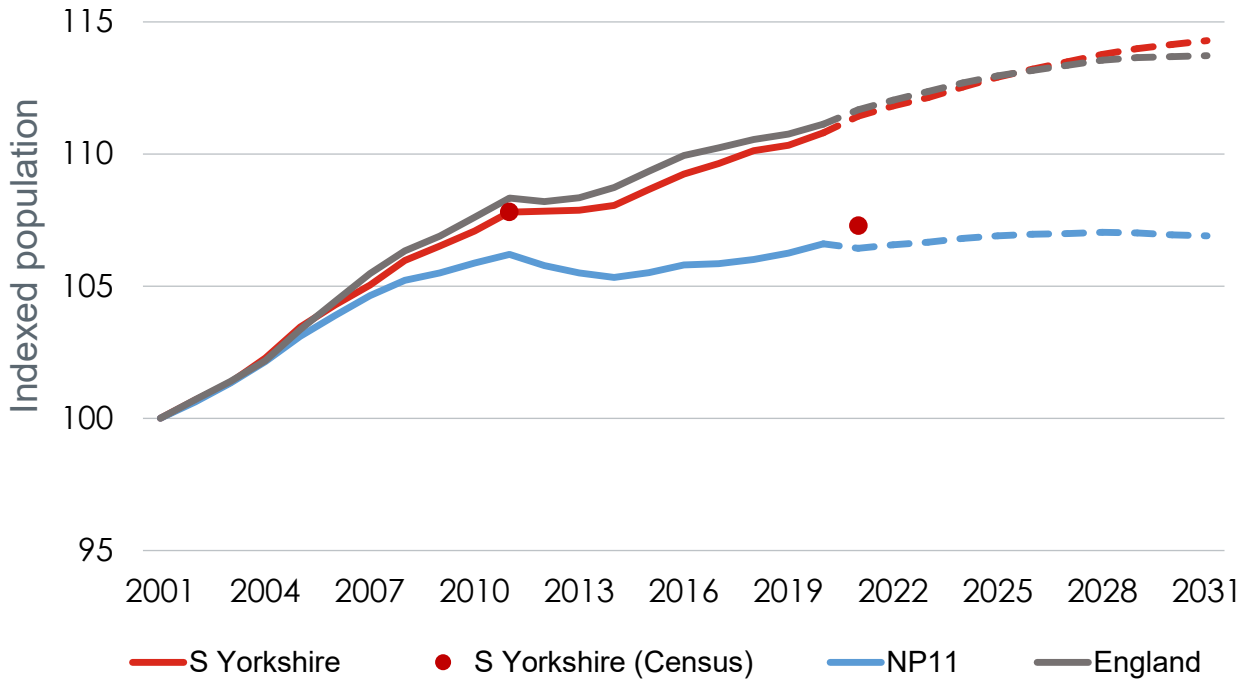
- Over the past decade, South Yorkshire's population has grown faster than in the North as a whole, with growth in the 'working age' (16-64) population broadly tracking the England rate.
- Strong population growth is expected through to 2030, with working age and total population growth outstripping the NP11 and England averages.

Population 2021	
Total	1,374,200
Aged 16 to 64	866,100

Historic population growth (2001-2021), %			
	S Yorkshire	NP11	England
All Ages	12.6	9.4	15.2
Aged 16 to 64	11.4	6.4	11.7

Forecast population growth (2022-2031), %			
	S Yorkshire	NP11	England
All Ages	4.4	3.0	4.3
Aged 16 to 64	2.7	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base). Note that 'NP11' refers to the combined 11 LEP/CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

SQW

Economic profile: Scale and productivity

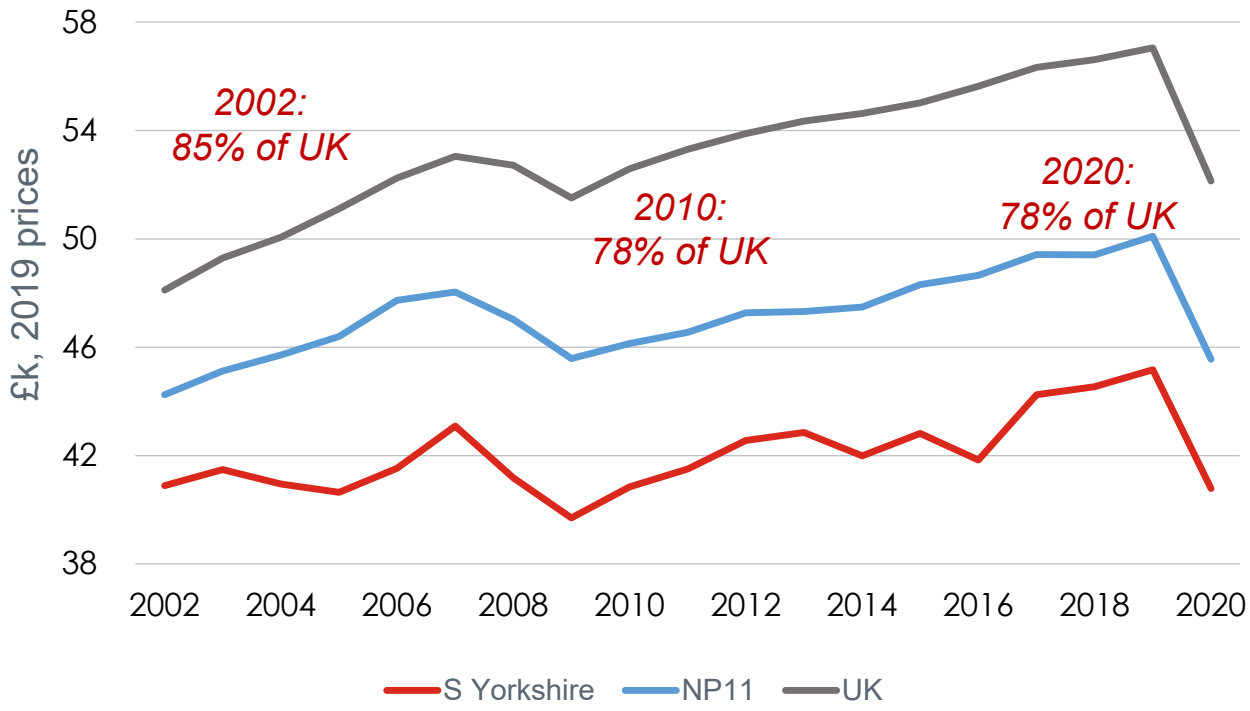
- The 'productivity gap' with the rest of the UK has widened somewhat over time, in common with much of the North and despite the area's advanced manufacturing strengths. But some sectors (e.g. foundational industries and education) are more productive here than they are nationally[1].

Overall GVA and productivity (2020)		
Total GVA	£25.45 bn	7.6% of NP11
GVA per filled job	£45.35 k	

GVA growth (CAGR, %)	S Yorkshire	NP11	UK
2008-2013	0.3	0.1	0.6
2014-2019	2.4	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	S Yorkshire	NP11	UK
2008-2013	0.8	0.1	0.6
2014-2019	1.5	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

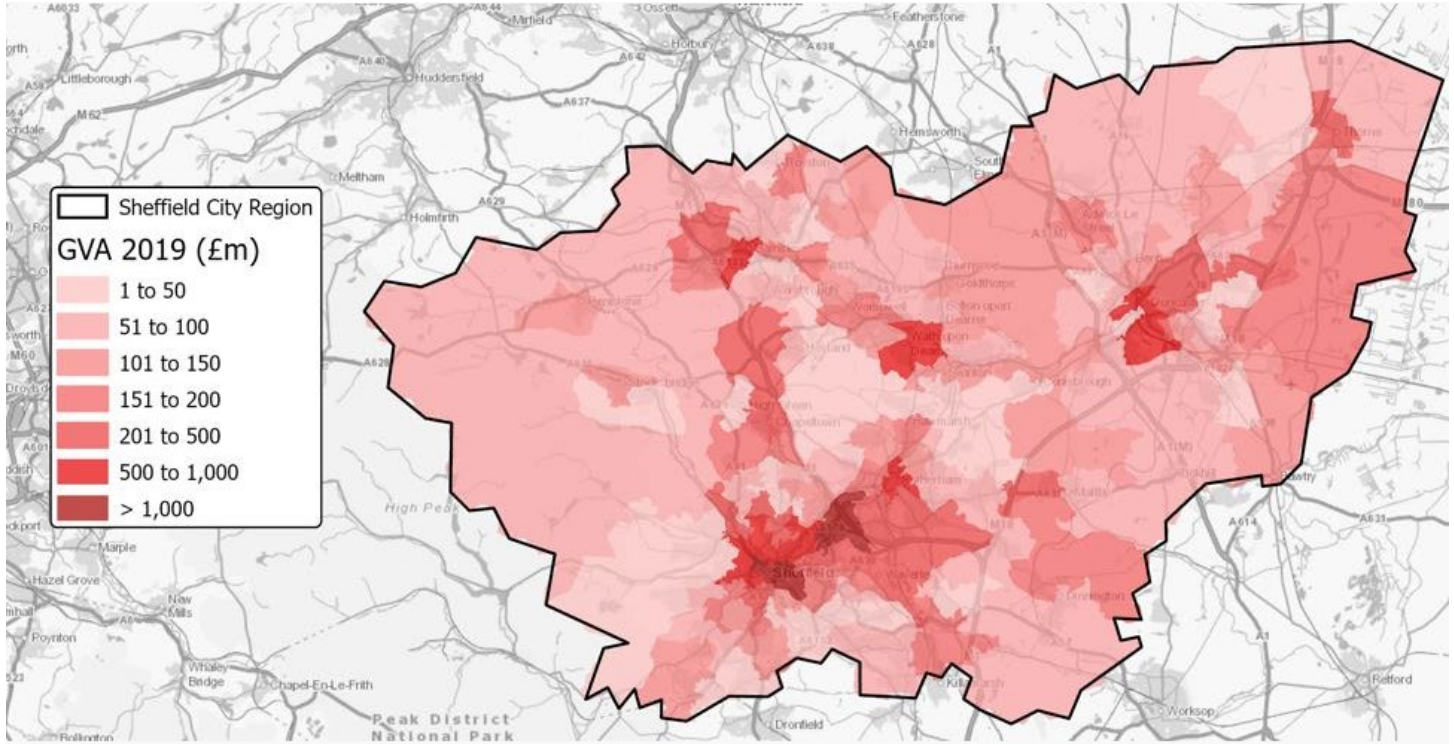
[1]. Cambridge Econometrics analysis

SQW

Economic profile: Concentrations of output

- The largest concentrations of GVA are in Sheffield city centre and in the large area of economic activity linking Sheffield and Rotherham (including Carbrook, Meadowhall, Sheffield Business Park and the Advanced Manufacturing Park at Catcliffe). The latter is a major driver of high-value activity, including Rolls-Royce, Boeing and McLaren, as well as Sheffield University's Advanced Manufacturing Research Centre.
- However, economic activity is quite widely dispersed across the area, with other large concentrations around Doncaster and Barnsley and along the Don and Dearne valleys and the M1 corridor, and with important future opportunities in the M18 Corridor.

Local concentrations of GVA (£m, 2019)



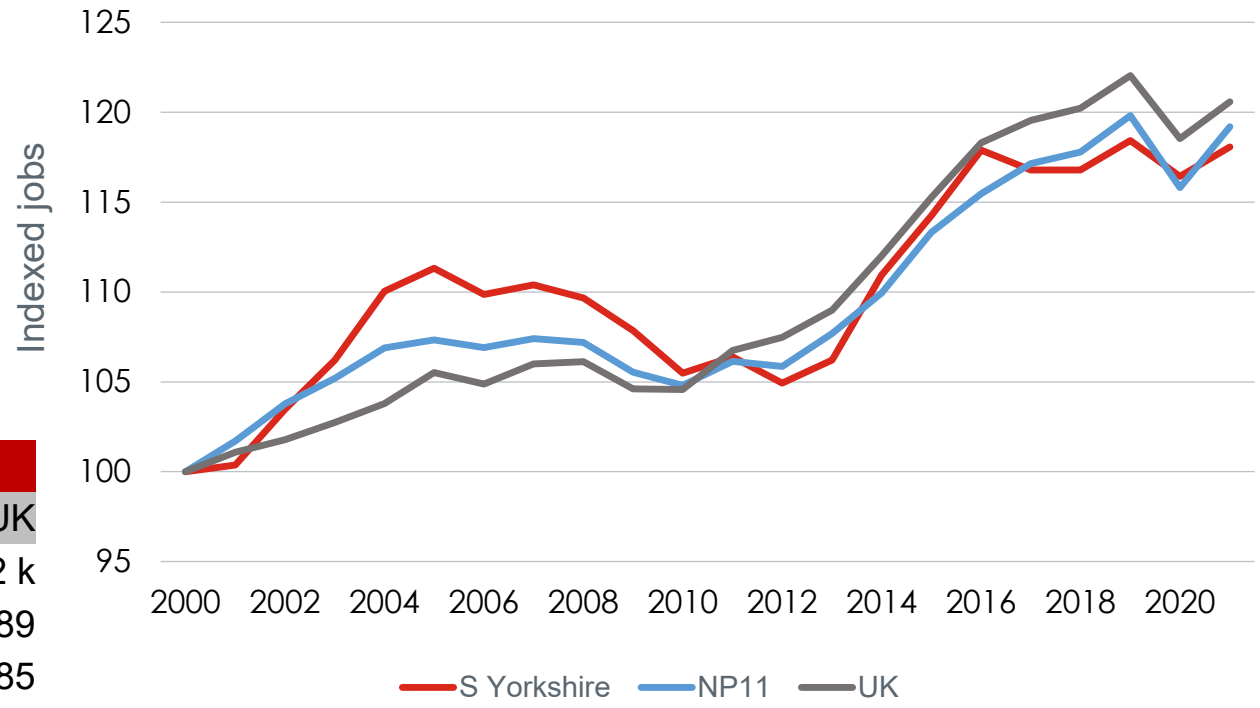
Economic profile: Jobs

- There was strong jobs growth in 2012-16 (in common with the rest of the country), although growth has faltered somewhat since. While the 'jobs density' (the number of jobs per working age population) has grown over time, it is still substantially below the national average, suggesting scope for further growth.
- Over the past decade, the fastest growth has been in professional and associate professional and technical occupations (and to a lesser extent skilled trades), offsetting falls in process, plant and machine operatives and secretarial and administrative occupations.

Jobs and jobs density

	S Yorkshire	NP11	UK
Total jobs, 2021	647 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.79	0.84	0.89
Jobs density, 2021	0.75	0.81	0.85
Change in jobs density, 2000-2021	0.07	0.08	0.06

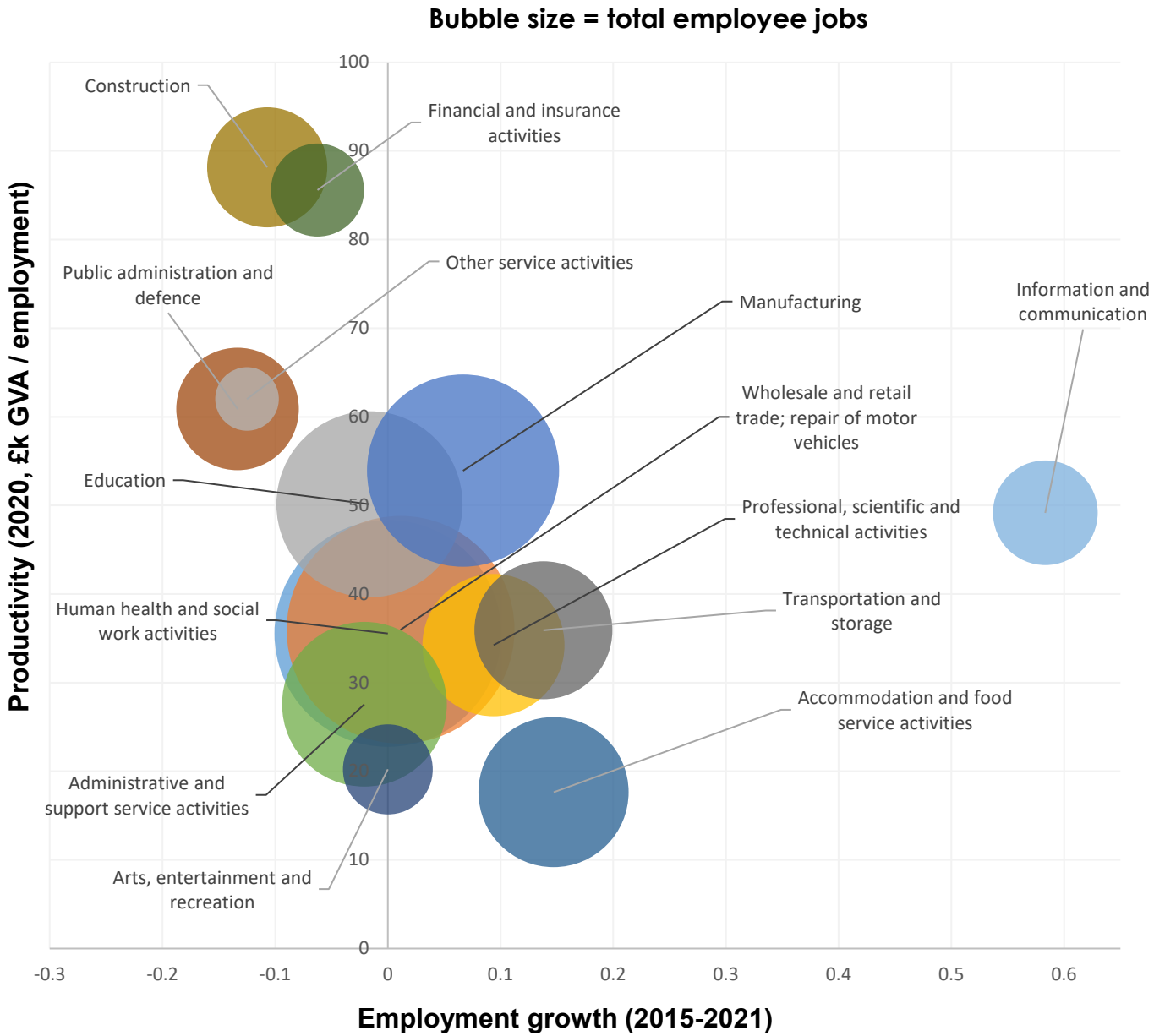
Index of total jobs growth (2000 = 100), 2000 to 2021



Source: ONS, Jobs Density

Economic profile: Sectors

- Information and communications, construction and transport and storage recorded the highest employment growth in 2015-21.
- Both construction, and finance and insurance are relatively productive, although they have declined in employment slightly in recent years.
- Manufacturing sustains 64,000 jobs (with a high location quotient of 1.34). Manufacturing employment has been broadly stable over the past decade.
- The largest employment sectors are wholesale and retail and human health and social work, both of which have seen a almost no employment change from 2015-2021 (despite likely high future demand in health).



Source: ONS, GVA (B) and BRES, SQW analysis

SQW

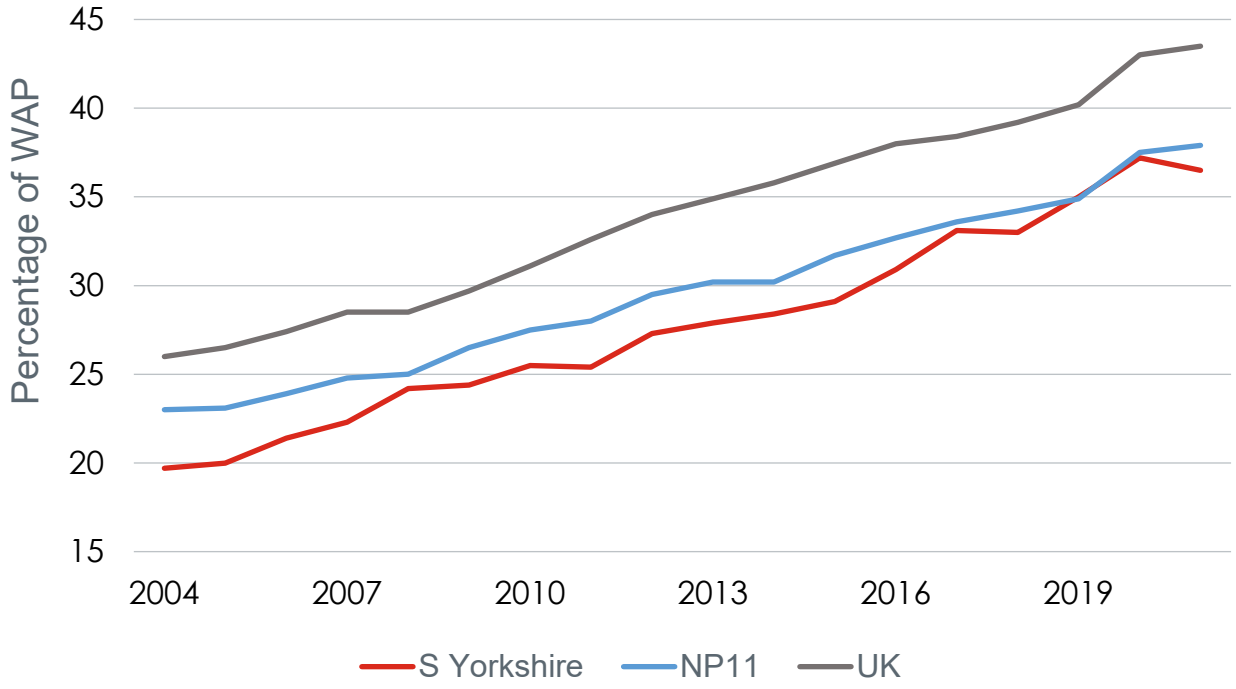
Economic profile: Workforce

- The proportion of the workforce qualified to NVQ4+ has increased over time, and the gap between South Yorkshire and the rest of the NP11 has almost closed, although there is still a sizeable deficit with the rest of the UK.
- However, wider challenges linked with high rates of worklessness and the risks to lower-paid jobs from automation are highlighted in local strategy, and there are still more people with no qualifications than elsewhere in the country, although this is lower than for the NP11 area.

