Greater Lincolnshire
Local Enterprise Partnership

# GREEN ENERGY SKILLS IN GREATER LINCOLNSHIRE – NOW AND INTO THE FUTURE – A LOCAL LABOUR MARKET ANALYSIS

## FINAL REPORT FOR THE GREATER LINCOLNSHIRE LEP ENERGY COUNCIL

SEPTEMBER 2024

SkillsReach
SKILLS | HR | PROJECT MANAGEMENT

Codename: Consulting

# ACKNOWLEDGEMENTS AND DISCLAIMER

The Codename:Consulting / SkillsReach Collab (Adam Peacock and Roy Harper) acknowledge the support and important contributions from a wide range of stakeholders throughout this project.

A full list of stakeholders and references is available by request to adam@codenameconsulting.co.uk

This document contains data made available under an Open License and accessed via the Department for Education, the Office for National Statistics, and the Higher Education Statistics Agency. Data has also been obtained under Greater Lincolnshire LEP's licence with Lightcast.

Codename:Consulting / SkillsReach and associates are not responsible for data verification nor data-cleaning, and data has been analysed as is, with any faults. As such, all data-driven conclusions in this report are based purely on the data available for public access at the time of writing. All data used in this document is either the most up-to-date available at the time of the data review, or the most relevant.

All maps have been produced using the open-source Geographic Information Systems software 'QGIS,' produced by the QGIS Development Team (2024) and made possible by the Geospatial Foundation Project.

**The Codename:Consulting / SkillsReach Collab – August 2024**

Adam Peacock

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SKILLS | HR | PROJECT MANAGEMENT

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# EXECUTIVE SUMMARY:

# HEADLINE PLACE PRIORITIES FOR GREATER LINCOLNSHIRE


## FROM THE BRIEF:

To gain insights into the local and Greater Lincolnshire-wide 'place priorities' to realise the substantial opportunities for our local economies, communities and residents.

## 'PLACE PRIORITY':

### EMPLOYERS

**PROJECT CONCLUSION:**
Although demand growth seems to have slowed in recent months, the Green Energy sector, which is heavily weighted towards Northern Lincolnshire, is set to grow significantly over the remainder of this decade, with the potential to offer residents exciting, quality career opportunities, but with the risk of impacting on already-stretched engineering skills supply in other local 'game-changing' sectors.

Develop creative talent pipelines that optimise new entry Green Energy career opportunities (including contracting and construction), for young people, under-represented groups and adults across Greater Lincolnshire; thereby supporting the sector but also the wider engineering occupational requirements of the area.

### PEOPLE

**PROJECT CONCLUSION:**
Current population trends, combined with forecast labour requirements, suggest that Northern Lincolnshire cannot be 'skills self-sufficient' in the face of near-future Green Energy sector growth, and will need new technical trades and professional talent from Greater Lincolnshire and beyond, supporting the retention of higher skills in the region.

Scale-up community outreach and school engagement through Future Energy Ambassadors, raising awareness of what the local Green Energy sector can practically deliver in local job opportunities; and supporting a community mindset shift in terms of the scale, nature and quality of local green energy careers.

### SKILLS INFRASTRUCTURE

**PROJECT CONCLUSION:**
Green Energy skills pathways, heavily concentrated in Northern Lincolnshire, are growing, although there remains an imperative to develop stronger local participation in green-specific (and non-green) trade and professional pathways (particularly in engineering occupations), in order to meet substantially increased demand in the sector and across Greater Lincolnshire.

Building out from the collaborative strengths of the Northern Lincolnshire 'skills cluster, ensure that accessible, scaled-up entry-level Green Energy sector skills pathways (particularly Apprenticeships) provide game-changing career opportunities for residents across Greater Lincolnshire.

# EXECUTIVE SUMMARY: EMPLOYER DEMAND

EMPLOYERS

## FROM THE BRIEF:

To gain insights into the type and number of roles required in the next five years

**DATA FINDINGS**

- Our Green Energy subsectors currently support circa 2,560 jobs, 7.3% of the UK total for the sector.
- Overall sector recruitment trends mirror the national picture with 206 vacancies posted in 2023 (0.8% UK total) primarily for engineering roles.
- Sector recruitment has been heavily concentrated in North East Lincolnshire (69% of vacancies), driven mainly by the Offshore Wind industry, recruiting roles such as Technician and Manager.
- Near-future Green Energy infrastructure projects scheduled to be delivered by 2030 could support 14,500 jobs, with 12,800 of these jobs being in construction. All these projects will be in Northern Lincolnshire.
- We forecast that the overall Green Energy sector will support 9,760 Greater Lincolnshire jobs in 2030.

**EMPLOYER INSIGHTS**

- An investment 'waiting game', with no employers outlining active recruitment plans of scale for new jobs, and major concerns about local capacity and readiness to 'switch up' once projects are confirmed.
- Continuing demand for 'higher carbon' jobs, with the oil and gas industry viewed as highly competitive.
- Skillsets for many 'green' and 'non green' engineering jobs viewed as highly transferable.
- Current demand for direct employees (rather than contractors) is being met and not 'green-specific'.
- The long-term ageing engineering worker demographic remains a pressure point for replacement demand.
- Forecasted severe shortages of Level 3 Trade Technicians; especially Welding, Pipefitting and Electricians.
- A continuing challenge recruiting highly technical senior engineering roles.
- The future scale of recruitment required in Northern Lincolnshire presents a substantial displacement risk.

## CONCLUSION:

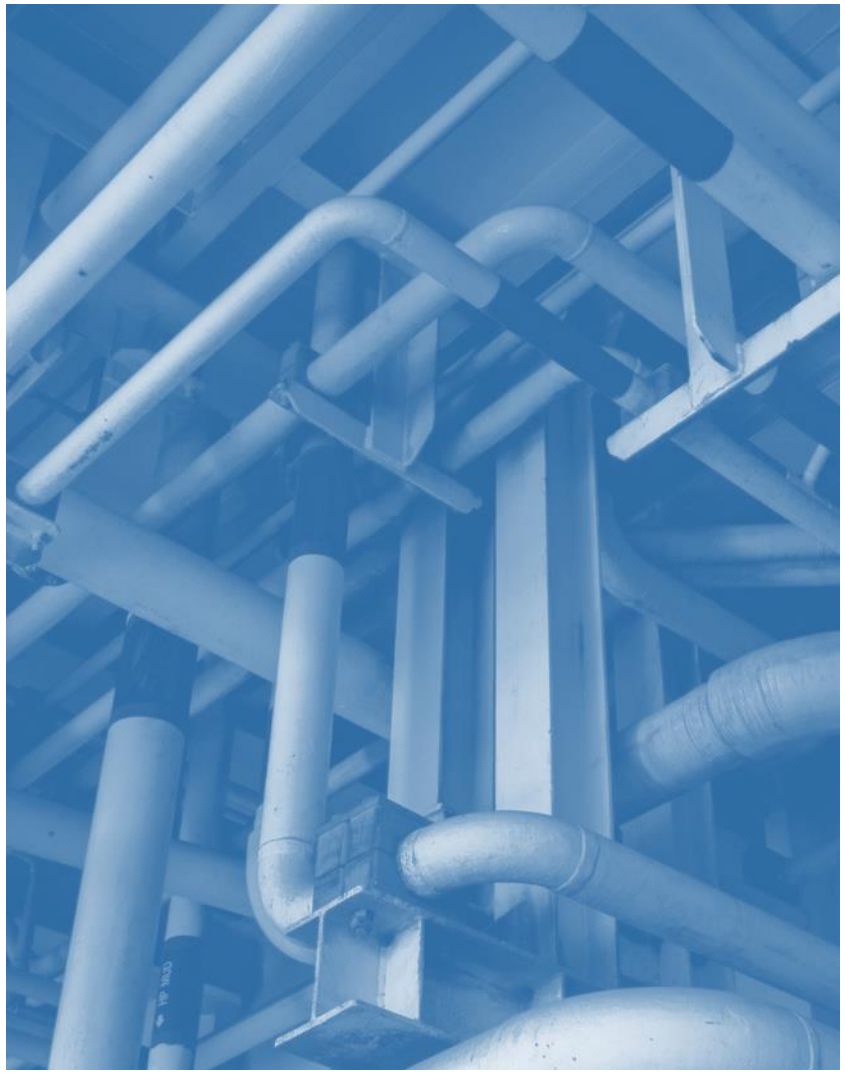
*Although demand growth seems to have slowed in recent months, the Green Energy sector, which is heavily weighted towards Northern Lincolnshire, is set to grow significantly over the remainder of this decade, with the potential to offer residents exciting, quality career opportunities, but with the risk of impacting on already-stretched engineering skills supply in other local 'game-changing' sectors.*