% 16-64 qualified to…	S Yorkshire	NP11	UK
NVQ4+	36.2	36.6	42.4
NVQ3+	57.2	56.4	60.5
NVQ2+	75.9	75.4	77.3
NVQ1+	86.3	86.0	87.0
Other qualifications	6.4	6.0	6.1
No qualifications	7.3	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



Source: ONS, Annual Population Survey

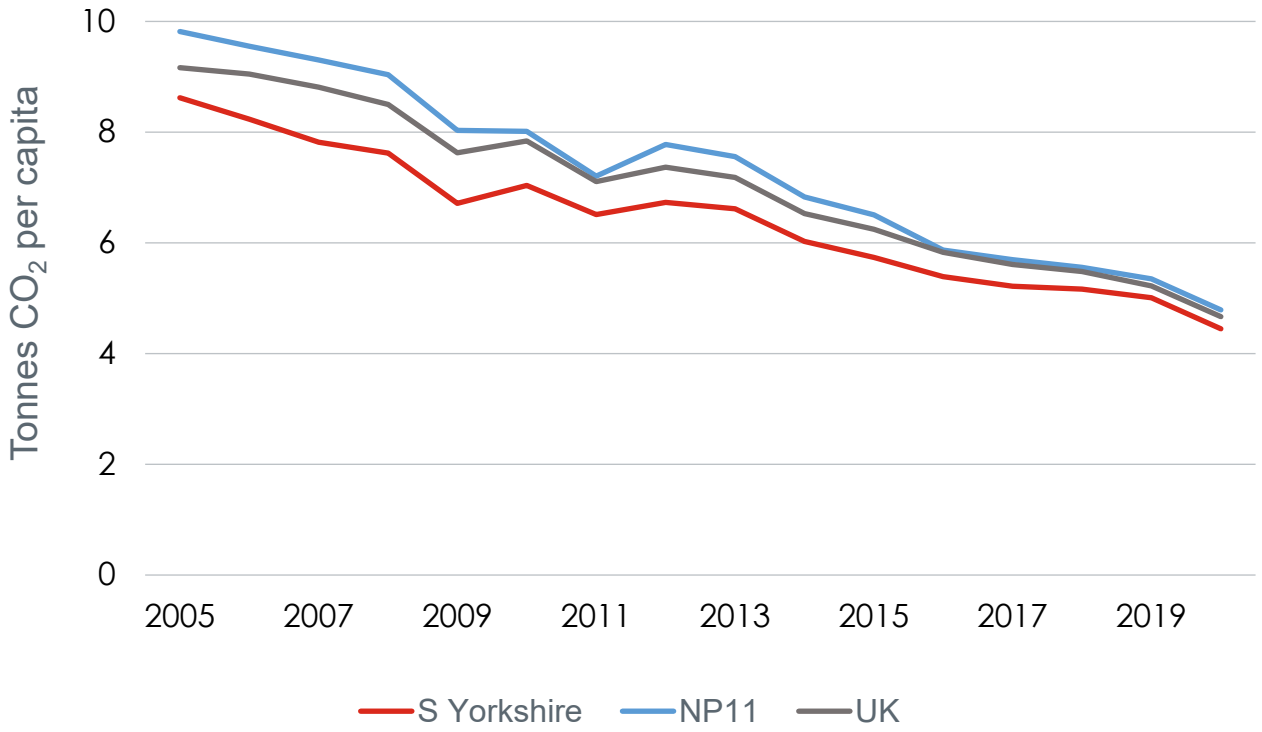
SQW

Economic profile: Carbon emissions

- CO2 emissions per head in South Yorkshire are relatively low and (elsewhere in the UK) have been on a downwards trajectory for some time (although emissions per £ GVA are relatively higher, perhaps reflecting the area's production-oriented economy).
- The largest declines in carbon emissions have come from industrial and commercial uses (and to a lesser extent residential). But transport emissions fell by only 4% between 2005 and 2019.

Carbon emissions			
	S Yorkshire	NP11	UK
Total CO2 (kt, 2020)	6,291	73,000	313,159
Tonnes per capita	4.45	4.79	4.67
Tonnes per £m GVA	247	218	172

CO2 emissions, tonnes per capita, 2005 to 2020



Source: BEIS, local authority territorial CO2 emissions

SQW

Economic profile: Businesses

- In 2021, South Yorkshire had lower levels of total businesses, business starts and high growth firms when adjusted for population compared to the NP11 and the UK.

- Despite this, the number of active businesses in South Yorkshire (per 100,000 of the working age population) has increased year on year since 2015 at a faster rate to that of the NP11 and the UK as a whole.

- According to the ONS, the Sheffield City Region LEP area has c45,200 firms. Beauhurst tracks 429 firms in the LEP area because they pass high-growth or innovation thresholds. This tracking rate of 0.95% of firms is lower than the 0.98% rate in the Northern Powerhouse and lower than the 1.15% rate for the UK as a whole.

Business demography, 2021			
	S Yorkshire	NP11	UK
Total stock			
Total businesses	45,785	560,865	2,939,675
Business Starts	6,635	72,935	363,995
High growth firms	150	2,230	10,695
Business stock change, CAGR 2015-2021	2.2	1.8	1.6
Per 100,000 working age population			
Total businesses	5,286	5,910	8,257
Business Starts	766	768	1,022
High growth firms	17.3	23.5	30.0
Business stock change, CAGR 2015-2021	2.4	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- South Yorkshire has long been a major manufacturing centre, and advanced manufacturing is highlighted as a strength in sub-regional strategy.
- A core asset is the **Advanced Manufacturing Innovation District (AMID),** located along the Rotherham-Sheffield Corridor, described as *"a nucleus of innovation, research and technology designed for collaboration and rapid commercialisation"*. At the heart of the AMID is the 150-acre Advanced Manufacturing Park, which has been built out steadily since the early 2000s through transformational investment in a former industrial site. A number of major manufacturing firms are based at the Advanced Manufacturing Park, including Rolls-Royce, McLaren Automotive and TWI's Yorkshire centre, as well as an AMP Technology Centre for smaller innovative businesses, which has expanded through a series of phases. The AMP also hosts the University of Sheffield Advanced Manufacturing Research Centre (AMRC), initially established as a collaboration with Boeing and which has expanded over 20 years as a centre for industrial R&D. Of relevance to the wider NPIER, AMRC also operates facilities at Preston (and, just outside the NP11, at Broughton on Deeside). The AMRC has subsequently expanded to additional facilities at Sheffield Business Park, and beyond the Advanced Manufacturing Park itself, the AMID includes a wider cluster of major manufacturers, including Forgemasters and Outokumpu. The AMRC forms part of the High Value Manufacturing Catapult. Last year, the UK Atomic Energy Authority's new fusion energy research centre also opened at the AMP. In addition, Gateway East, a mixed-use development developed in partnership with University of Sheffield and AMRC, includes the proposed Innovation Quarter - an advanced manufacturing and logistics hub which already has planning consent from Doncaster Council.
- Doncaster has major strengths in rail engineering as part of its future mobility and advanced engineering platforms for growth. Major companies include Hitachi Rail Europe, Unipart Rail (which has launched a UKRRIN Technology and Innovation Hub), Network Rail, iPort Rail, Volker Rail and SPL/Engie. Doncaster is also home to the National College for Advanced Transport (NCATI).
- Other university assets include the Materials and Engineering Research Institute (MERI) located at Sheffield Hallam University (including the Centre for Automation and Robotics Research which has research specialisms in artificial perception and integrated manufacturing) and the University of Sheffield's Rail Innovation and Technology Centre.

Contribution to the North's 'prime capabilities'

Energy

- South Yorkshire has several energy assets, linked with its advanced manufacturing capabilities. These include the **Energy Institute** at the University of Sheffield, which includes the Nuclear Advanced Manufacturing Research Centre (NAMRC), a collaboration of academic and industrial partners from across the nuclear supply chain. As highlighted earlier, the UKAEA's new nuclear fusion research centre has opened at the Advanced Manufacturing Park. The Energy Institute also includes several research centres, including the Centre for Research into Electrical Energy Storage and Applications (CREESA); the Advanced Resource Efficiency Centre; and the UK Carbon Capture and Storage Research Centre. Siemens Gamesa established its UK wind turbine R&D centre at the University in 2009, specialising in the technology, architecture and design of onshore and offshore wind turbine generators, and a Translational Energy Research Centre has recently opened.
- ITM Power, based in Sheffield, is a leading designer and manufacturer of electrolyser systems that generate green hydrogen based on proton exchange membrane (PEM) technology. In 2021, ITM opened a new Gigafactory at Bessemer Park (within the Advanced Manufacturing Innovation District). Linking across to developments elsewhere in the North, ITM is currently a partner in establishing the feasibility of green hydrogen as part of the decarbonisation of the Humber.
- In Doncaster, there is a growing green technology sector, which includes forward-thinking businesses such as Saica Natur, Energise Energy Solutions, Clean Power Hydrogen (CPH2), Ivoltz, Refurnish, Synetiq and ESC Global.
- Other energy-related strengths and activities include several district energy networks (e.g., the Veolia managed Sheffield District Energy Network UK) and solar energy generation (e.g., Energise Barnsley is the largest local energy solar PV and battery storage project in the UK).

Contribution to the North's 'prime capabilities'

Health innovation

- South Yorkshire's main health innovation strengths are in medical devices and technologies. Key firms include Swann Morton (surgical. instruments) Orchid and JRI (orthopaedic devices) and Braun (medical devices). The area also currently hosts two NIHR MedTech co-operatives, focused on paediatric medical technology and devices to support independence and living with chronic conditions.
- The area benefits from the Doncaster Teaching Hospitals and Sheffield Teaching Hospitals, which have an extensive research record (including Europe's only dedicated research centre for patients with motor neurone disease), and several research institutes. These include the Neuroscience Institute and the Healthy Lifespan Institute at the University of Sheffield and and Sheffield Hallam University's Advanced Wellbeing Research Centre. The National Centre for Sport and Exercise Medicine Sheffield is a partnership between 12 organisations from across the health and care system that focuses on the design, implementation and evaluation of whole-system approaches to the promotion of physical activity.
- The only Olympic Legacy Park to be located outside of a host city is also in South Yorkshire – the Sheffield Olympic Legacy Park is described as a world class centre for research and innovation in health and well-being.

Contribution to the North's 'prime capabilities'

Digital

- South Yorkshire has a large concentration of digital technology businesses, with some key strengths in educational technology (e.g., TES, which has its software hub in central Sheffield) and gaming (including Sumo Digital). Other key digital businesses include the internet service provider Plusnet; software development company The Floow; SkyBet; distributed computing services provider Wandisco; raspberry pi provider Pimoroni; and the virtual reality firm Lightworks.
- This concentration of business activity is supported by a strong 'digital coalition' at Sheffield Digital (which identifies 198 companies within the 'digital ecosystem), and by the significant computer science capabilities of University of Sheffield and Sheffield Hallam University. There is also a history in South Yorkshire of extensive efforts to widen engagement with the digital technology sector and support greater diversity in the industry (through, for example, the Sheffield Digital Festival and the Sheffield-based Good Things Foundation, which provides training and learning resources (linked with South Yorkshire's edtech specialisms above) and which seeks to promote digital inclusion.
- The largest concentration of digital tech activity is focused on Sheffield (with some significant tech hubs around the universities and the Castlegate development). But there are important assets elsewhere in the area, including at Barnsley Digital Media Centre (DMC), which has recently expanded into a second building offering grow-on space. Barnsley's DMC also has an established record in wider community participation, through the Tech Town initiative. In Doncaster, digital activity includes 360 Degrees Media collaborating with Doncaster Council and the Chamber of Commerce to attract other co-located digital businesses to develop the local skills base ahead of the development of high-end TV studios in the town centre.
- The exploitation of data and digital technology is also central to South Yorkshire's advanced manufacturing capabilities.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• Although not highlighted as a key strength in sub-regional strategy, recent investment has included HSBC's expanded presence in Sheffield, as well as fintech start-ups such as Umoney. Sheffield is also an important regional professional services centre. • Sheffield is also the location of a number of government departments, including Department for Education and the Department for Work and Pensions.
Logistics	• South Yorkshire is a central, multimodal hub location for logistics and distribution companies, and the sector has expanded in employment terms in recent years, supported by extensive road and rail connections and the availability of some substantial logistics sites. • Doncaster's growing future mobility industry is strategical important for the UK. It includes iPort (multi-modal inland port), multiple rail freight terminals, and Gateway East – which encompasses an International Airport (with a growing freight capacity) and a growth hub site. Key features of the masterplan include a rail scheme (potential of 30,000 to 52,800 additional jobs across SCR by 2050) and an Innovation District to deliver a significant contribution to the transition to net zero carbon transport by attracting and facilitating collaboration between industry and academic partners.

Education	• South Yorkshire has two world-class universities:
	  • The University of Sheffield - a world top-100 and Russell Group university renowned for the excellence, impact, and distinctiveness of its research-led learning and teaching.
	  • Sheffield Hallam University – the 10th largest university in the UK comprising thirty research centres that span a range of specialisms, including health and social care, sport and exercise science and food engineering.
	• South Yorkshire also has a number of Further Education and specialist colleges that are leading the technical education and the apprenticeship agenda, as well as a University Technical Colleges in Sheffield City Centre and Doncaster which opened in September 2013 and September 2020 respectively.
	• South Yorkshire (led by Doncaster Chamber) was one of eight national trailblazers for Local Skills Improvement Plans. Also, Doncaster is developing a Talent Innovation Eco-system (TIE) to bring together learners, employers and communities together to tackle real world challenges.

Economic strategy and direction

- South Yorkshire Mayoral Combined Authority adopted a Renewal Action Plan in 2020, setting a basis for action to support recovery from the pandemic. This in turn informed a new Strategic Economic Plan (SEP) for 2021-41.
- The SEP notes that South Yorkshire has "huge untapped potential", highlighting relatively low productivity; underperformance in relation to innovation and internationalisation; shortfalls in workforce skills (leading to "work that does not [always] translate into genuine wellbeing")'; the need for improvements to the transport network; and a need to invest in decarbonisation. Set against that, the SEP notes significant capabilities: these substantially align with the 'prime' and 'enabling' capabilities identified in the 2016 NPIER, and include advanced manufacturing and engineering; intelligent mobility (itself partly an engineering and manufacturing sub-sector); construction; health (and health innovation) and digital. Building on South Yorkshire's Energy Strategy, the Plan also places a strong emphasis on clean energy and net zero, linked with the green hydrogen and other energy opportunities highlighted earlier as well as the need to drive clean growth and decarbonisation across the business stock.
- The Plan notes the need for 'greater density' to support clustering benefits, building on (and accelerating) the success of the AMID and its model of university-industry collaboration. The Plan identifies other potential clusters associated with Barnsley and digital media; Doncaster (rail engineering, and creative, digital and green technologies, as well as opportunities around Doncaster-Sheffield Airport); and Sheffield city centre as a professional services and digital hub. Potential is also highlighted in construction and preventative medicine.
- Alongside the development of these clusters of activity and their associated anchor institutions, **the SEP takes a broader approach to economic development**. While recognising the need to overcome the productivity gap, it emphasises *"a focus on growth, inclusion and sustainability":* while the first SEP was focused on generating jobs and GVA, the new SEP focuses on *"productivity... as a strong determinant not just of economic growth, but of quality of life and wellbeing".* This flows through into the SEP's subsequent priorities in relation to innovation, skills, transport, digital, clean growth and 'vibrant and resilient places'.

Strategy and evidence bibliography

- Sheffield City Region, The Mayor's Vision for Transport, December 2018
- Sheffield City Region, SEP and LIS Evidence Base, May 2019
- Sheffield City Region, Renewal Action Plan, July 2020
- South Yorkshire Mayoral Combined Authority, Strategic Economic Plan 2021-2041, May 2021
- South Yorkshire Mayoral Combined Authority, Energy Strategy, January 2022

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: Tees Valley

May 2022 | Updated March 2023

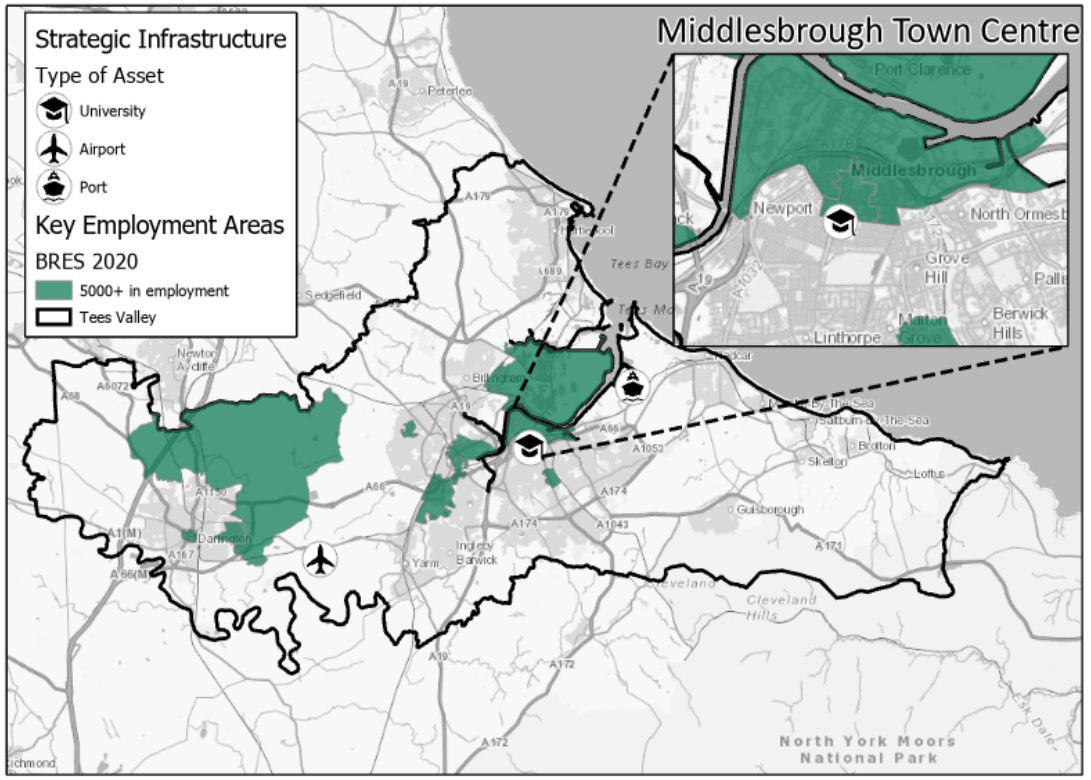
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap' and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for Tees Valley, drawing on nationally-available data, as well as the analysis contained in the comprehensive and recently-updated *Tees Valley Economic Assessment* and the *Local Industrial Strategy Evidence Base* published in 2019. It also provides a synthesis of the LEP's economic aspirations and priorities, as reflected in the *Strategic Economic Plan*, *Investment Plan 2019-29* and the annual *Delivery Report,* referenced at the end of this document.