# EXECUTIVE SUMMARY:
# EMPLOYER AND DEMAND LED 'PLACE PRIORITIES'

EMPLOYERS

**OPPORTUNITIES (TO REALISE):**

- for local people to take-up high quality, well-paid jobs - both new and replacement roles for young people and adults at various entry levels; and also through skills transfer from inside and outside the sector - this includes the lower-profile, less locally-rooted contractor labour market.
- to support the development of a local 'contractor workforce' (including engineering construction) that can include more local residents as opposed to a transient workforce from elsewhere.
- for more accessible local career pathways with lower entry-level jobs which can progress to a Level 3 trade pathway and upwards. Some employers are already reducing minimum qualification requirements in Maths, English and wider STEM.
- for a more inclusive local workforce with employers seeking, through equality and diversity planning, to widen access from under-represented groups such as women and ethnic minorities.



**CHALLENGES (TO TACKLE):**

- in co-ordinating awareness raising to support a community mindset shift relating to the scale, nature, and quality of local Green Energy careers.
- in ensuring local skills initiatives connect and engage across this highly complex labour market that includes nationally-based skills decision makers, complex supply chains, and career opportunities that are currently low profile and outside of 'careers thinking'.
- in understanding why constant employer demand for well-paid trades such as Welders, Pipefitters and Riggers is not 'chiming' with local young people; and considering local responses.
- in developing overall local capacity (green and non-green) in engineering, construction and other technical trades and professions. Eventually 'every job will be a 'green job', and everyone is, or will be, 'transitioning' into a 'green job'.
- in ensuring Apprenticeships urgently become a major part of the immediate local talent pipeline, with employers citing five-year timeframes before many Apprentices are considered 'time-served' – almost too late for the impending recruitment.

# EXECUTIVE SUMMARY:
# SUPPLY OF PEOPLE & SKILLS

PEOPLE

## FROM THE BRIEF:
Provide a detailed assessment of the current and future size of the labour market

**DATA FINDINGS**

- 62,500 people currently work locally in Green Energy Relevant jobs – 33% of those in Northern Lincolnshire.
- Areas closest to Green Energy developments are where unemployment is higher and with significant numbers of Level 3 qualified unemployed residents.
- By 2030,13,200 of Green Energy Relevant job vacancies will arise due to people leaving the workforce.
- Occupational growth will be highest in craft and trade engineering roles requiring a Level 3 qualification.
- Northern Lincolnshire younger and working age populations have been in decline over the last ten years whereas Lincolnshire younger populations are growing.

**EMPLOYER INSIGHTS**

- Young people talent pipelines will not generate sufficient skills supply to meet future employer demand.
- Most jobs are transferable, and the future green energy workforce will be substantially sourced from transferring (often high carbon) workers.
- Green Energy employers were positive about the local response to recent job recruitment campaigns.
- Green Energy 'O&M' production jobs often attract large numbers of local applicants.
- The 'green' context is a positive influencer, but factors like security, pay and benefits remain important.
- Many engineering occupations are often extremely male-dominated.
- Contract labour is often mobile nationally moving to wherever pay is highest.
- Contractor occupations are well-rewarded, but 'under the radar' in profile, skills investment, pathways.
- Proximity and easy transport links have opened vacancies up for commuters from across the region.

## CONCLUSION:

*Current population trends, combined with forecast labour requirements, suggest that Northern Lincolnshire cannot be 'skills self-sufficient' in the face of near-future Green Energy sector growth, and will need new technical trades and professional talent from Greater Lincolnshire and beyond, supporting the retention of higher skills in the region.*

# EXECUTIVE SUMMARY:
# SUPPLY OF PEOPLE & SKILLS LED ‘PLACE PRIORITIES’

PEOPLE

**OPPORTUNITIES (TO REALISE):**

- to create new talent pipelines that optimise new entry opportunities for residents across Greater Lincolnshire and thereby reduce the risk of displacing people from jobs in other local ‘game-changing’ sectors.
- for proactive, local sector- retention support through ‘green-skilling’ the existing workforce – not ‘transformational’ training, but rather enhancing and transferring existing skillsets, supporting smooth transitions, occupational fluidity and retention of older workers.
- for local myth-busting around engineering construction trades as local perceptions of job-quality and pay/reward for roles may be inaccurate.
- to reach out (in collaboration with local skills providers) to targeted Greater Lincolnshire communities seeking to reduce local unemployment and economic inactivity; and support a greater inflow of skilled Green Energy workers.

**CHALLENGES (TO TACKLE):**

- in creating a local talent pipeline of traditionally-contracted occupations to attract more local people, as opposed to recycling contracting opportunities for higher-cost in-bound workers that are resident elsewhere and itinerant.
- in providing a stronger place-based underpinning for employer E&D activity to challenge gender stereotyping and support a more diverse workplace - perhaps focusing particularly on entry-level and trade occupations most likely to engage and benefit long-term local residents.
- in articulating that an important entry-level routeway for young people into a ‘green job’ may actually be a ‘higher-carbon job’ pathway – at least, initially.
- in developing local initiatives supporting adults into entry level and qualified positions (with pathways) in the green energy sector. A young people-based talent pipeline will not have sufficient impact relative to the scale, scope, and timing of likely new local jobs.

# EXECUTIVE SUMMARY:
# SECTOR SKILLS PATHWAYS

SKILLS INFRASTRUCTURE

## FROM THE BRIEF:

To gain insights into the scale and effectiveness of skills pathways for young people, adult residents and workers

**DATA FINDINGS**

- Green Energy Relevant apprenticeship starts are growing at a much stronger rate than nationally.
- In 2022/23 there is a very high concentration of Green Energy Relevant apprenticeship activity in Northern Lincolnshire with 54% and 60% of Greater Lincolnshire resident and provider starts respectively.
- There were only 45 resident apprenticeship starts in Engineering Construction in 2022/23 with delivery heavily concentrated in Northern Lincolnshire and Lincoln.
- Neither T Levels nor Skills Bootcamps are yet delivered at a scale to impact significantly on future Green Energy Relevant skills requirements; although early indications are that the local scale and Green Energy relevance of these activities may now be increasing significantly.
- Enrolments on Green Energy Relevant Education and Training surged in 2022/23.

**STAKEHOLDER INSIGHTS**

- Northern Lincolnshire benefits from a tight cluster of collaborative Skills Providers sharing high aspirations and sector expertise; with terrific examples of local energy skills investment initiative and excellence.
- Business skills leadership, planning, accountability, and commissioning is often not locally-driven.
- A key pathway to green jobs is through existing skills pathways in higher carbon jobs.
- There is high demand for sector apprenticeships from local young people, especially Northern Lincolnshire.
- The current skills system discourages provider enterprise and investment due to lack of demand-certainty.
- Local young people underestimate the career, earnings potential and lack of student loan liability of engineering construction and energy production trade and professional skills pathways.

## CONCLUSION:

*Green Energy skills pathways, heavily concentrated in Northern Lincolnshire, are growing, although there remains an imperative to develop stronger local participation in green-specific (and non-green) trade and professional pathways (particularly in engineering occupations), in order to meet substantially increased demand in the sector and across Greater Lincolnshire.*