Tees Valley: Overview

- Tees Valley encompasses the five local authorities of Darlington, Hartlepool, Middlesbrough, Redcar and Cleveland and Stockton-on-Tees. Historically, a major industrial centre, the Tees Valley has been significantly impacted by the decline of heavy industries. But it has a distinctive economy, with strengths in chemicals and process industries, a range of low-carbon and energy-related activities and advanced manufacturing. Future growth is supported by the UK's largest Freeport and the extensive 4,500 acre Teesworks site on the south bank of the Tees.
- The area is compact, densely populated and largely urban, centred around the Teesside conurbation and Darlington. Key infrastructure assets include the port of Tees and Hartlepool (the largest English port in terms of outward tonnage and a major logistics centre for the chemicals and process industry); and Teesside International Airport (including ambitious plans for the Airport Business Park). Darlington is served by the East Coast Main Line and is the key rail gateway, with new Middlesbrough-London direct services launched in 2021; while the A1(M), A19 and A66 offer strategic road connections.
- In governance terms, the Tees Valley Combined Authority was established in 2016, with the first elected Mayor taking office a year later, and with the Local Enterprise Partnership fully integrated into the Combined Authority structure.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

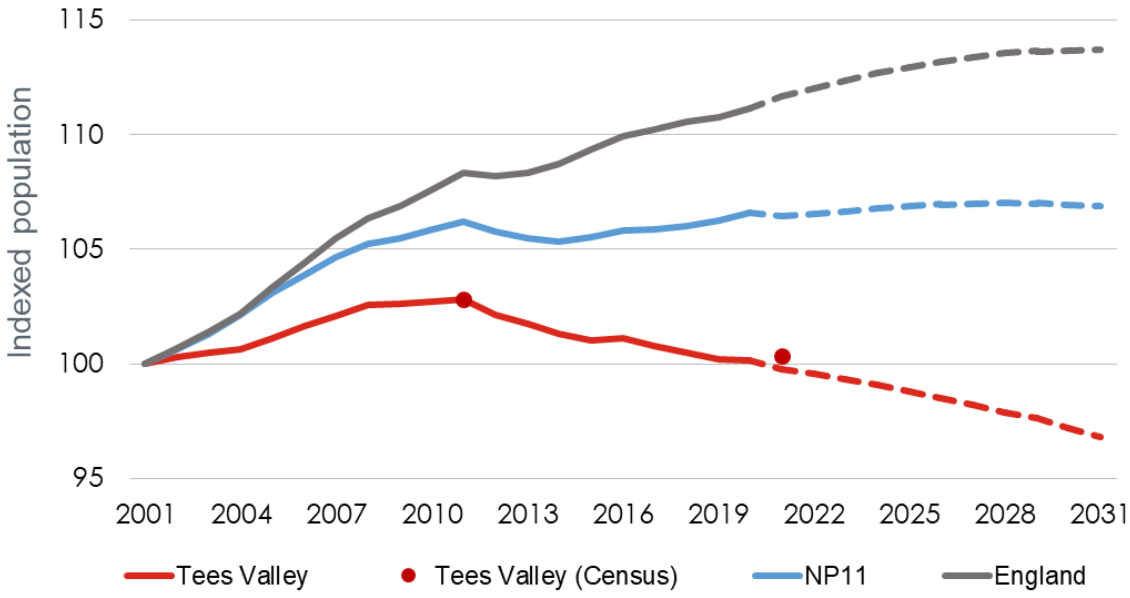
- Population growth (in all ages and in the working age population (WAP)) has been slower in Tees Valley in recent years than in the NP11 or in England as a whole, with the working age population falling from about 2010 onwards.
- The WAP is forecast to contract by about 2.5% between 2022-31. However, there will be a slight growth in the population overall however increasing the dependency ratio over time.

Population 2021	
Total	678,200
Aged 16 to 64	413,800

Historic population growth (2001-2021), %			
	Tees Valley	NP11	England
All Ages	3.9	9.4	15.2
Aged 16 to 64	-0.2	6.4	11.7

Forecast population growth (2022-2031), %			
	Tees Valley	NP11	England
All Ages	0.4	3.0	4.3
Aged 16 to 64	-2.5	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base). Note that 'NP11' refers to the combined 11 LEP/ CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

Economic profile: Scale and productivity

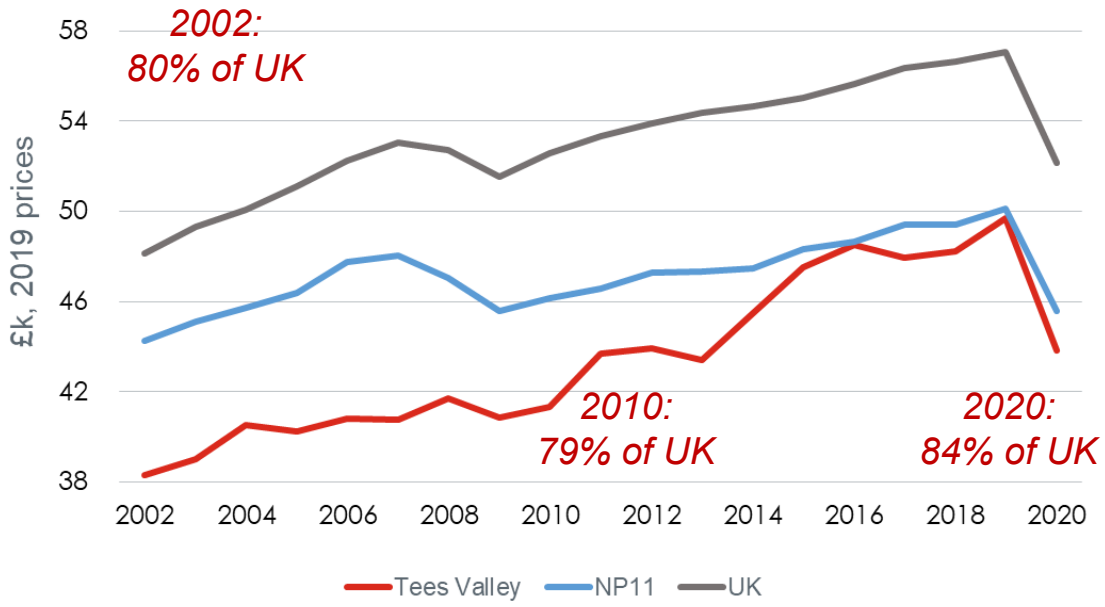
- There has been a persistent 'productivity gap' between the Tees Valley and the rest of the UK (although the area's productivity in terms of GVA per filled job has closed on the North overall). Chemicals and materials, machinery and 'foundational industries' (including metals and basic chemicals) are all more productive in Tees Valley than they are nationally[1].

Overall GVA and productivity (2020)		
Total GVA	£13.86 bn	3.8% of NP11
GVA per filled job	£49.81 k	

GVA growth (CAGR, %)	Tees Valley	NP11	UK
2008-2013	0.5	0.1	0.6
2014-2019	1.6	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	Tees Valley	NP11	UK
2008-2013	0.8	0.1	0.6
2014-2019	1.8	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

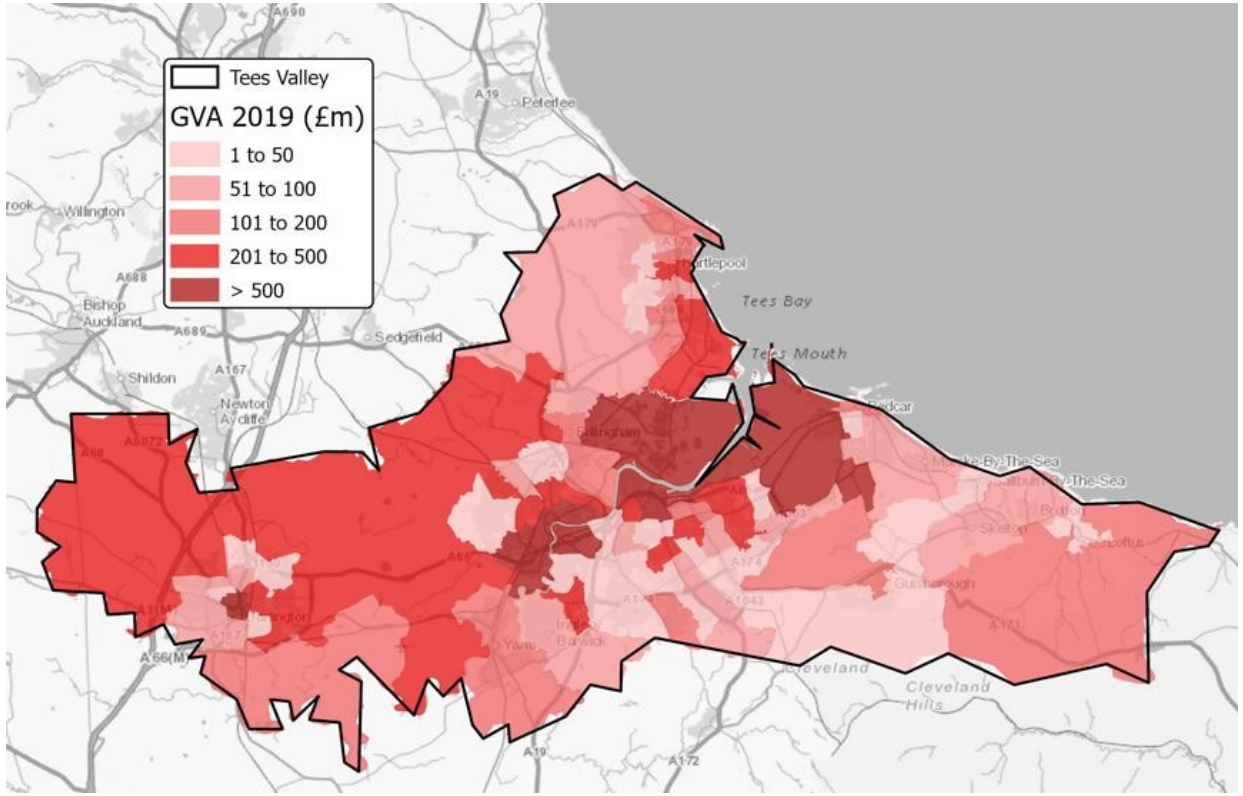
[1] Cambridge Econometrics analysis

SQW

Economic profile: Concentrations of output

- Tees Valley's main concentrations of GVA are on its major industrial and port-related sites, principally:
  - On the south bank of the Tees at Redcar around Teesport and the Wilton International process manufacturing site, a major location for energy-intensive businesses. This areas also incorporates the major Teesworks (former Redcar steelworks) site
  - On the north bank around the oil refinery and chemicals works at the mouth of the Tees and the Billingham chemicals manufacturing plant
  - The major industrial estates at Preston Farm (Stockton) and Teesside Estate (Ingleby Barwick)
- Other concentrations of output are focused on the central areas of Stockton (and the Teesdale business park at Thornaby), Middlesbrough and Darlington.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

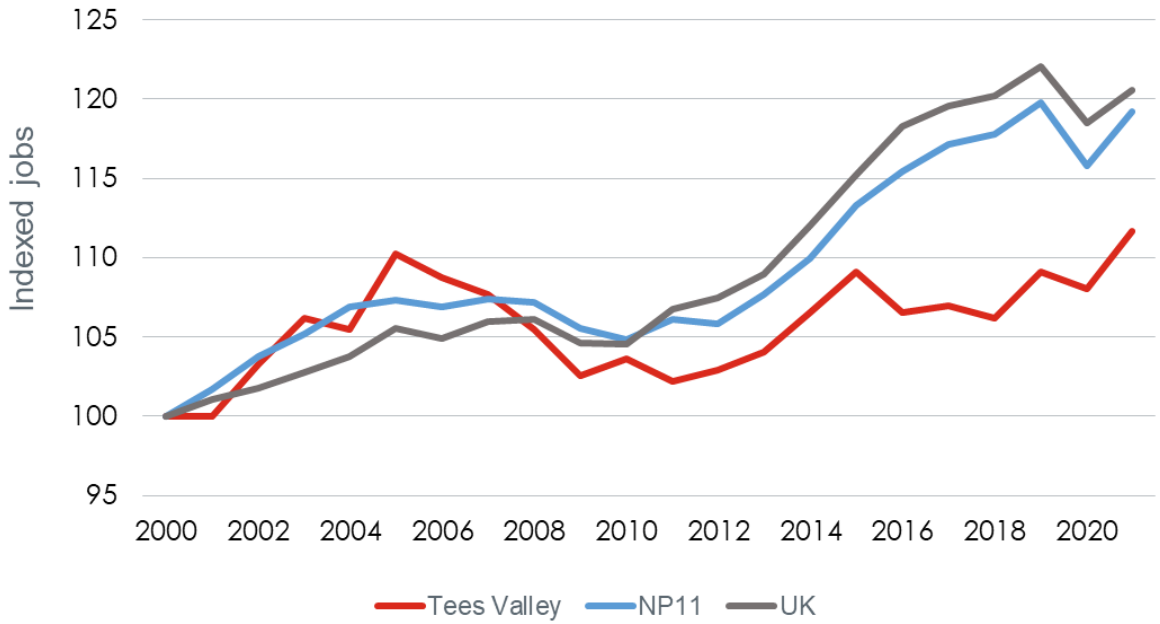
Economic profile: Jobs

- The UK performed well in overall job creation in the years leading up to the pandemic. In the Tees Valley, the return to jobs growth following the financial crisis was slower and faltered somewhat from 2014.
- Jobs density (the number of jobs per working age resident) is relatively low: the 2011 census (although now old) recorded a net travel-to-work outflow from Tees Valley to neighbouring areas, and economic inactivity is somewhat higher than the UK average (25.3% compared with 21.5% in 2021).
- Over the past decade, jobs growth has been especially strong in 'professional' and 'associate professional and technical' occupations', with contractions in skilled trades and 'elementary' roles.

Jobs and jobs density

	Tees Valley	NP11	UK
Total jobs, 2021	306 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.53	0.84	0.89
Jobs density, 2021	0.74	0.81	0.85
Change in jobs density, 2000-2021	0.07	0.08	0.06

Index of total jobs growth (2000 = 100)

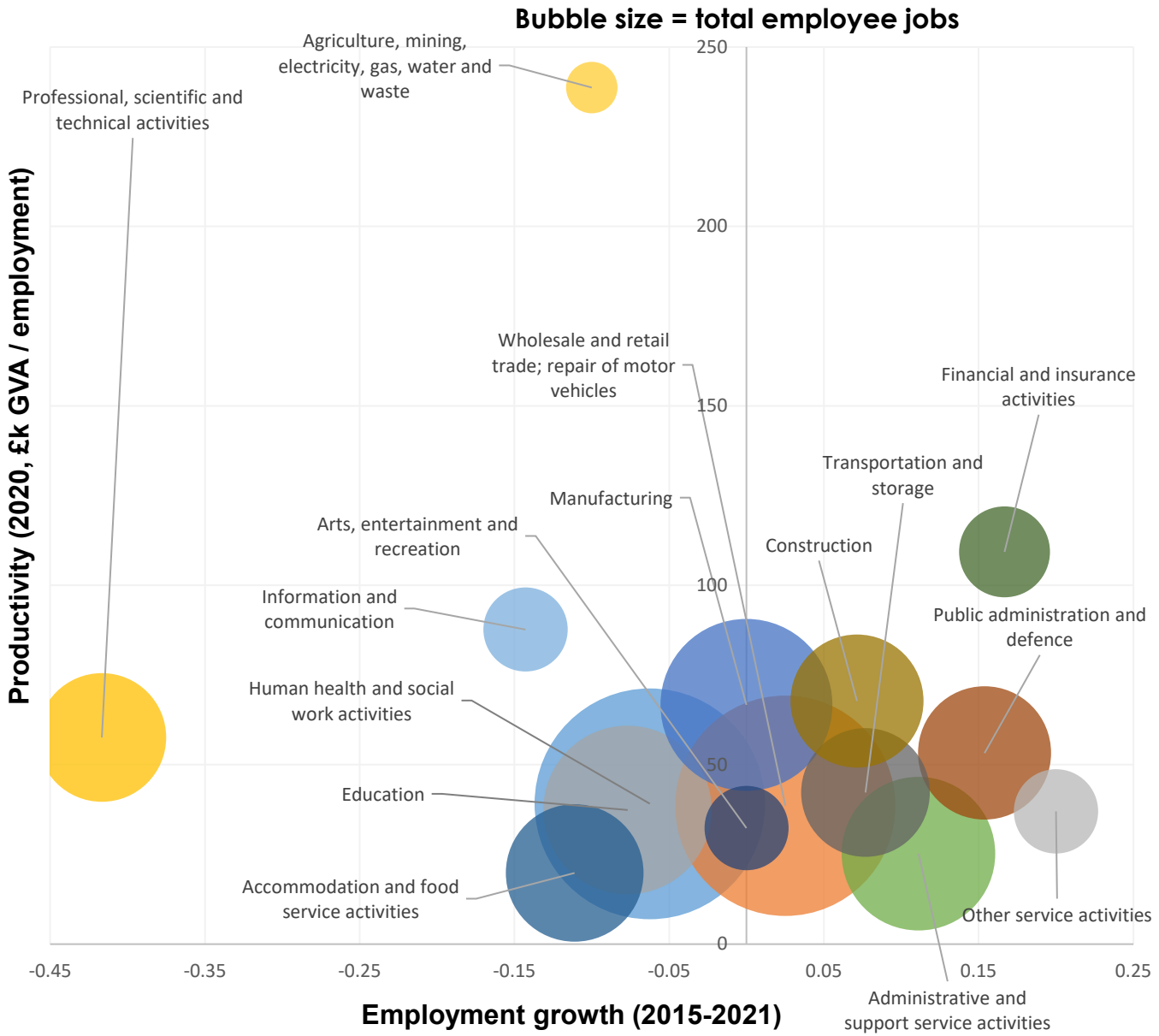


Source: ONS, Jobs Density

SQW

Economic profile: Sectors

- Tees Valley's largest sector by employment is *Human health and social work activities*, with employment increasing steadily between 2015-2020 and dropping in 2021.
- Employment in the region's largest sectors (e.g. *Education, Wholesale and retail trade*) remained relatively stable over the five-year period, and these sectors averaged c.£40k GVA per employee.
- *Manufacturing* sustains around 24,000 jobs, with a location quotient (LQ, a measure of employment concentration) of 1.17. Productivity in the manufacturing sector is also relatively high, with GVA of around £65k per employee (compared with an all-industries average of around £50k).
- Between 2015-2021, *Financial and insurance activities* was the region's most productive and one of the fastest growing sectors, although it remains relatively small in employment terms.



Source: ONS, GVA (B) and BRES, SQW analysis

SQW

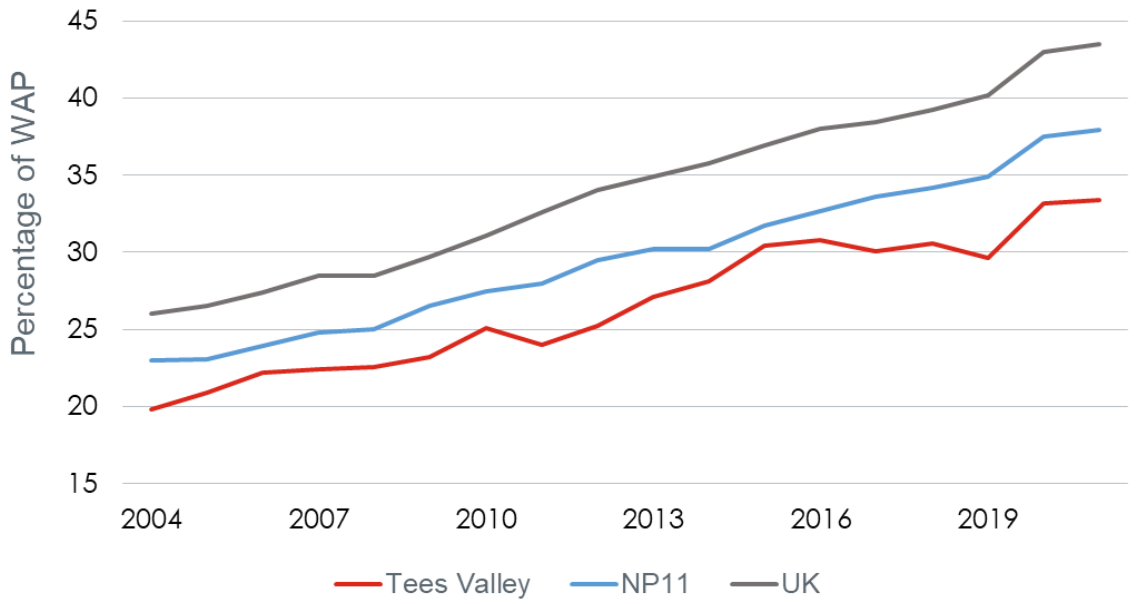
Economic profile: Workforce

- Since 2004, the proportion of the working age population qualified to NVQ4+ has increased, although is remains lower than the NP11 and UK averages.
- Tees Valley also has a higher proportion of the working age population with no qualifications (8.7%), compared to the NP11 and UK (8.0% and 6.9% respectively)*.