# EXECUTIVE SUMMARY:
# SECTOR SKILLS PATHWAY LED 'PLACE PRIORITIES'

SKILLS INFRASTRUCTURE

**OPPORTUNITIES (TO REALISE):**

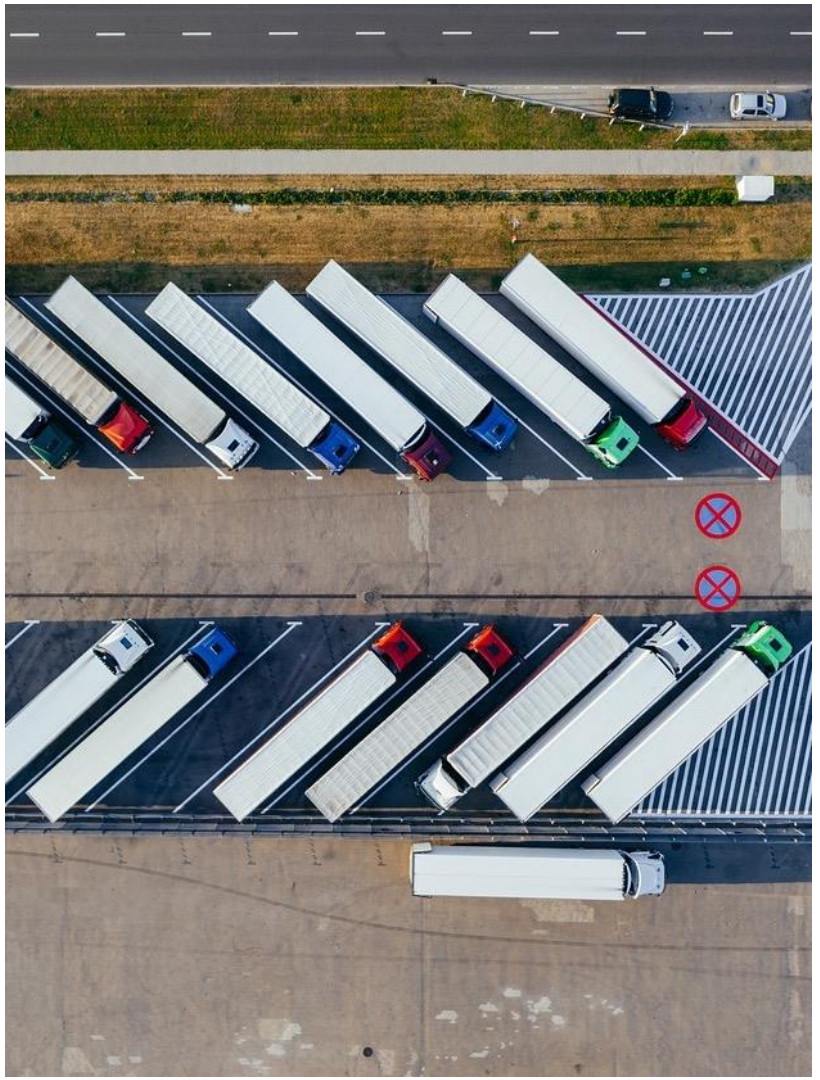
- to scale up local skills investment; thereby widening access to quality job opportunities for residents across Greater Lincolnshire potentially through greater national (skills and growth levy) and/or local (skills devolution) funding flexibilities.
- to build further on the collaborative approach of Northern Lincolnshire providers and employers to become a beacon of energy skills excellence.
- to scale-up community outreach and school engagement through Future Energy Ambassadors, raising awareness with young people, parents, and teachers about what the local net-zero economy can practically deliver in terms of local career opportunities. This could include initiatives such as a 'Day in the Life of……' campaign explaining key skills shortage jobs such as Welder, Pipefitter or Rigger to young people.

**CHALLENGES (TO TACKLE):**

- in undertaking locally-led sector skills planning, supporting a labour market with national or global skills leadership and extensive sub-contracting business models.
- in derisking local energy-relevant skills investment for employers, residents, and skills providers in Northern Lincolnshire, and across Greater Lincolnshire.
- in significantly scaling up apprenticeship numbers by making access easier for more local people; for example, through local initiatives seeking to raise aspirations for Engineering Construction and Green Energy careers and proactively build local capacity – e.g., through an upscaling of Apprenticeship starts.