% 16-64 qualified to…	Tees Valley	NP11	UK
NVQ4+	32.1	36.6	42.4
NVQ3+	53.8	56.4	60.5
NVQ2+	74.0	75.4	77.3
NVQ1+	85.3	86.0	87.0
Other qualifications	6.0	6.0	6.1
No qualifications	8.7	8.0	6.9

*Source: ONS, Annual Population Survey. *Three-year average, Jan-Dec, 2019-21*

% 16-64 population qualified to NVQ4+, 2004 to 2021



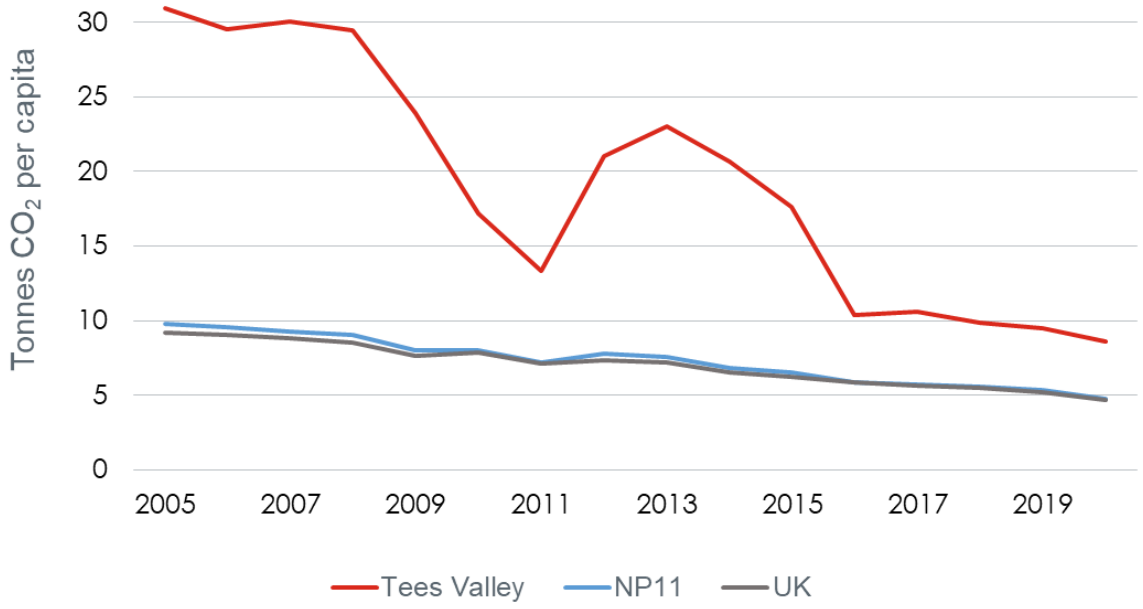
Source: ONS, Annual Population Survey

Economic profile: Carbon emissions

- Tees Valley's industrial legacy led to a relatively carbon-intensive economy, consistently producing more CO_2 per capita compared to the NP11 and UK average.
- From 2005 – 2011, CO_2 emissions per capita declined sharply due to a loss of industry (especially steel), as well as the general trend to industrial decarbonisation across the country (the rise in emissions in 2011 is associated with the reopening of the SSI Redcar steelworks in that year). Since 2013, Tees Valley's carbon emissions have declined, following the permanent closure of the works. Carbon emissions remain relatively high however, driven by the stock of energy-intensive industries in the chemicals and process sector.

Carbon emissions			
	Tees Valley	NP11	UK
Total CO2 (kt, 2020)	5,845	73,000	313,159
Tonnes per capita	8.63	4.79	4.67
Tonnes per £m GVA	455	218	172

CO_2 emissions, tonnes per capita, 2005 to 2020



Source: SQW analysis of BEIS, local authority territorial CO_2 emissions; ONS Mid-Year Population Estimates; and ONS, GVA (B)

SQW

Economic profile: Businesses

- In 2021, the total number of businesses and business starts per 100k working age population in Tees Valley were below both the NP11 and UK averages. Business stock growth was also lower between 2015 and 2021 than elsewhere.
- In 2021, Tees Valley was home to c. 80 'high growth' firms (measured as firms with annualised employment growth of 20% or more over a three year period). This was equivalent to 19.3 high growth firms per 100k working age population. This is a lower proportion than the NP11 (23.5), and substantially lower than the UK (30.0).
- However, data from Beauhurst paints a somewhat different picture. Beauhurst tracks 187 firms (equivalent to 0.95% of all businesses) in the LEP because they pass high-growth or innovation thresholds. This tracking rate of 0.95% of total business stock is higher than the 0.98% rate in the Northern Powerhouse and higher than the 0.97% rate for the UK minus London.

Business demography, 2021			
	Tees Valley	NP11	UK
Total stock			
Total businesses	19,740	560,865	2,939,675
Business Starts	2,620	72,935	363,995
High growth firms	80	2,230	10,695
Business stock chan	1.0	1.8	1.6
Per 100,000 working age population			
Total businesses	4,770	5,910	8,257
Business Starts	633	768	1,022
High growth firms	19.3	23.5	30.0
Business stock chan	1.1	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- The Tees Valley draft Local Industrial Strategy recognised Advanced Manufacturing as a sector in which the area in 'globally competitive', and TVCA adopted an Advanced Manufacturing Sector Action Plan in 2018.
- In the **automotive** sector, key companies include Cummins at Darlington, which manufactures diesel engines. The Darlington plant also hosts an R&D technical centre, currently engaged in the development of a low-carbon hydrogen engine. Other firms in the automotive supply chain include NIFCO, a plastics manufacturer with the group's only European R&D centre at Stockton; and Elring Klinger (electromobility and sealing technology, based at Redcar).
- In the wider engineering sector, there are strengths in construction and services for the **offshore energy** market (for example, Modus in subsea surveying and inspection, and Wilton Engineering in complex structures).
- **Chemicals and process industries** are key strengths in Tees Valley: the area hosts the UK's largest integrated chemicals complex and the industry is highly productive relative to the national average. The sector is focused around the former ICI plants at Wilton and Billingham: key firms include SABIC Petrochemicals, CF Fertlisers at Billingham, and Huntsman at Wynyard Park.
- Supporting the industry, Tees Valley hosts a series of industry-led Research and Technology Organisations: the Centre for Process Innovation (based at Wilton, and part of the Catapult Network); the Materials Processing Institute (which operates a range of laboratories for industry use, as well as an SME Technology Centre in Middlesbrough); and TWI (based at TeesAMP, the new Teesside Advanced Manufacturing Park, and also including an Innovation Accelerator).
- Teesside University has a significant presence in manufacturing and engineering. With TWI, its Centre for Sustainable Engineering has created two research centres, focused on industrial decarbonisation and hydrogen, and the development of technologies to support the development of the 'circular economy'.

Contribution to the North's 'prime capabilities'

Energy

- There are synergies between Tees Valley's manufacturing and process industry capabilities and its strengths in clean energy, low carbon and hydrogen. This is especially linked with the energy intensity of these industries and the need (and opportunity) to develop lower carbon solutions. TVCA is working with the region's 40 largest industrial emitters to develop strategies to decarbonise their operations. The area also has existing energy production and supply assets: it is already a major processor of North Sea natural gas and leads the way in hydrogen production and storage.
- It is home to the UK's largest **hydrogen** plant operated by BOC and major other producers such as CF Fertilizers and SABIC. Several major hydrogen projects are under development, including the UK's largest Blue Hydrogen project, a pioneering project to use hydrogen in the existing gas network and distribute it to homes and businesses and the development of a £13m R&D facility, the Net Zero Innovation Centre (NZIIC). As the national Hydrogen Transport Hub, Tees Valley is leading nationally on trialing hydrogen-powered last mile delivery operations for retailers and zero-emission passenger transport vehicles and local authority fleet vehicles. The hub's pilots will inform future government transport decisions.
- Tees Valley is also home to the UK's most developed and deliverable **carbon capture, utilisation and storage** project; set to capture and store at least 10MT CO2 a year whilst producing 4.2GW of zero carbon power. The Net Zero Teesside project seeks to develop an industrial cluster of clean energy producers and consumers, involving hydrogen production (via BP, BOC and Kellas) at scale, energy from waste and "the world's first commercial scale gas-fired power station with carbon capture". Together with industries in the Humber Estuary, Net Zero Teesside forms part of the East Coast Cluster initiative, which aims to develop a shared infrastructure to capture CO2 emissions from large energy users and transport them to secure storage in the North SeaEDF has also recently committed to a green hydrogen production facility at the Teesworks site.
- In **biofuels,** Ensus, based in Yarm, operates one of Europe's largest bioethanol production plants. Greenergy also maintain a major biodiesel plant at Seal Sands, converting cooking oil and waste fats into energy.
- In **offshore wind**, the North Sea is a major energy production zone. Work is currently underway on a new onshore electricity converter station at Wilton International for the Sofia wind farm at Dogger Bank; and Seaton Port is a major installation port for North Sea offshore wind. Construction of a 1km-long Offshore Wind Quay at Teesworks is also underway and is supporting the growth of the local clean energy sector connected to the world's largest wind farm, off the Tees Valley Coast, including major investment in a monopile manufacturing facility from Seah.

Contribution to the North's 'prime capabilities'

Health innovation

- Tees Valley has a large life sciences presence, especially in industrial biotechnology. Key companies include Fujifilm Diosynth Biotechnologies, a contract development and manufacturing organisation (CDMO) for biologics, viral vaccines and viral vectors. Fujifilm is developing an expanded BioCampus on its site at Billingham with a £400m investment. Other recent investments include KD Pharma's Omega 3 manufacturing facility at Seal Sands; and SEQUENS, a pharmaceuticals and cosmetics ingredients producer at Stockton. Other firms include Cambridge Research Biochemicals at Billingham, and Hart Biologicals, a blood testing company in Hartlepool.
- Central Park in Darlington hosts several life sciences assets. These include:
    - The Centre for Process Industries' National Biologics Manufacturing Centre, offering laboratory facilities and industry expertise to support the biologics industry and supply chain.
    - Teesside University's National Horizons Centre, established in 2019 as a centre for knowledge transfer and skills development for biologics, industrial biotech and biopharmaceuticals.
- The region is also home to one of the largest concentrations of bio-based process business in the UK, with major operators including Greenergy (Europe's largest manufacturer of waste-based biodiesel) and major recent investments by Quorn foods, Fujifilm Diosynth and at the leading research organisation the Centre for Process Innovation. Products manufactured on Teesside include the Novavax Covid-19 vaccine.
- Within the NHS, the Tees Valley has four NHS Trusts, with a history of collaborative research. A Durham and Tees Valley Research Alliance was formed across NHS organisations in 2019 to better coordinate clinical research and develop engagement with industry.

Contribution to the North's 'prime capabilities'

Digital

- The impact of digital technology is 'cross-sectoral': this is recognised within the new Tees Valley Digital Strategy, which focuses on "the development of local businesses across all industry sectors… so that all residents and businesses can access digital technology". The Digital Strategy also sets out the concept of Tees Valley as a 'smart region' through, for example, the use of digital technology in transport management and its deployment within the Freeport to improve trade flows.
- Many of Tees Valley's digital strengths are linked with their industrial application. The Centre for Process Innovation for example has strengths in developing technologies for improved data collection, including the development sensor systems and large scale IoT systems; the Materials Processing Institute has a core focus on the development of industrial digital technologies. Alongside these, the Industrial Digitalisation Technology Centre (IDTC) at Teesside University gives SMEs access to advanced digital technology and academic expertise. More broadly, the University's Digital City initiative seeks to support the growth of digitally innovative start-ups through an Accelerator programme and wider business advice.
- Beyond industrial digitalisation, the Tees Valley hosts a number of software and digital tech businesses, including Visualsoft in e-commerce, Cubic Transportation Systems in intelligent travel software, and the computer games company Double Eleven. Teesside University is also a leader in animation and computer gaming, hosting the annual international Animex conference.
- In Middlesbrough, the development of the Boho Zone digital and creative media quarter is well underway, with a range of offices and live/work units.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• The professional and business services sector is a key source of employment in Tees Valley, with approximately 31,300 jobs across 2,840 businesses. However, concentrations of employment (relative to the national average) are low across most sub-sectors. • Teesside University produces many graduates each year, providing valuable skills and expertise for the sector (including disciplines such as management and accountancy), although graduate retention is reported as a challenge. • Significant employers in the sector include RPMI and Lattimer Hinks (in relation to financial and professional services) and Virgin Media, Santander and EE (contact centres and business processing). The creation of HM Treasury's Darlington Economic Campus is also a significant contribution to the local professional services base.
Logistics	• Tees Valley has distinctive logistics strengths. The port of Tees and Hartlepool is the largest English port in terms of outward tonnage, with the maritime complex strongly integrated with Teesside's wider industrial base. In 2021, Freeport designation was granted to a series of sites across Hartlepool, Stockton, Middlesbrough and Redcar, including an extensive series of tax zones across the southern side of the Tees, including at Teesworks. • Beyond port-related activity, assets include Teesside International Airport and skills infrastructure including the Logistics Academy at Stockton Riverside College and the High Tide Foundation. • The logistics sector employs over 17,000 people and includes large employers such as Clipper Logistics, Aldi, DHL, AV Dawson, Bulkhaul, Tesco and Asda.
Education	• The region principal higher education institution is Teesside University, with its main campus in Middlesbrough and a centre for continuing professional development in Darlington (as well as the Net Zero Innovation Centre at TeesAMP). Durham University also has an international study centre at its Queen's Campus in Stockton. • In addition, Tees Valley has a significant network of key education and skills partners and stakeholders, including Darlington College, Hartlepool College of Further Education, Middlesbrough College, Redcar & Cleveland College, Stockton Riverside College, the Northern School of Art, a wide range of independent training providers and local authorities (Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton-on-Tees), delivering provision from non-accredited community learning to Degree and Masters level.

Economic strategy and direction

- Tees Valley Combined Authority adopted a refreshed Strategic Economic Plan in 2016 and a Local Industrial Strategy in 2019. The SEP sets out an ambition for Tees Valley to become *a "high value, low carbon, diverse and inclusive economy".* The LIS is more specially focused on industrial strengths and opportunities, noting that: *"Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long-term prospects that local people can access".*
- The LIS identifies ten 'priority sectors for growth'. These fall into three categories: those sectors which are **globally competitive and which generate high levels of output** (chemicals and process industries and advanced manufacturing); those which offer **regional strengths and have growth potential** although are not (yet) globally competitive (clean energy, low carbon and hydrogen; biosciences; digital; and culture and tourism); and **'enabling sectors',** which account for large volumes of jobs and which have a role in supporting the operation of the wider economy (business and professional services; logistics; construction; and wider manufacturing). The LIS recognises the links across sectors and capabilities (e.g., between chemicals and process industries and clean energy), and across all of these, clean growth, inclusive growth and industrial digitalisation are cited as cross-cutting themes.
- Beyond the sectoral priorities, the LIS emphasises ambition and practical intervention, through proposals for (for example) the creation of a 'free trade zone' (which has subsequently materialised as the Freeport); the development of the former SSI steelworks site via the South Tees Development Corporation (subsequently consolidated as Teesworks and transferred from Government to local control), and the commitment to the development of Teesside International Airport. There has also been a focus on driving inward investment, alongside a series of ambitions (widely shared across the North) to improve the employer responsiveness of the skills system and bridge the workforce skills deficit.
- In governance terms, there has also been recent consolidation, with TVCA, Teesworks and the airport brought within a single group structure and the Local Enterprise Partnership also integrated within the Combined Authority. This is in the context of a positive recent record of attracting commercial and Government investment.

Strategy and evidence bibliography

- Tees Valley Combined Authority, Strategic Economic Plan, 2016
- Tees Valley Combined Authority, Tees Valley Sector Action Plans, December 2017
- Tees Valley Combined Authority, Advanced Manufacturing Action Plan, March 2018
- Tees Valley Combined Authority, Digital Sector Action Plan, June 2018
- Tees Valley Combined Authority, Process, Chemicals and Energy, August 2018
- Tees Valley Combined Authority, Draft Local Industrial Strategy, July 2019
- Tees Valley Combined Authority, 2019, Strategic Skills Plan: Adult Education Budget (AEB)
- Tees Valley Combined Authority, 2021, Delivery Report 2019/20
- Tees Valley Combined Authority, Tees Valley Economic Assessment 2022, 2022
- Tees Valley Combined Authority, Digital Strategy April 2022 – March 2032, 2022

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: West Yorkshire

May 2022 | Updated March 2023

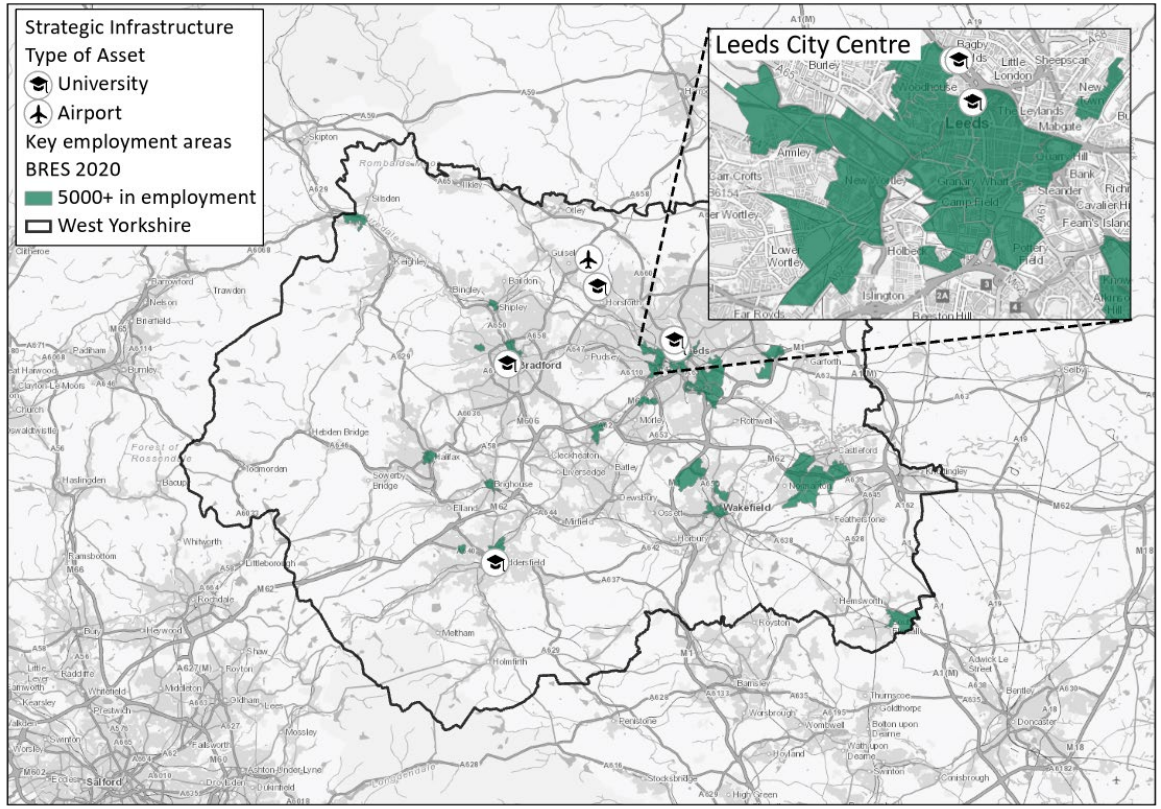
Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for West Yorkshire, drawing on nationally-available data, as well as the analysis contained in the comprehensive *West Yorkshire Economic Assessment* and other evidence studies. It also provides a synthesis of the LEP's economic aspirations and priorities, as reflected in the *Strategic Economic Framework* published in 2020 and supplementary documents such as the *Inclusive Growth Framework* and the *West Yorkshire Economic Recovery Plan*, referenced at the end of this document.

West Yorkshire: Overview

- West Yorkshire encompasses the five local authority areas of Bradford, Calderdale, Kirklees, Leeds and Wakefield. It is a large and complex metropolitan economy with a population of around 2.3 million within the 'core city' of Leeds, the cities of Bradford and Wakefield, major towns such as Huddersfield and Halifax and an extensive network of smaller towns. However, much of the area is rural, enjoying a superb natural environment.
- Historically, West Yorkshire was, like much of the North, a major industrial centre, and it retains a large and advanced manufacturing sector. But the economy is diverse, including the largest concentration of financial services activity outside London and a rapidly growing digital tech sector.
- In transport terms, West Yorkshire is served by the M1 linking Leeds and Wakefield to the south; the east-west M62 and the A1(M) to the east, with rail connections from Leeds, Wakefield and Bradford to the East Coast Main Line. Intra-regional (and cross-Northern) transport links are often challenging however: this is a major focus of strategy, especially in the light of the decision in 2021 to exclude a through station at Bradford from the Integrated Rail Plan.
- Connections beyond West Yorkshire are important. The Leeds city region extends to much of North Yorkshire, with important inbound commuter flows to Leeds from places such as Harrogate; and to parts of South Yorkshire. International links are provided by Leeds Bradford Airport.

Key infrastructure and employment concentrations



Economic profile: Population and workforce

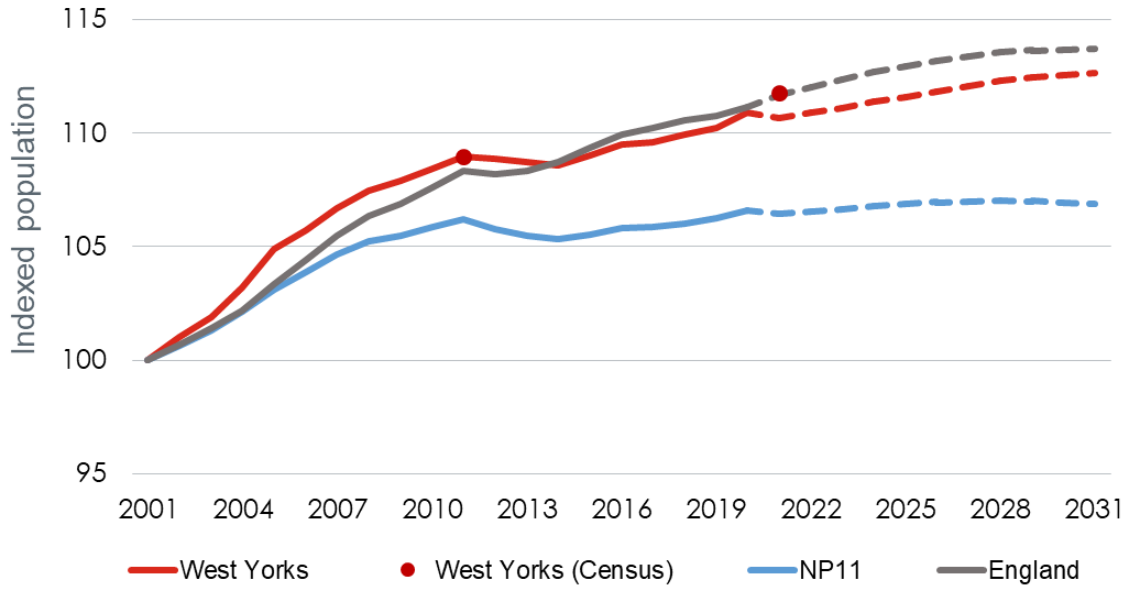
- Population growth (in all ages and in the 'working age' (i.e. 16-64) population) has been somewhat slower than the England average over the past 20 years. But it has been relatively fast compared with the rest of the North.
- Looking to the future, growth in the working age population will be slower than in the population overall. But the working age population is set to grow at roughly the national rate.

Population 2021	
Total	2,350,000
Aged 16 to 64	1,485,200

Historic population growth (2001-2021), %			
	West Yorks	NP11	England
All Ages	12.9	9.4	15.2
Aged 16 to 64	10.7	6.4	11.7

Forecast population growth (2022-2031), %			
	West Yorks	NP11	England
All Ages	3.3	3.0	4.3
Aged 16 to 64	1.9	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base). Note that 'NP11' refers to the combined 11 LEP/ CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

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Economic profile: Scale and productivity

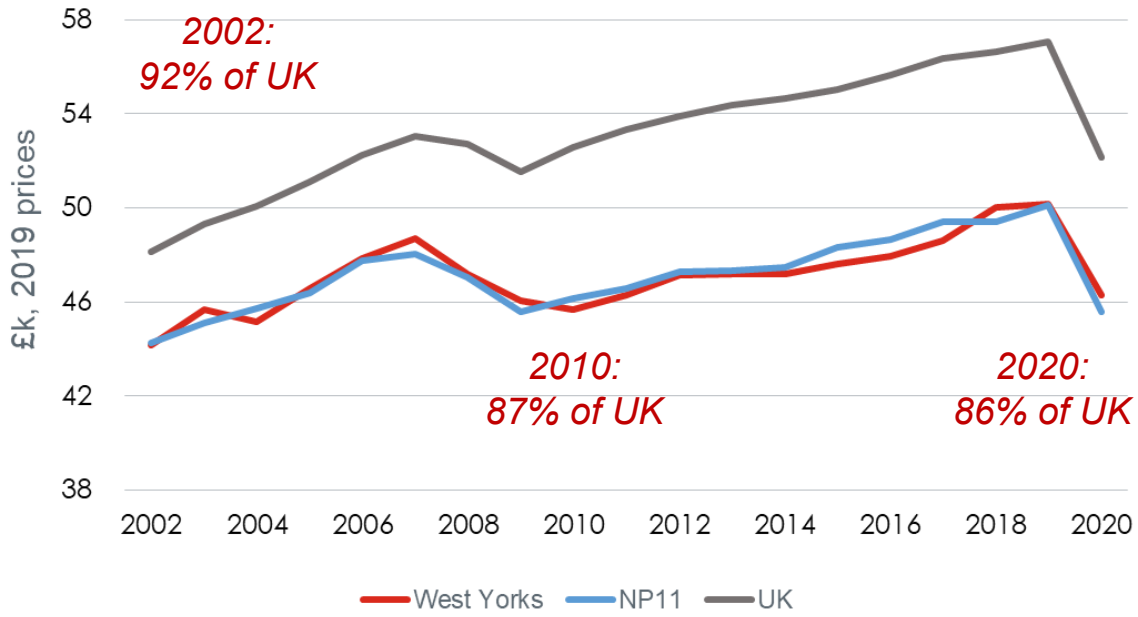
- There is a significant 'productivity gap' between West Yorkshire and the rest of the UK. This widened somewhat after the financial crisis, with West Yorkshire largely tracking the rest of the North.
- Analysis for WYCA in 2019 found that the productivity differential was mainly linked with differences *within* sectors, rather than the local industrial structure, with the recommendation for a cross-sectoral approach.

Overall GVA and productivity (2020)		
Total GVA	£53.26 bn	15.9% of NP11
GVA per filled job	£50.55 k	

GVA growth (CAGR, %)	West Yorks	NP11	UK
2008-2013	0.1	0.1	0.6
2014-2019	2.6	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	West Yorks	NP11	UK
2008-2013	0.0	0.1	0.6
2014-2019	1.2	1.1	0.9

GVA per filled job (£), 2002 to 2020



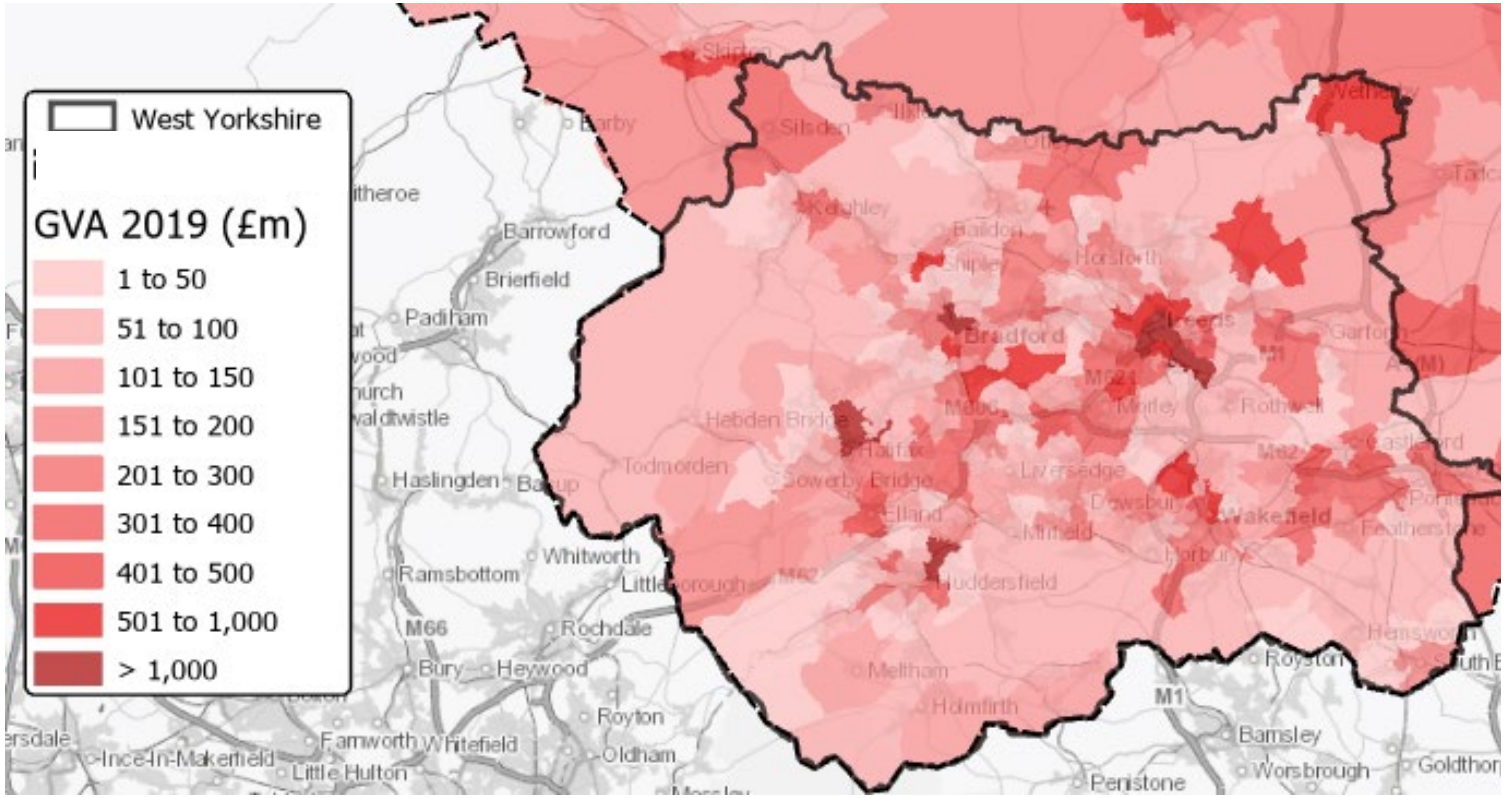
Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

SQW

Economic profile: Concentrations of output

- The largest concentration of GVA in 2019 was in central Leeds, with its financial and business services and large retail, creative, education and healthcare sectors, and in the large business parks to the southeast of the city centre. There were also concentrations of output in central Bradford, Halifax, Huddersfield and (to a lesser extent) Wakefield.
- However, the picture is also one of some dispersal across the region, with (for example) concentrations around Wetherby, the M62 south of Bradford and the business park at Outwood West, north of Wakefield. This reflects West Yorkshire's polycentricity and the extent of economic activity away from the main urban centres, as well as within them.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

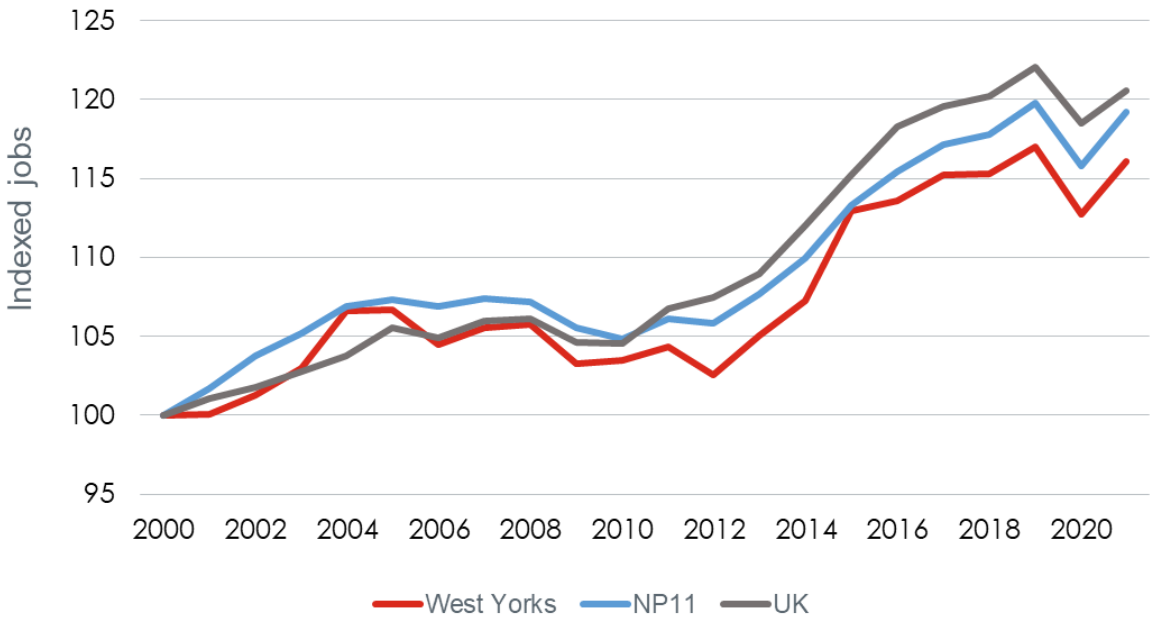
Economic profile: Jobs

- The UK saw a strong recovery in employment following the financial crisis. West Yorkshire's job creation performance has also been positive – but the jobs recovery was somewhat shallower than the national and Northern averages.
- Jobs growth over the past decade has been especially strong in professional, associate professional and technical, managerial and caring and leisure service roles, offset by a fall in process, plant and machine workers and 'elementary occupations'.
- West Yorkshire's jobs density (the number of jobs per working age resident is somewhat lower than the UK average.

Jobs and jobs density

	West Yorks	NP11	UK
Total jobs, 2021	1,213 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.71	0.84	0.89
Jobs density, 2021	0.82	0.81	0.85
Change in jobs density, 2000-2021	0.03	0.08	0.06

Index of total jobs growth (2000 = 100)



Source: ONS, Jobs Density

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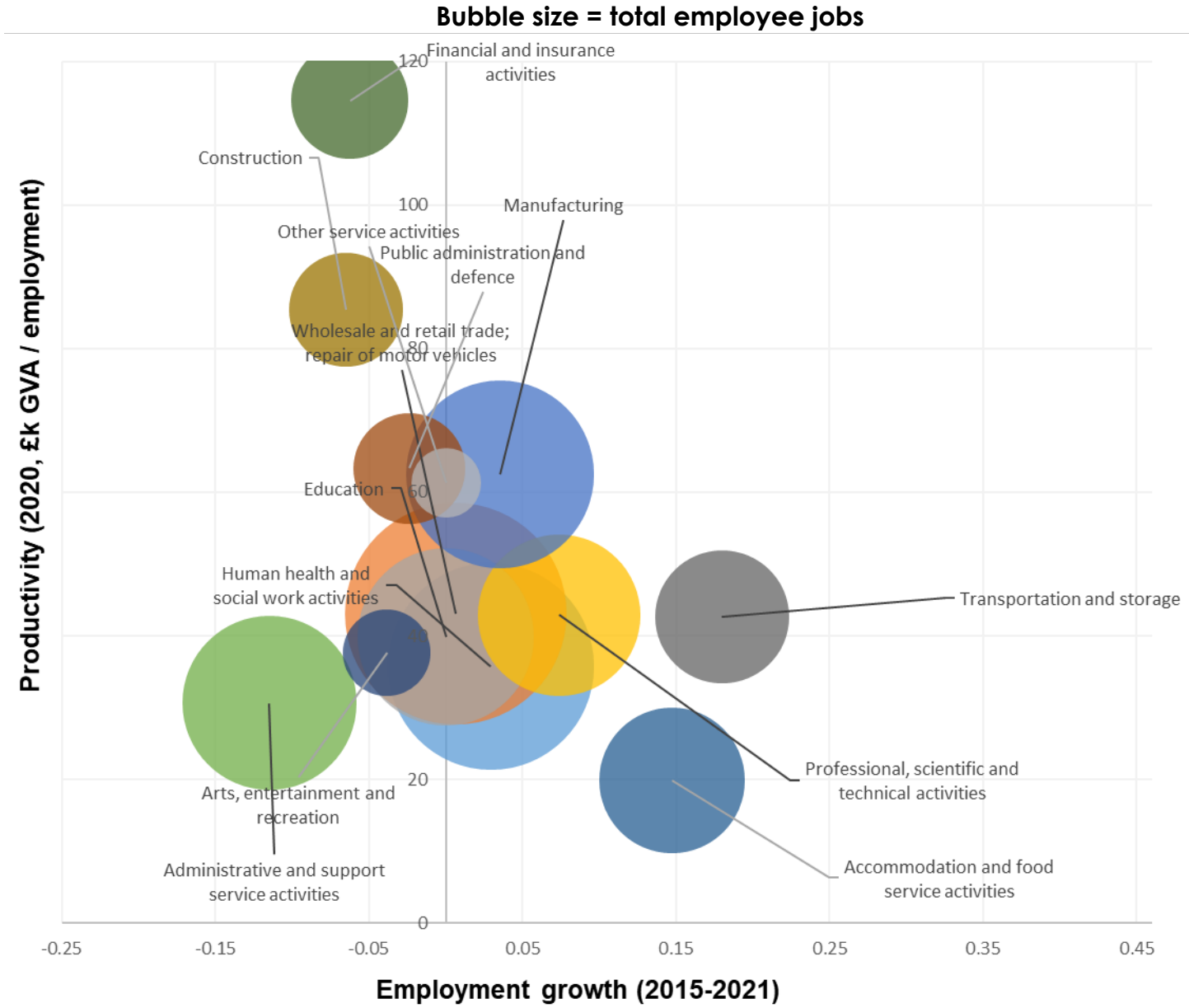
Economic profile: Sectors

- Information & communication and Construction experienced strong employment growth between 2015-2020. Both sectors have high productivity and grew in employment by 22% and 15% respectively.
- Financial and insurance services is also highly productive in West Yorkshire, and is 'over-represented' in employment terms, with a location quotient (LQ, a measure of employment concentration) of 1.21. However, employment has fallen in recent years.
- Manufacturing is a large and highly productive sector in West Yorkshire, generating around £65k GVA per employee, and with an LQ of 1.28 Sector employment has been generally stable over the past decade falling slightly since 2015.
- In absolute employment terms, West Yorkshire's largest sectors by employment include Human health & social work activities, Wholesale & retail trade, and Administrative & support services. These sectors generate around £35k GVA per employee and have remained relatively stable in size since 2015.



Source: ONS, GVA (B) and BRES, SQW analysis

SQW

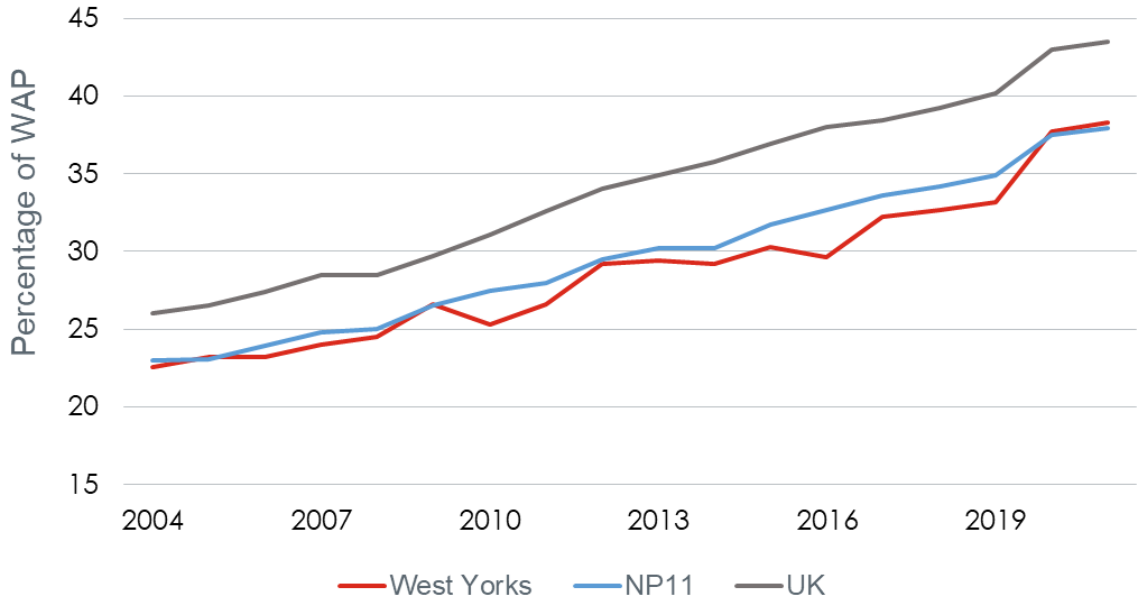
Economic profile: Workforce

- The proportion of West Yorkshire's working age population qualified to NVQ4+ has increased (from 23% in 2004 to 38% in 2021). This trend towards higher qualifications reflects the national position, but there remain workforce skills deficits relative to the UK as a whole.
- The proportion of the working age population with no qualifications is higher than the UK and Northern averages. WYCA's *State of the Region Report* highlights the consequences of low qualifications on economic outcomes, noting that the employment rate for people with no formal qualifications is only 44% - less than half that for people qualified to NVQ4+.