# EXECUTIVE SUMMARY:
# ALTERNATIVE FUEL DEVELOPMENTS IN HEAVY TRANSPORT

- We conclude that the shift to alternative fuelled (and especially hydrogen) fleets will have very limited foreseeable impact on the local labour market (certainly in the timescales of this project up to 2030). This is both in terms of numbers employed and the skills required by those in the sector.
- There may be a small element of incremental up and re-skilling across some occupations e.g., Large Goods Vehicle Drivers - when it comes to fuelling, and Vehicle Technicians, Mechanics and Electricians.
- Analysis of vacancy data across heavy transport occupation type, focused on the need for alternative fuel skills/experience, shows that demand has been focused in North East Lincolnshire and is very minimal.
- Given that planned large-scale production of hydrogen is all set to take place in Northern Lincolnshire this is where early uptake and the resulting (minimal) skills and labour market impacts will be. We note trials of hydrogen fuelled vehicles to haul shipping containers (funded as part of a government project) have already taken place at Immingham Docks. This geographical focus on Northern Lincolnshire will be further compounded by the lack of current plans for the proposed hydrogen pipe network (ECH2) to reach down into southern Lincolnshire.
- From a labour market perspective, the pressing concern for the heavy transport sector is the training and recruitment of local people to current 'non-green' occupations. This is in light of current skills shortages, and also the projected levels of people leaving the workforce - especially Large Goods Vehicle Drivers. It is noted that skills shortages are reported as easing slightly, with less vacancies reported, and an increase in Driver recruitment through recent Apprenticeship and Skills Bootcamp talent pipelines. As for new job growth, demand is likely to centre on Vehicle Technicians, Mechanics and Electricians – again already in great demand.