% 16-64 qualified to…	West Yorks	NP11	UK
NVQ4+	36.4	36.6	42.4
NVQ3+	55.9	56.4	60.5
NVQ2+	73.0	75.4	77.3
NVQ1+	84.0	86.0	87.0
Other qualifications	7.4	6.0	6.1
No qualifications	8.5	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2018-20

% 16-64 population qualified to NVQ4+, 2004 to 2021



Source: ONS, Annual Population Survey

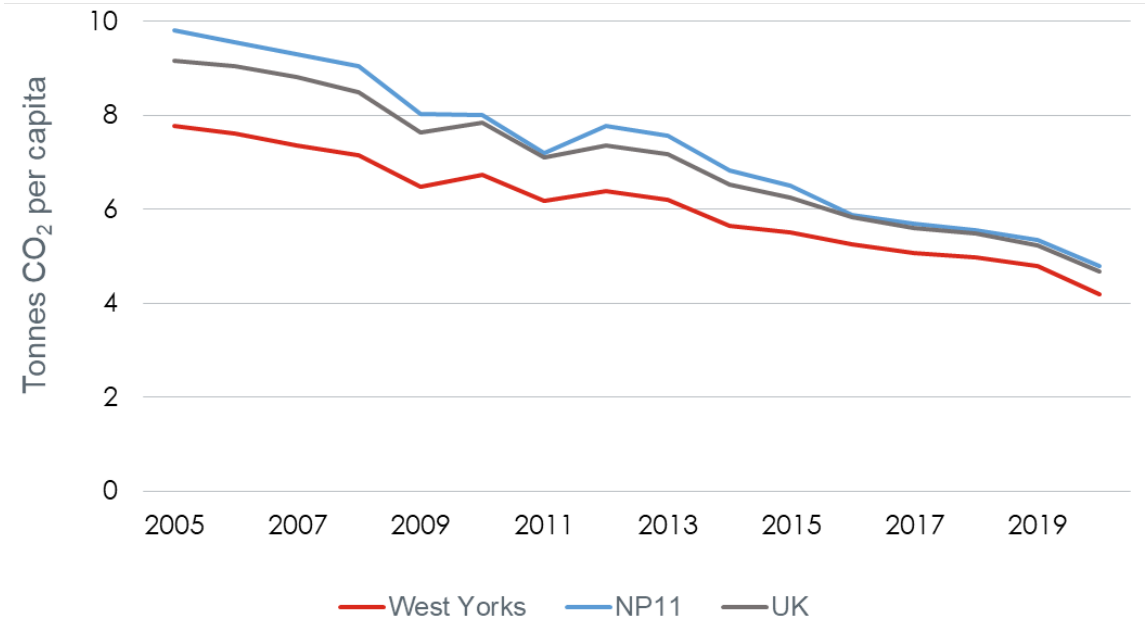
SQW

Economic profile: Carbon emissions

- Historically, West Yorkshire has had a relatively low level of carbon emissions per capita compared to the NP11 and UK average. The area's carbon emissions per capita have reduced over time and have remained lower than the NP11 and UK.
- This largely reflects a less carbon-intensive industrial base than the UK overall. In common with the rest of the country, industrial, commercial and domestic emissions have all fallen sharply, in contrast to emissions from the transport system, which have shown only a modest fall.

Carbon emissions			
	West Yorks	NP11	UK
Total CO2 (kt, 2020)	9,813	73,000	313,159
Tonnes per capita	4.18	4.79	4.67
Tonnes per £m GVA	184	218	172

CO_2 emissions, tonnes per capita, 2005 to 2020



Source: SQW analysis of BEIS, local authority territorial CO_2 emissions; ONS Mid-Year Population Estimates; and ONS, GVA (B)

Economic profile: Businesses

- Overall business density (the number of businesses per 100,000 of the working age population) and annual business starts were somewhat lower in West Yorkshire than in the UK in 2021. But stock growth has been relatively high in 2015-21, and the *West Yorkshire Economic Assessment* refers to a "relatively stable business base".
- In 2021, West Yorkshire was home to around 360 'high growth' firms (measured as firms with annualised employment growth of 20% or more over a three-year period). This was equivalent to 28.2 high growth firms per 100k working age population – lower than the UK overall.
- However, data from the Beauhurst platform presents a more optimistic picture. Beauhurst tracks 924 firms in the LEP area because they pass high-growth or innovation thresholds. This 'tracking rate' of 1.02% of all firms is higher than the 0.98% rate in the Northern Powerhouse and higher than the 0.97% rate for the UK minus London.
- The Economic Assessment also notes analysis from the Scale Up Institute that the number of 'scale ups' in West Yorkshire is high in comparison with other core city areas – but it states that leadership development, access to talent and access to UK markets are challenges for growth.

Business demography, 2021			
	West Yorks	NP11	UK
Total stock			
Total businesses	89,475	560,865	2,939,675
Business Starts	11,055	72,935	363,995
High growth firms	360	2,230	10,695
Business stock change, CAGR 2015-2021	2.1	1.8	1.6
Per 100,000 working age population			
Total businesses	6,024	5,910	8,257
Business Starts	744	768	1,022
High growth firms	24.2	23.5	30.0
Business stock change, CAGR 2015-2021	1.7	1.6	1.2

Source: ONS, Business Demography, 2020

Contribution to the North's 'prime capabilities'

Advanced manufacturing

West Yorkshire has a long manufacturing history. Manufacturing accounts for around 105,000 jobs, is relatively concentrated (with a location quotient of 1.28) and generates around £7 billion in GVA. With few large OEMs, West Yorkshire's manufacturing industry is diverse and primarily SME-based.

- In **precision engineering**, West Yorkshire's extensive network of mid-sized companies includes Produmax at Baildon (which produced specialised flight control components for the aerospace industry); and Thomas Brown, a family-owned contract precision machining company in Huddersfield. There are also important connections to West Yorkshire's medtech industry, cited further in the 'Health Innovation' section. Supporting the industry, the University of Huddersfield hosts the Centre for Precision Technologies, as well as the 3M Buckley Innovation Centre, offering lab space and prototyping for SMEs. The 3M Buckley Centre also accommodates a branch of the National Physical Laboratory.
- Other key university manufacturing R&D assets include the Future Manufacturing Processes Research Group at the University of Leeds, and the Centre for Polymer Micro and Nano Technology (Polymer MNT) at Bradford University, focused on expertise in materials preparation, modelling and low volume manufacture.
- **Food manufacturing** is also an important sector (and although not generally included in the definition of 'advanced manufacturing' based on SIC codes, is an important consumer and driver of innovation in (for example) ingredients and production processes. There are several national and international food manufacturers in the area, including Arla Foods in Leeds, Nestle in Halifax and Coca-Cola in Wakefield. In addition, two of the UK's main food retailers (Asda and Morrisons) are headquartered in the region, with the latter maintaining a food manufacturing plant in Bradford.
- Although relatively small in absolute employment terms, West Yorkshire continues to have relative strengths in **textiles** (historically a sub-sector of great importance). Productivity in the 'traditional manufacturing' sector (including textiles) is higher in West Yorkshire than it is nationally, and the sector is supported by research expertise at the University of Leeds (e.g., the 3D Weaving Centre and the Colour and Textile Science Research Sector). There is also an important **chemicals** sector (for example, Syngenta in Huddersfield and BASF in Bradford).
- The Combined Authority recognises manufacturing as an important area of growth. In 2021, the Mayor announced the establishment of a **Manufacturing Task Force,** tasked with undertaking a review of the sector to support a *"series of action-based recommendations to support… firm level productivity, innovative capability, skills and training, trade potential, and digitalisation".* The University of Huddersfield manages a Leeds City Region Manufacturing Supply Chain programme; while the M62 Corridor Enterprise Zone has targeted advanced manufacturing investment.

Contribution to the North's 'prime capabilities'

Energy

Historically, West Yorkshire has been an important energy producer, originally via the coal industry and later its associated power stations. The area's remaining coal fired power station at Ferrybridge closed in 2016: plans to open a new gas-fired power station on the same site have recently been abandoned.

- However, the area has some potentially transformational projects at an early stage of development. The **H21 Leeds City Gate** project led by Northern Gas Networks demonstrated the technical possibility of conversion of Leeds' gas network to hydrogen. Since then, a series of further projects have been commissioned, including the development of a 'microgrid' to test the procedures needed to make the grid run on hydrogen. While initiated in Leeds and focused on the decarbonisation of the city's gas network, trials are due to take place at Middlesbrough.
- West Yorkshire has a strong record in energy innovation: the former Warm Zone project in Kirklees was one of the first retrofit schemes in the UK and became a national exemplar. Other low carbon energy initiatives cited in West Yorkshire's *Energy Strategy* include:
    - The Leeds PIPES project, one of the largest district heat network schemes in the UK, which connects the Leeds Recycling and Energy Recovery Facility (RERF) to customers across the city of Leeds.
    - Opportunities to develop smart grid systems to reduce waste (and the potential development of innovative carbon storage solutions using former mine workings, building on work underway in South Yorkshire.
    - The West Yorkshire Energy Accelerator programme, funded through the City Deal and the European Investment Bank to support low carbon and energy-efficiency projects where there are funding, expertise or capacity constraints.
- Key research facilities include the Leeds Sustainability Institute at Leeds Beckett University (a partner in the development of the H21 initiative) and the Sustainability Research Institute at the University of Leeds.

Contribution to the North's 'prime capabilities'

Health innovation

- Linked with its strengths in precision engineering and its strong research base, West Yorkshire has important **medical technologies** capabilities. In terms of corporate strengths, the 2018 Science and Innovation Audit identified around 250 medtech companies across the wider Leeds City Region: while Leeds accommodated the largest concentration of these, there was also a wide distribution across the area. Key companies in the region include DePuy Synthes (a major orthopaedics company owned by Johnson & Johnson). DePuy maintains an important R&D centre in Leeds, and has a long-standing strategic research partnership with the Institute of Medical and Biological Engineering at Leeds University. Other firms include Tissue Regenix and Neotherix in regenerative medicine; Brandon Medical in medical lighting; Surgical Innovations in surgical equipment; and Xiros in orthopaedics and implants.
- There are also strengths in **digital health:** this includes commercial healthcare data and software companies such as TPP and Emis (based in Leeds); and NHS Digital, the national NHS IT and data services operation, which maintains its national headquarters in Leeds. Linking digital health and the wider medtech sector, Bradford University's Digital Health Enterprise Zone offers demonstration space to explore the use of digital technology in enabling people to live with long-term conditions.
- As well as NHS Digital, West Yorkshire has an extensive **health service infrastructure**, including one of the UK's largest teaching hospitals. The National Institute for Health Research Clinical Coordinating Centre is based in Leeds, managing clinical research partnerships across the NHS. There are also several academic-clinical partnerships in the region, including NIHR co-operatives in diagnostic evidence, wound care technologies and colorectal therapies; while the Leeds Academic Health Partnership is one of the largest NHS-academic partnerships in the UK. Within the NHS, Leeds also acts as an important regional hub, hosting (for example) the NHS North East and Yorkshire Leadership Academy.
- Wider **university-led infrastructure** includes (in addition to the assets referred to above and in relation to advanced manufacturing) the Medical Technologies Innovation and Knowledge Centre (led by the University of Leeds, but involving universities across the UK to accelerate the commercial development of new medtech products) and the Leeds Musculoskeletal Biomedical Research Centre. The Grow Medtech programme also sought to build capabilities in medtech across West and South Yorkshire.
- While there are extensive medtech strengths, the SIA noted the fragmentation of the sector, with opportunities for greater coordination and clustering (through physical space as well as networks, and in the context of a need to adapt to rapidly changing skills needs.

Contribution to the North's 'prime capabilities'

Digital

- There are strong overlaps between West Yorkshire's 'digital' capabilities and those relating to health innovation and advanced manufacturing (as the presence of NHS Digital illustrates). More broadly, the area has a large 'digital' sector, especially concentrated on Leeds although with a significant presence across the wider region.
- Key strengths include **data technology.** As well as NHS Digital and digital health firms such as TPP and Emis, major organisations include Open Innovations (formerly the Open Data Institute Leeds), which is a not-for-profit organisation seeking to improve the use of, and trust in, data for governments and industry; and the Leeds Institute for Data Analytics, based at the University of Leeds. The local public sector is supporting opportunities for the better use of data in public services, through Data Mill North, an open data repository used by Leeds City Council and Bradford MDC.
- In **software,** Sky's Digital and Technology Services Campus is based at Leeds Dock, employing around 650 people in a variety of hardware and software roles. Sky Bet is also based in Leeds city centre. Other 'indigenous' local firms include InVentry, based in Leeds, which develops software for visitor management systems.
- The **creative digital** sector is underpinned by some major national and regional institutions. Screen Yorkshire is based in Leeds, and Channel 4 has also recently moved to the city. There are also several marketing and creative media firms, such as LeadTech focused on the financial services sector; as well as a gaming industry (e.g. Rockstar Games). The Leeds Digital Festival also supports public engagement and involvement.
- Linked with West Yorkshire's important financial services sector, there is an important **fintech** base. Research in 2019 identified around 6,600 people working in fintech in Leeds City Region, with some 24 start-ups and scale-ups. Established companies include BJSS, an IT and business consultancy for the banking sector, which was established in Leeds in 1993 and has subsequently expanded to around 1,300 staff globally. Infinity Works, based in Leeds, also principally supports the financial services sector; Panintelligence (a data visualization firm) originally started with a financial services client base, but has since expanded to a wider range of clients. Supporting this activity, the University of Leeds launched the Centre for Financial Technology and Innovation in 2019.
- Underpinning West Yorkshire's digital capabilities are important **academic assets**. In addition to those cited, Bradford University's Computer Science department is one of the longest-established in the UK, while Huddersfield's computer science expertise is closely associated with its engineering capabilities.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• In **financial services**, Leeds is referred to as the UK's second largest banking centre, partly driving the fintech capabilities highlighted earlier, There are several major firms in West Yorkshire, notably Lloyds Banking Group (owner of the Halifax brand), which employs over 8,000 people in the region (and includes its Digital Transformation Lab); Yorkshire Building Society, Provident and Santander, all in Bradford); and Firstdirect, HSBC and Leeds Building Society in Leeds. Experian, Equifax and TransUnion all have offices in Leeds; and in insurance, Covea is based in Halifax, with RSA also having a significant presence. The UK Infrastructure Bank also has its headquarters in Leeds. • Beyond financial services, in **professional services**, the 'big four' accountancy services all have a presence in West Yorkshire, with PwC maintaining an assurance centre in Bradford. Leeds also has a large law sector, with major firms represented in the city including DLA Piper, Squire Patton Boggs, Addleshaw Goddard, Eversheds, Pinsent Mason and Walker Morris.
Logistics	• West Yorkshire is served north-south by the M1 and A1(M) and east-west by the M62, and is an important logistics hub, especially around Wakefield (with recent investments by Amazon and Pannatoni). The M62 Corridor Enterprise Zone (nine sites spread across Bradford, Calderdale, Kirklees and Wakefield) also target logistics operations. • Leeds-Bradford airport is an important regional airport, principally for passenger use, and plans have been advanced both for its expansion and improved access.
Education	• There are five universities in West Yorkshire: University of Leeds (a research-intensive Russell Group institution), University of Bradford (with strengths in computing, informatics, engineering and life sciences, as well as in the social sciences), University of Huddersfield (with substantial engineering strengths, highlighted earlier); Leeds Beckett University; Leeds Trinity University and Leeds Arts University. Higher education opportunities are also offered via the further education network, such as at University Centre Wakefield. Overall, this is a substantial HE presence, across a range of sectors and capabilities. • There is also a strong base of level 2 and level 3 skills across the region, with recent investment in (for example) Bradford College's Advanced Technology Centre.

Economic strategy and direction

- In 2020, WYCA adopted its Strategic Economic Framework. This builds on the previous Leeds City Region Strategic Economic Plan and sets out a vision to be "*recognised globally as a place with a strong, successful economy where everyone can build great businesses, careers and lives supported by a superb environment and world-class infrastructure*". More recently, in September 2021, WYCA's Economic Recovery Plan set a vision for a *"fair, just and lasting recovery"* as the economy returns to growth following the pandemic. The Recovery Plan refers to two 'golden threads' running through all activity:
  - Inclusive growth, especially in supporting young people, ensuring access to 'good work' and responding to productivity challenges in those sectors (such as hospitality and creative industries) that were especially impacted by the Covid-19 crisis.
  - Tackling the climate emergency.
- Taking these into account, the Recovery Plan explicitly states that it is "not about returning to our pre-pandemic way of life", and emphasises the need for a more resilient and inclusive economic model. Metrics relating to this are set out in the regular 'state of the region' report.
- The Plan contains an ambitious and wide-ranging agenda. It notes the diversity of West Yorkshire's economy, and the measures that it sets out are largely cross-sectoral. However, it notes the region's manufacturing, digital and financial services strengths, and it proposes actions to develop regional innovation corridors (especially focused on advanced manufacturing and healthtech; and to progress a Manufacturing Task Force (which has now been established). More broadly, the Plan proposes eight areas for action: creating more skilled green jobs; supporting local businesses (including support for productivity and innovation); prioritising skills and training for all (including support for digital skills and a focus on adult education and re-training); delivering a 'creative new deal' (recognising the social and health value of creative activity as well as its economic value); building affordable and sustainable homes (linked with the *Housing Vision)*; connecting people and places (including proposals for a better integrated West Yorkshire mass transit system); tackling the climate emergency (through active travel and low-carbon infrastructure and premises); and 'championing great places' (through inward investment and investment in local town centre and regeneration schemes).

Strategy and evidence bibliography

- University of Leeds, Opportunities and Growth: Medical Technologies in the Leeds City Region – Science and Innovation Audit, 2017
- Hatch Regeneris, West and North Yorkshire Productivity Audit and Sector Analysis, August 2019
- RSM, Understanding the region's innovation, capacity, capability and potential, June 2019
- West Yorkshire Combined Authority, Labour Market Report 2019, 2019
- West Yorkshire Combined Authority, Housing Vision, 2019
- West Yorkshire Combined Authority, Strategic Economic Framework Our Vision, 2020 (Under review at time of updating profile)
- West Yorkshire Combined Authority, West Yorkshire Economic Assessment, March 2020
- West Yorkshire Combined Authority, Tackling the Climate Emergency. Emission Reduction Pathways report, July 2020
- West Yorkshire Combined Authority, Transport Recovery Plan Final Draft, July 2020
- West Yorkshire Combined Authority, West Yorkshire Economic Recovery Plan, July 2020
- West Yorkshire Combined Authority, Place Narrative, July 2021
- West Yorkshire Combined Authority, Inclusive Growth Framework, July 2021
- West Yorkshire Combined Authority, Labour Market Report 2021, 2021
- West Yorkshire Combined Authority, Leeds City Region Innovation Framework: Innovation for everyone, 2021

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TRANSPORT FOR THE NORTH

Working towards a refreshed Northern Powerhouse Independent Economic Review

Area profile: York and North Yorkshire

May 2022 | Updated March 2023

Introduction

- Published in 2016, the **Northern Powerhouse Independent Economic Review (NPIER)** set out an analysis of the North's 'productivity gap', and identified a series of key 'capabilities' where the North was, or had the potential to be, internationally competitive and set out a transformation vision for the North's economy by 2050. The NPIER provided evidence which underpinned Transport for the North's Strategic Transport Plan, helped to inform wider economic policy across the North and led to an ongoing programme of economic research.
- In November 2021, TfN commissioned Cambridge Econometrics and SQW to review the capabilities identified in the NPIER. This was followed by a further programme of work which set out a new series of quantified scenarios for North's economy looking forward to 2050 in the light of recent developments. In turn, these will provide the basis for a refreshed NPIER, to be commissioned later in 2023.
- Understanding the assets, capabilities and economic strategies within each of the NP11 geographies has been an important component of this work to date. Between March and May 2022, a series of Area Profiles were developed in consistent format for each LEP/ Combined Authority Area in the North, presenting an overview of the local economy. These were originally published in May 2022; however, following the completion of the new economic scenarios in March 2023, they have been updated to take account of the most recent national data.
- This paper presents the area profile for York and North Yorkshire, drawing on nationally-available data, as well as the analysis contained in Y&NY's draft *Local Industrial Strategy*, its supporting evidence base and other relevant documents. It also provides a synthesis of the LEP's economic aspirations and priorities, with all publications referenced at the end of this document.

York and North Yorkshire: Overview

- York and North Yorkshire consists of the City of York and the county of North Yorkshire, established as a new unitary authority from April 2023.
- The main concentrations of population are in the south of the area, around York, Harrogate and Selby; with other larger centres including Scarborough and the county town of Northallerton, alongside several market towns and smaller settlements.
- While North Yorkshire is England's largest county by land area, it is substantially rural and sparsely populated. Much of its superb natural environment is also protected and forms part of the Yorkshire Dales and North York Moors National Parks.
- In transport terms, the area is served north-south by the East Coast Main Line and the A1(M). York is an important rail hub, offering good national connectivity, with rail services to London taking less than two hours. East-west connectivity is weaker, although the county is served by a number of branch lines, some of which also form part of the West Yorkshire commuter network.

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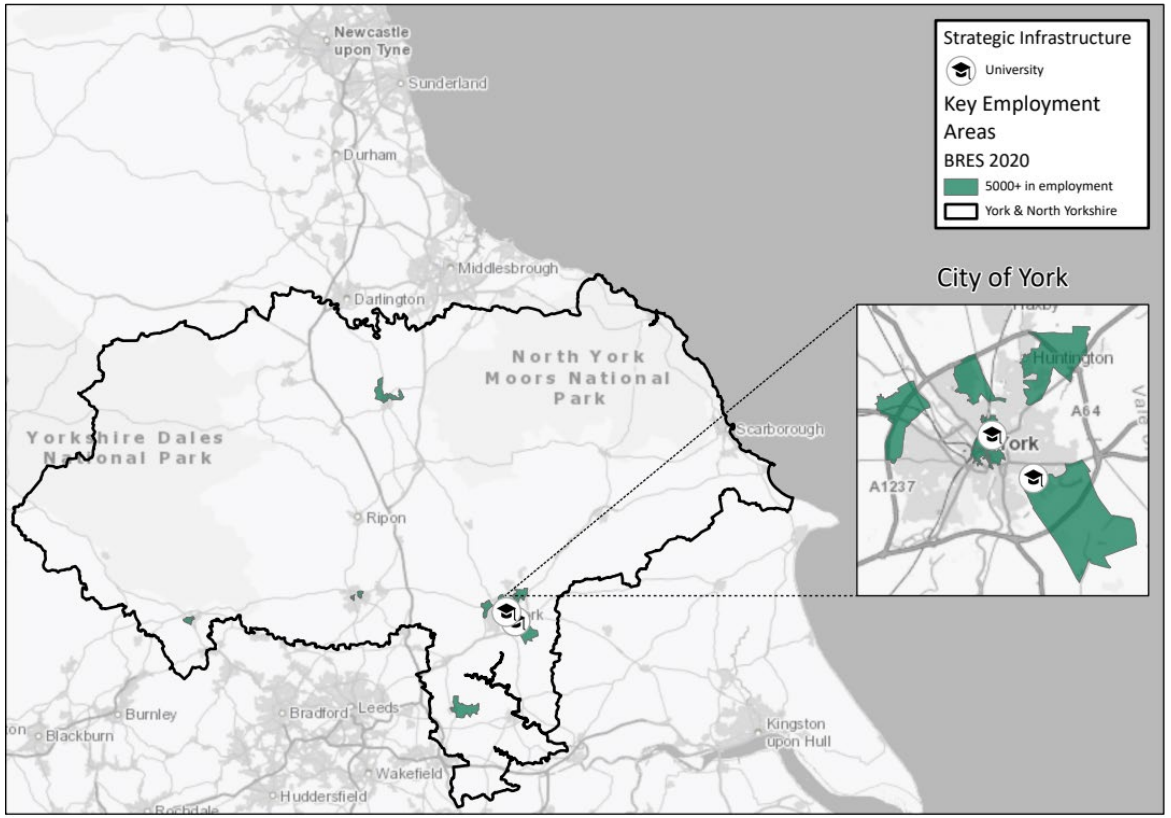
Key infrastructure and employment concentrations



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Economic profile: Population and workforce

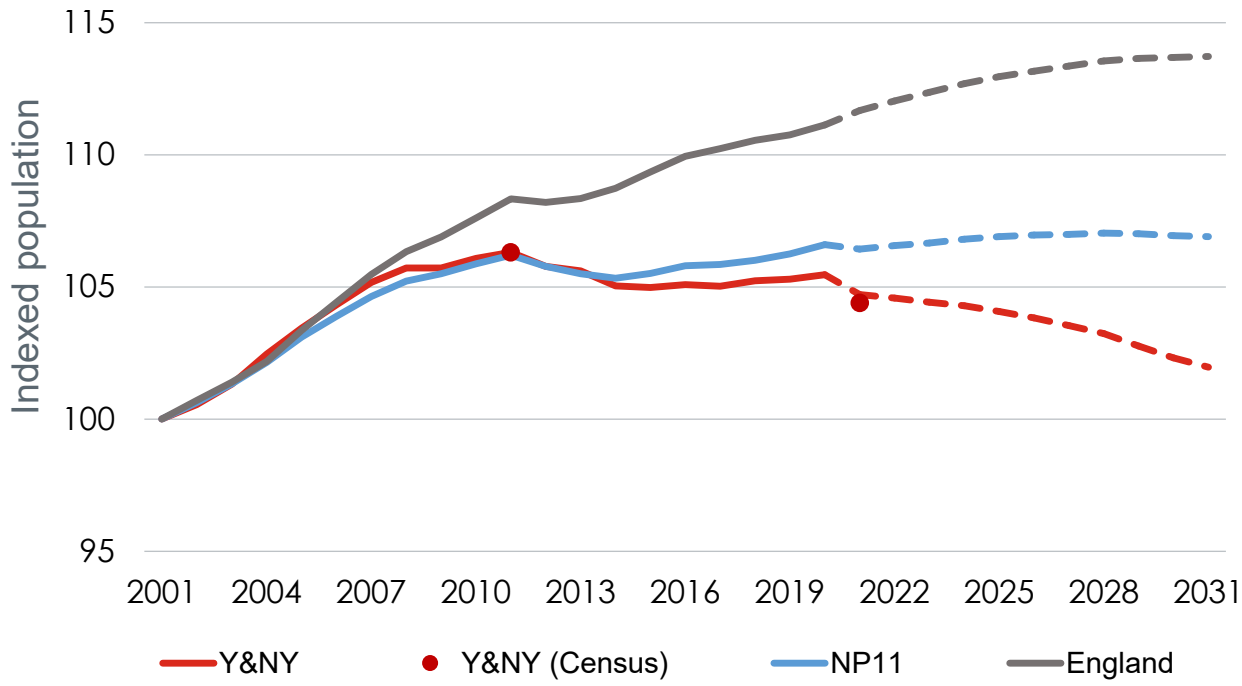
- Y&NY's population has grown over the past 20 years. But the 'working age' population (16-64) only grew at less than half the UK rate.
- Over the next decade, population growth is forecast to be slow, with a decline in working age numbers as the population ages.

Population 2021	
Total	820,500
Aged 16 to 64	496,600

Historic population growth (2001-2021), %	Y&NY	NP11	England
All Ages	10.8	9.4	15.2
Aged 16 to 64	4.7	6.4	11.7

Forecast population growth (2022-2031), %	Y&NY	NP11	England
All Ages	2.4	3.0	4.3
Aged 16 to 64	-2.4	0.5	2.0

Index of working age population growth (2001=100)



Source: ONS Mid Year Population Estimates; Population Projections (2018 base)
Note that 'NP11' refers to the combined 11 LEP/CA areas in the North (excluding North Lincolnshire and North East Lincolnshire)

Economic profile: Scale and productivity

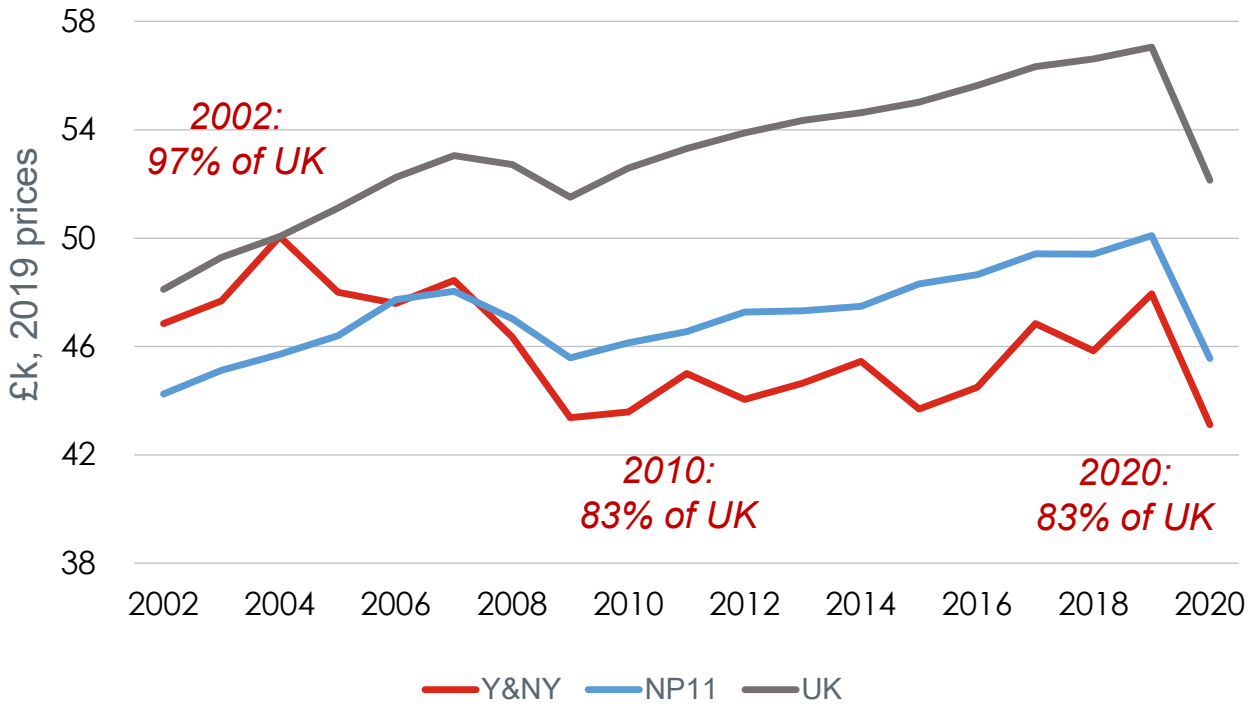
- The 'productivity gap' with the rest of the UK narrowed somewhat in early 2000s but widened subsequently and has remained significant. Some sectors, such as foundational industries and energy & power are more productive than the UK overall; while food and agriculture, education and finance are at about the UK average[1].

Overall GVA and productivity (2020)		
Total GVA	£19.23 bn	5.7% of NP11
GVA per filled job	£48.17 k	

GVA growth (CAGR, %)	Y&NY	NP11	UK
2008-2013	-0.1	0.1	0.6
2014-2019	1.7	2.2	2.1

Productivity growth (GVA per filled job, CAGR, %)	Y&NY	NP11	UK
2008-2013	-0.7	0.1	0.6
2014-2019	1.1	1.1	0.9

GVA per filled job (£), 2002 to 2020



Source: ONS, GVA (B) per filled job, 2019 prices; SQW analysis

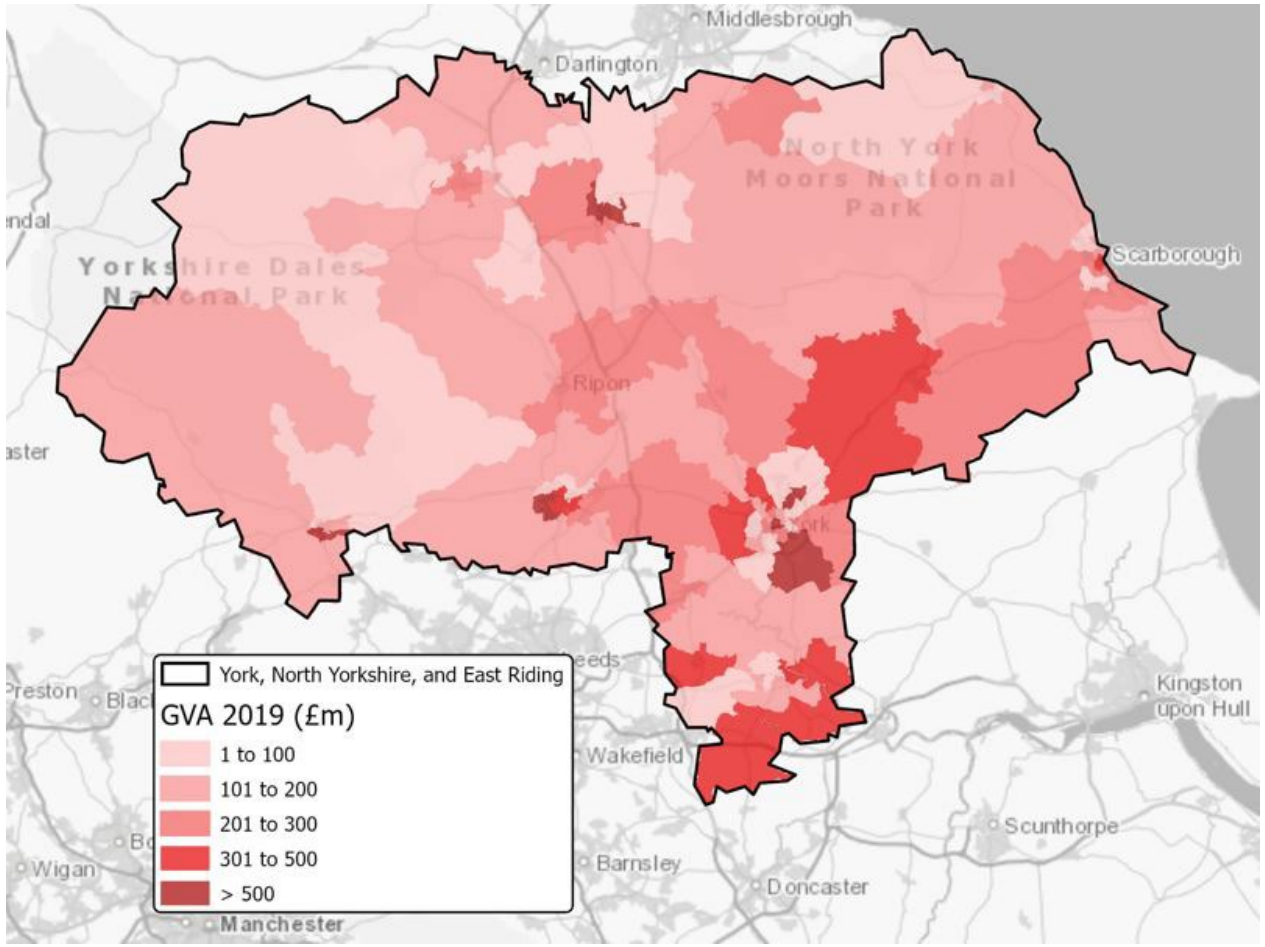
[1]. Cambridge Econometrics analysis

SQW

Economic profile: Concentrations of output

- Reflecting Y&NY's population distribution, the largest concentrations of GVA are in the south, around York, especially the area to the southwest of York, which includes the University of York and York Science Park, as well as the York Biotech Campus at Sand Hutton; Selby and the Drax power station; the industrial parks around Sherburn in Elmet; and Harrogate.
- Elsewhere, there are smaller concentrations around Skipton, with its important financial services sector, Northallerton and Scarborough. However, beyond these centres, economic activity is quite thinly distributed, reflecting the deeply rural nature of much of the county.

Local concentrations of GVA (£m, 2019)



Source: ONS, Experimental Sub-national GVA, 2019 data (December 2021)

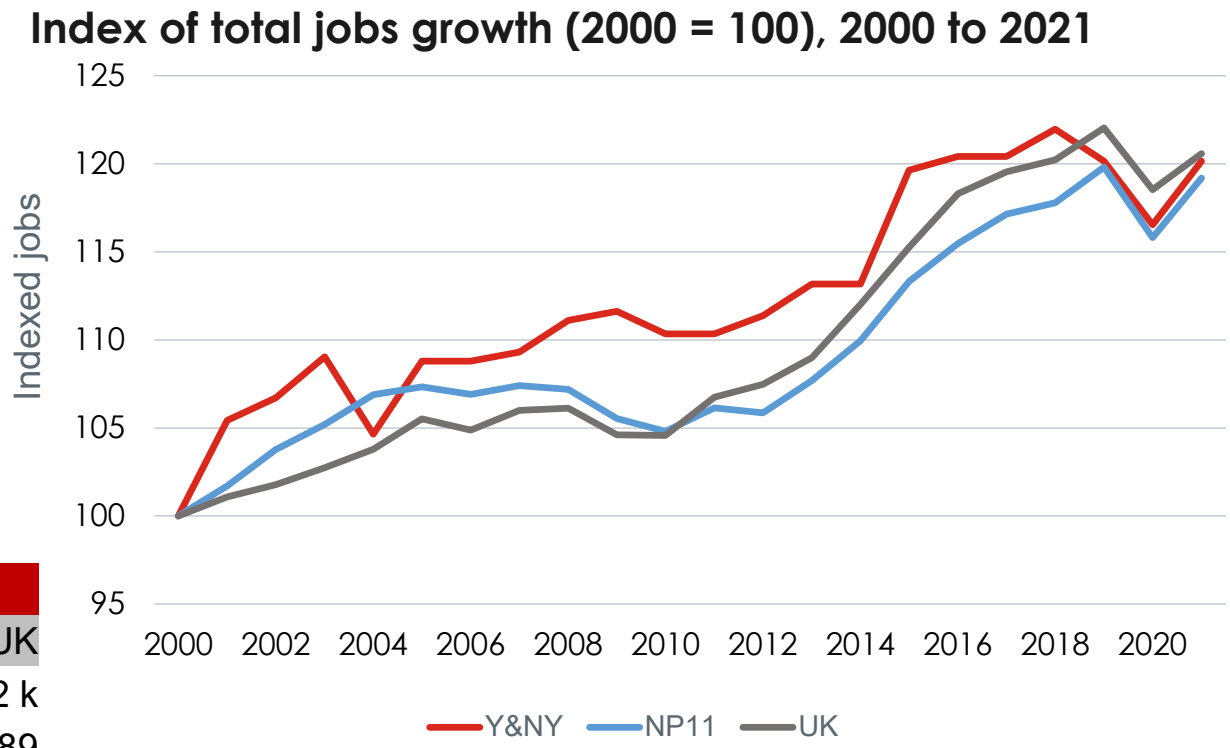
SQW

Economic profile: Jobs

- Y&NY has a strong job creation record, with jobs growth running ahead of the national average for most of the past 20 years – although slightly faltering in 2019 and 2020, but recovering well in 2021. Over time, the jobs density has risen and it is now very high, reflecting a generally tight labour market in the context of a static or falling working age population.
- Over the past decade, there has been strong growth in people employed in senior and managerial jobs. But the occupational profile is quite mixed, with strong growth also apparent among process, plant and machine operatives, despite a decline in employment in this group nationally.

Jobs and jobs density

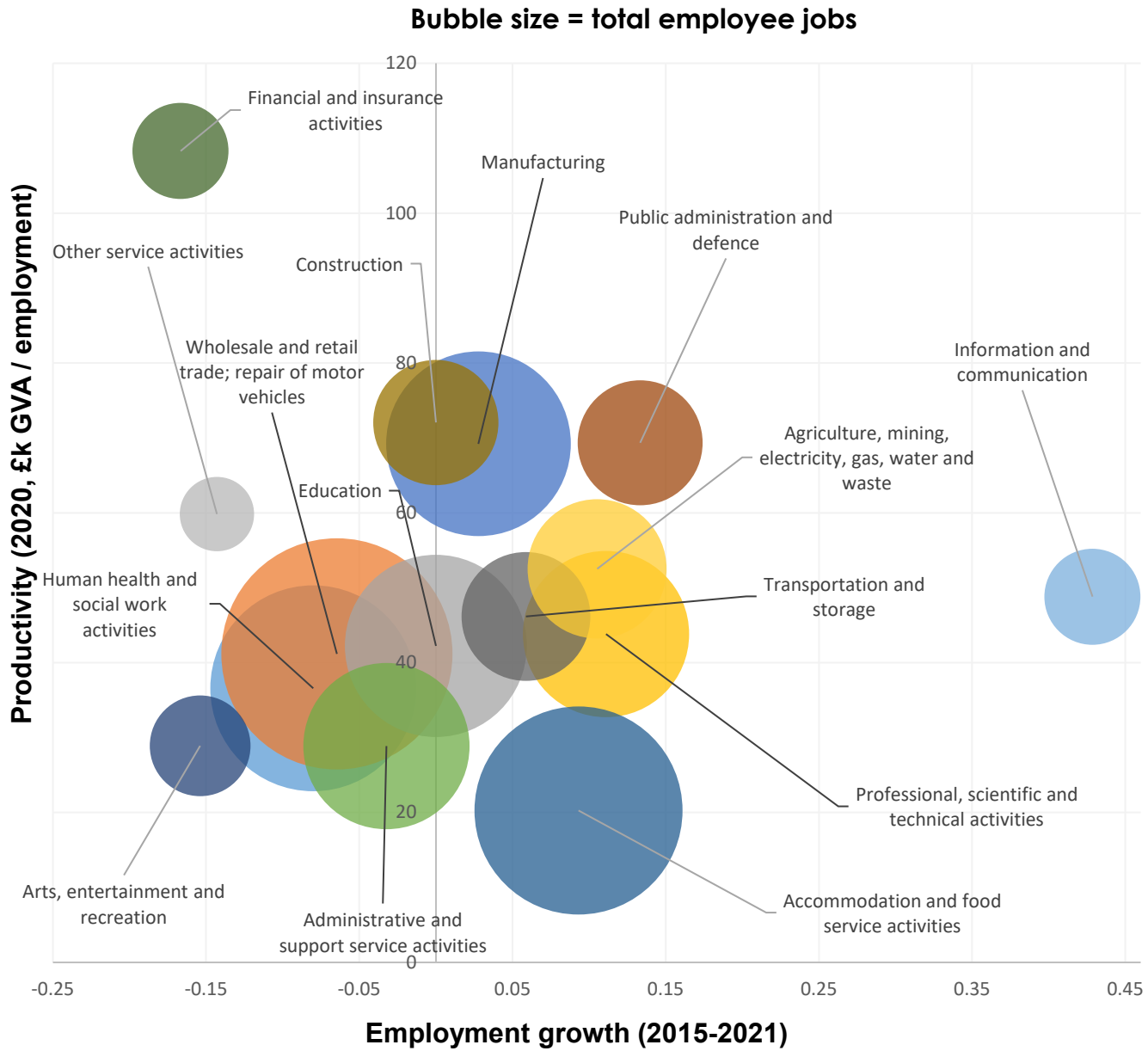
	Y&NY	NP11	UK
Total jobs, 2021	465 k	7,719 k	35,852 k
Jobs growth (CAGR, 2000-2021), %	0.88	0.84	0.89
Jobs density, 2021	0.94	0.81	0.85
Change in jobs density, 2000-2021	0.12	0.08	0.06



Source: ONS, Jobs Density

Economic profile: Sectors

- There are **relative concentrations of activity** in manufacturing, accounting for 37,000 jobs and with a 'location quotient' (LQ, a measure of concentration) of 1.24; accommodation and food service; finance and real estate and some professional activities.
- A cluster of sectors recorded **employment growth between 2015-20 and relatively strong productivity**: manufacturing, IT/communications, agriculture and utilities, and public administration.
- In terms of **absolute employment numbers**, health, wholesale and retail, and administrative and support services all experienced a modest contraction in employment between 2015 and 2021.
- Financial and insurance activities recorded the highest productivity, but experienced the largest employment contraction.
- Public administration and defence is relatively productive in Y&NY – perhaps due to North Yorkshire's substantial defence activities.



Source: ONS, GVA (B) and BRES, SQW analysis

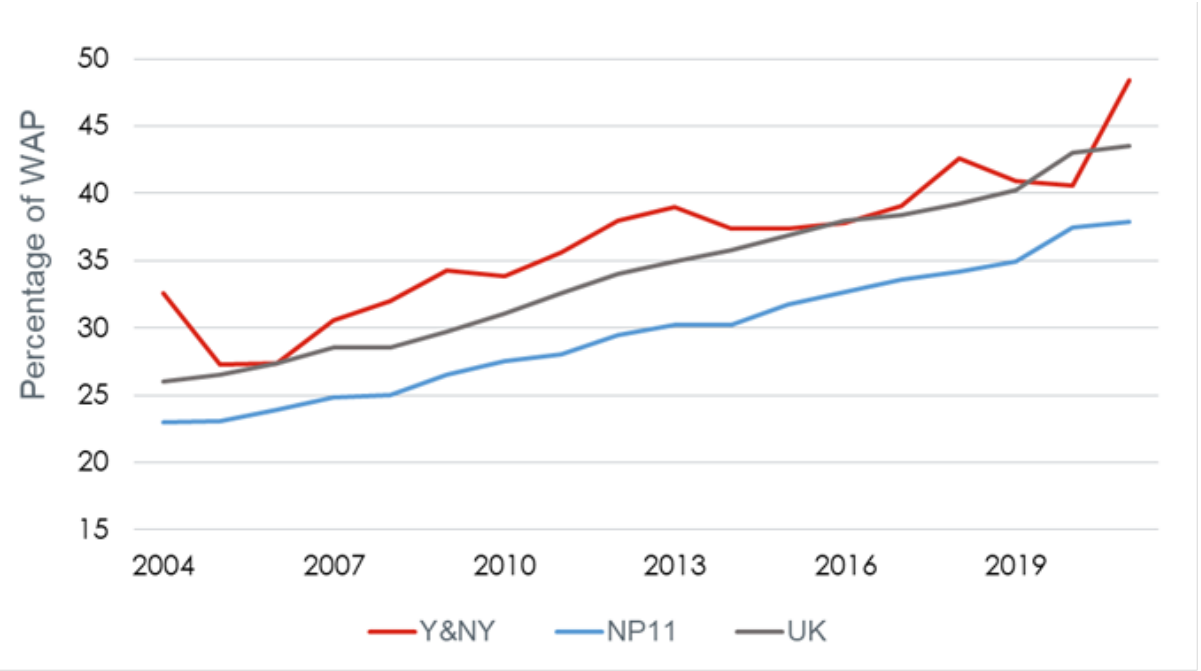
Economic profile: Workforce

- Qualification levels for those with an NVQ4+ have generally been above NP11 and UK levels since 2004. The fluctuation at local level implied in the graph is probably caused by small sample sizes rather than 'real' variances. The general picture is of a somewhat better qualified workforce.
- However, the draft LIS notes relatively low demand for higher skilled workers from local employers, with high out-commuting for higher-skilled roles, and high numbers earning below the Real Living Wage, especially on the North Yorkshire Coast.

% 16-64 qualified to…	Y&NY	NP11	UK
NVQ4+	43.3	36.6	42.4
NVQ3+	63.2	56.4	60.5
NVQ2+	81.0	75.4	77.3
NVQ1+	90.8	86.0	87.0
Other qualifications	4.3	6.0	6.1
No qualifications	5.0	8.0	6.9

Source: ONS, Annual Population Survey. Three-year average, Jan-Dec, 2019-21

% 16-64 population qualified to NVQ4+, 2004 to 2021



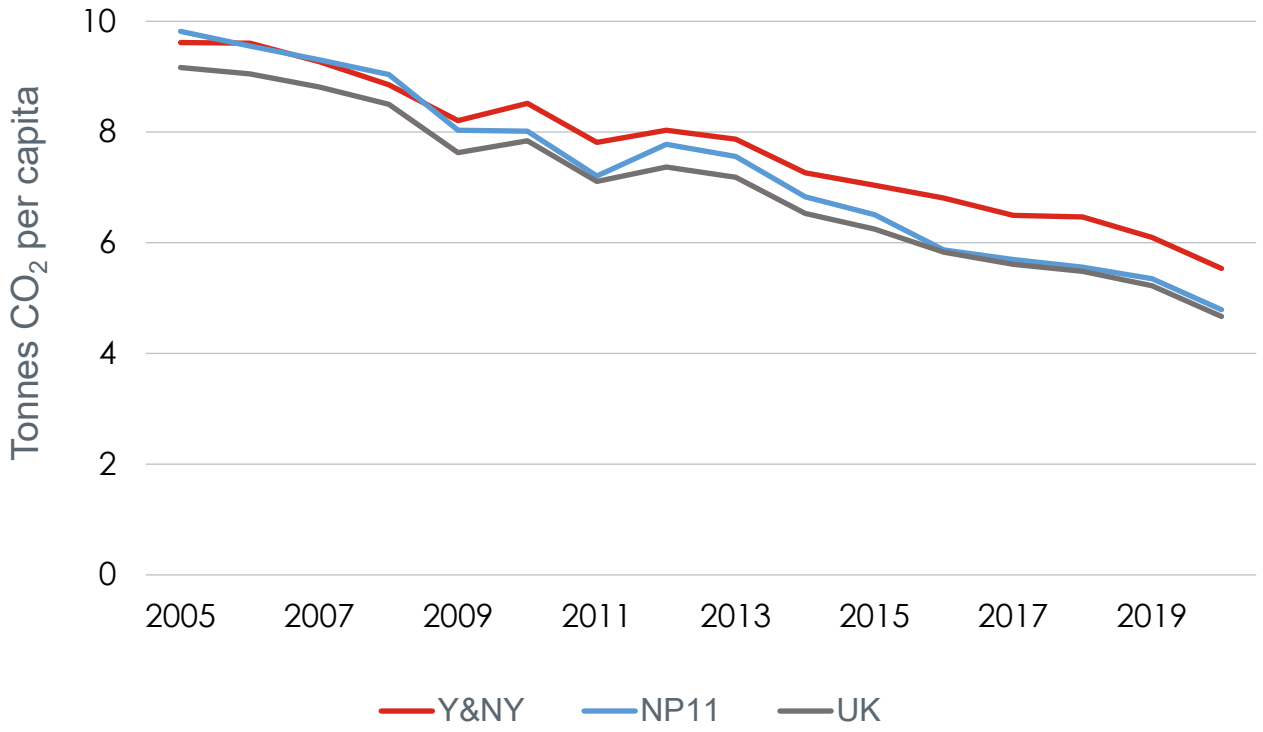
Source: ONS, Annual Population Survey

Economic profile: Carbon emissions

- CO2 emissions per head have been on a downward trajectory for some time, as they have across the UK as a whole.
- However, per capita emissions are higher than the UK or NP11 averages. The largest source of emissions is transport, which accounts for 44% of total emissions in Y&NY, compared with about 36% nationally. Transport emissions have been slower to fall than industrial or domestic emissions, and the relative carbon intensity of transport in Y&NY probably reflects the area's rural nature and relatively high car dependency.

Carbon emissions			
	Y&NY	NP11	UK
Total CO2 (kt, 2020)	4,604	73,000	313,159
Tonnes per capita	5.54	4.79	4.67
Tonnes per £m GVA	239	218	172

CO2 emissions, tonnes per capita, 2005 to 2020



Source: BEIS, local authority territorial CO2 emissions

Economic profile: Businesses

- In 2020, Y&NY had a higher level of 'business density' than the NP11 overall, although lower than in the UK. The number of business starts was relatively low, and this was reflected in the area's low business stock change in recent years.

- A relatively high proportion of businesses are 'high growth' firms, according to the ONS data. However, data gathered by Beauhurst tells a different story: according to the ONS, the York and North Yorkshire LEP area has 36.5k firms. Beauhurst track 383 firms in the LEP because they pass high-growth or innovation thresholds. This tracking rate of 1.05% of firms is higher than the 0.98% rate in the Northern Powerhouse, but lower than the 1.15% rate for the UK as a whole.

Business demography, 2021			
	Y&NY	NP11	UK
Total stock			
Total businesses	36,225	560,865	2,939,675
Business Starts	3,525	72,935	363,995
High growth firms	150	2,230	10,695
Business stock change, CAGR 2015-2021	0.5	1.8	1.6
Per 100,000 working age population			
Total businesses	7,295	5,910	8,257
Business Starts	710	768	1,022
High growth firms	30.2	23.5	30.0
Business stock change, CAGR 2015-2021	0.6	1.6	1.2

Source: ONS, Business Demography, 2021

Contribution to the North's 'prime capabilities'

Advanced manufacturing

- York and North Yorkshire has a relatively large manufacturing sector, with a location quotient of 1.24 and employment numbers that have moderately increased in recent years.

- Almost half of all manufacturing employment in Y&NY is the **food and drink manufacturing** sector. The area has a long history in this field, with several household names (Rowntree, Tetley, Terry's, Taylors of Harrogate, McCain Foods etc.) originating in the county. Many of these firms have been acquired by multinationals over time such as Nestle (for example), which has a significant presence in York, including its global Product Technology Centre for confectionary R&D and product development. The county also has significant agritech and food research capabilities, supporting (although broader than the food manufacturing sector): these include York Biotech Campus (formerly the National Agri-food Innovation Campus) at York, which includes Fera Science and the UK Animal and Plant Health Agency (and is relevant to Health Innovation, cited later).

- Y&NY also has important research strengths. These include the University of York's Centre for Energy Efficient Materials (CEEM), a research institute for advanced materials synthesis, characterisation and predictive modelling. CEEM focuses on solar energy, energy conversion and carbon capture, linked with the Energy 'prime capability'.

Contribution to the North's 'prime capabilities'

Energy

- Y&NY's energy sector in the area contributes 1.9% of total GVA, higher than the national level of 1.7%. Within the Local Industrial Strategy, "clean growth enabled by the circular bio-economy" is highlighted as an overarching regional strength, through which industrial and research strengths can help to create a carbon-negative region. Key assets include:
    - Originally established to generate electricity from the Selby coalfield, Drax (still based in Selby) is now the UK's largest source of renewable energy, operating a series of power plants in the UK and abroad generating power from sustainable biomass, hydro-electric and pumped hydro storage. Drax is currently piloting the first bioenergy carbon capture storage (BECCS) project in Europe. If successful, the pilot will ensure that renewable electricity produced at Drax's North Yorkshire power station would be carbon negative. Captured carbon can be re-used in other industries.
    - Linked with the University of York, the Biorenewables Development Centre is an open-access R&D centre, developing ways of converting plants and waste into viable products. The BDC hosts the BioVale Innovation Cluster, support and incubation service to develop bioeconomy businesses, currently with around 300 business members across Yorkshire and Humber.
- More broadly, there are also close links and supply chain opportunities through the Humber's 'Energy Estuary' and Tees Valley's developments in the renewable sector.

Contribution to the North's 'prime capabilities'

Health innovation

- Y&NY has strengths in plant and animal health, highlighted in relation to the area's food manufacturing and (bioeconomy-related) energy strengths, and there is veterinary pharmaceuticals production capacity at Dechra, in Skipton. York Biotech Campus has developed over the past twenty years, and includes a series of human, plant and animal health and R&D facilities including Abingdon Health. Previously based at York Science Park, Unilabs York Bioanalytic Solutions offer a range of analytical and testing services to pharmaceutical and other R&D businesses.
- Within the University of York, there are several health-oriented research institutes. These include;
  - The Centre for Future Health (CFH), which supports collaborative projects that address health issues and challenges, alongside the £5m Innovative Health Technologies (IHT) Programme which addresses how society will be affected by, and in turn affect, IHTs.
  - The York Plasma Institute works with industry to form collaborative projects and to make the region a hub for innovative plasma science and applications. Facilities include electron microscopy, in particular a new cryo-TEM facility, and optical super resolution techniques to magnetic resonance imaging.
- The Hull-York Medical School (jointly operated by the Universities of Hull and York, and with facilities on both campuses) is also now established as a centre of medical education and research.

Contribution to the North's 'prime capabilities'

Digital

- North Yorkshire has a significant **defence** presence, to which digital technology makes an important contribution. This includes GCHQ Scarborough, which has become a training and skills hub, potentially supporting a wider network of cyber security activities.
- The University of York has important **academic computer science strengths**, with its Computer Science department ranked 6th for research impact in the UK on the 2014 Research Excellence Framework. Research centres include the York Interdisciplinary Centre for Cyber Security, the Quantum Communications Hub and a centre for research into games and interactive media.
- Elsewhere in North Yorkshire, the Hull-based Centre for Digital Innovation (C4DI) is developing the new Treadmills campus in Northallerton, a digital technology business centre for tech companies and general businesses working primarily within the agriculture and food processing sectors. It offers custom-designed innovation programmes, startup incubation, access to skills, supply chain and mentors.

Contribution to the North's 'enabling capabilities'

Finance and professional services	• Finance and professional services are not highlighted as a key strength in local strategy, and are largely local demand responsive. However, although it is relatively small in employment terms, the financial services sector is highly productive and quite concentrated in parts of the area, for example the Skipton Building Society, based in a small market town but with a national footprint.
Infrastructure	• North Yorkshire is an important logistics location, especially in the south of the county, supported by good north/south rail and road links and York's role as an important rail hub. However, *intra*-county transport links are challenging in places, reflecting rurality. Y&NY also benefits from infrastructure beyond its boundaries elsewhere in the North, for example through access to Leeds-Bradford airport. • As elsewhere in rural parts of the UK, digital connectivity has improved through government intervention, with York branded as the UK's "first gigabit city". However digital connectivity remains a challenge in many rural parts of the area.
Education	• There are three higher education institutions in the area: University of York, University of York St Johns, and the CU Scarborough, run by Coventry University Group. In addition, there are FE colleges offering degree courses, including Askham Bryan, one of ten specialist land-based colleges in the UK. • There are also several initiatives, such as Scarborough Construction Skills Village, that are geared towards matching the skills supply in the local community to local business skill demand.

Economic strategy and direction

- York and North Yorkshire LEP adopted a medium-term Plan to Reshape Our Economy in 2020, in the light of the need to recover from the pandemic. In parallel, a series of strategies related to (among other things) the circular economy, energy, skills and rethinking the role of towns for the 21st century have been brought forward (some of which also relate to the East Riding of Yorkshire, which was formerly within the previous York, North Yorkshire and East Riding LEP).
- The draft Local Industrial Strategy sets a vision for Y&NY to become "England's first carbon negative region… [creating] a carbon negative, circular economy that increases productivity and provides higher paid jobs". Supporting this, it identifies "clean growth enabled by the circular bio-economy" as the area's 'USP'. Specific themes include:
  - Developing York as a "global knowledge leader".
  - Developing a "rural powerhouse", in the context of climate change and the impacts of Brexit on food production.
  - Supporting investment on the "Opportunity Coast", including through additional economic growth in natural resources (e.g. offshore wind and potash) and the growth of the local business base.
- Across these themes, the draft LIS has a strong sustainability and theme, with the 'bioeconomy' cited as central. Target indicators for 'good growth' are cited within the draft LIS as a "step change in regional productivity", net carbon neutrality by 2030, and "financial inclusivity", where everyone earns at least the Real Living Wage. In particular, the challenges associated with deprivation and inequality (especially on the coast) are highlighted.
- Within this overall framework, the draft LIS sets out four priorities: connected and resilient places; people reaching their full potential (focused on skills as a route to higher wages and opportunities), an economy powered by good businesses; and world leading land management.
- In autumn 2022, consultation took place on a proposed Devolution Deal for North Yorkshire. If approved, the Devolution Deal will include scope for additional brownfield housing development, investment in the York Central regeneration scheme, further support for mobile and broadband infrastructure and increased collaboration on inn ovation projects, such as the Scarborough Cyber Cluster ands the BioYorkshire programme.
- Whilst many of the themes outlined here from the Local Industrial Strategy remain relevant, it is the Devolution Deal that will drive the development of thinking around these strategies.

Strategy and evidence bibliography

- York & North Yorkshire LEP, Creating a competitive carbon neutral economy circular economy in York and North Yorkshire: A Strategy and Action Plan for Transformation 2019 – 2030, 2019
- York & North Yorkshire LEP, York, North Yorkshire and East Riding's Local Energy Strategy – Towards a low carbon economy, 2019
- York & North Yorkshire LEP, 21st Century Towns, December 2019
- York & North Yorkshire LEP, A Local Industrial Strategy for York and North Yorkshire, March 2020
- York & North Yorkshire LEP, Skills Strategy 2021-2026, 2021
- Historic England and York & North Yorkshire LEP, Celebrating our distinctive heritage, September 2021
- York & North Yorkshire LEP, A Mayoral Devolution Deal for York and North Yorkshire

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