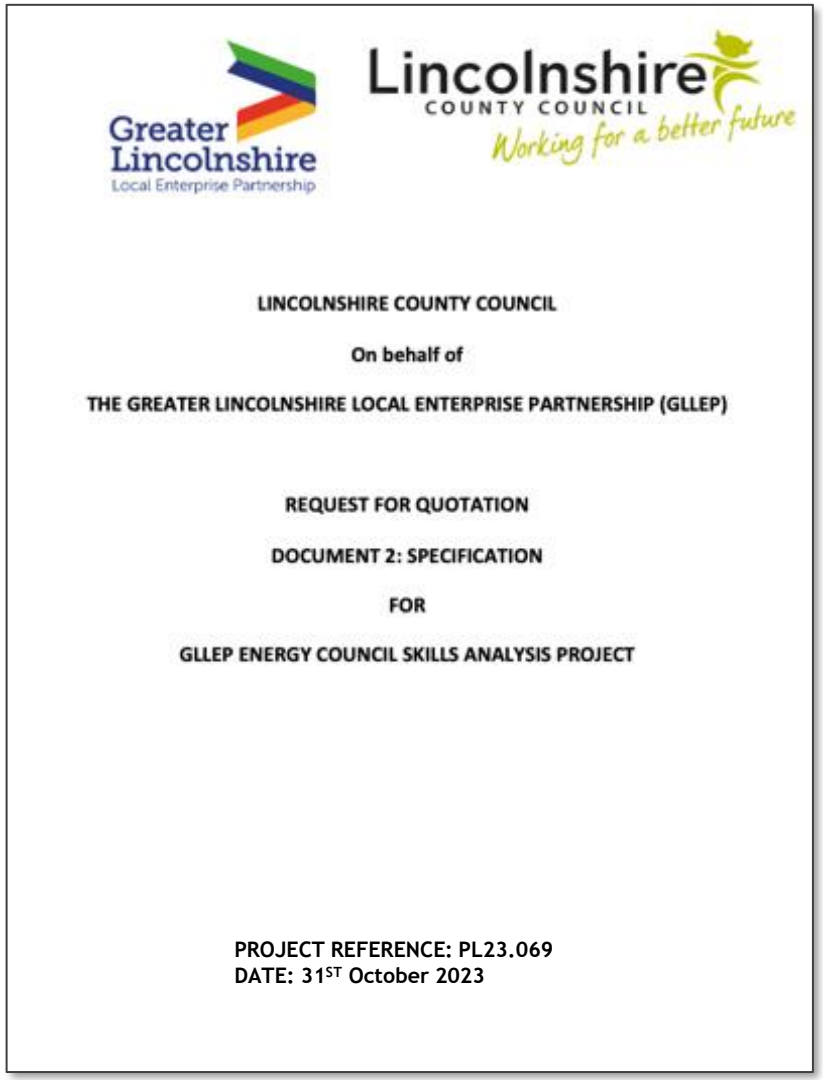
# INTRODUCTION AND OUR BRIEF

Codename:Consulting and SkillsReach is a well-established Greater Lincolnshire-based collab combining extensive local and sector economy, place, employment and skills experience. We were commissioned by Greater Lincolnshire LEP in January 2024 to undertake the following:

- *A detailed assessment of the current and future size of the labour market within Greater Lincolnshire associated with planned industrial decarbonisation projects (offshore wind, carbon capture, alternative/biofuels, and hydrogen); and the need to decarbonise heavy transport, over the next five years.*
- *The assessment will build on the high-level quantitative and qualitative assessment provided in the Humber Industrial Cluster Plan (HICP) Skills Report; Humber HEY Skills Partnership Green Jobs and Skills Analysis; Midlands Engine report on Green and Hydrogen Jobs; Greater Lincolnshire Local Skills Improvement Plan; and relevant findings from the UK Food Valley Local Area Energy Plan.*
- *Engagement with employers and other stakeholders involved in industrial decarbonisation and heavy transport activity is required across Greater Lincolnshire to gain insights into:*
    - *The type and number of roles required in the next five years;*
    - *The scale and effectiveness of skills pathways for young people, adult residents and workers;*
    - *Local and Greater Lincolnshire-wide 'place priorities' to realise the substantial opportunities for our local economies, communities and residents.*

In light of our confidence in the added value of a holistic Skills Ecosystem approach, we have additionally included a section analysing the local 'supply' element, considering the local 'Green Energy Relevant' labour market and other headline local supply demographics.

**Adam Peacock / Roy Harper, August 24**



Greater Lincolnshire
Local Enterprise Partnership

Lincolnshire
COUNTY COUNCIL
Working for a better future

**LINCOLNSHIRE COUNTY COUNCIL**

**On behalf of**

**THE GREATER LINCOLNSHIRE LOCAL ENTERPRISE PARTNERSHIP (GLLEP)**

**REQUEST FOR QUOTATION**

**DOCUMENT 2: SPECIFICATION**

**FOR**

**GLLEP ENERGY COUNCIL SKILLS ANALYSIS PROJECT**

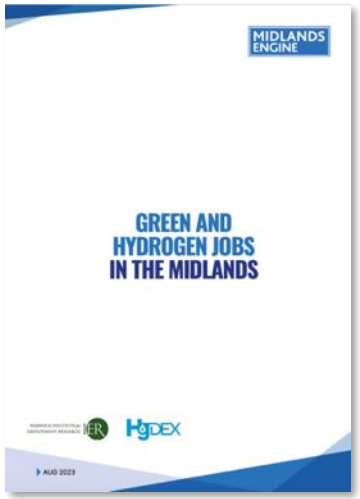
**PROJECT REFERENCE: PL23.069**
**DATE: 31ST October 2023**

# METHODOLOGY – DATA ANALYSIS

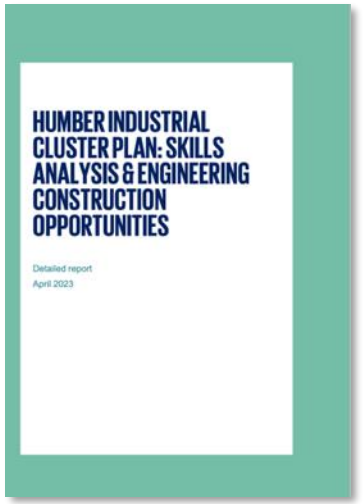
We have reviewed and built upon the considerable work already undertaken that has concentrated upon the North and South Humber Bank area, augmenting this with a Greater Lincolnshire based analysis of latest data covering vacancies, occupations, employment, unemployment, replacement demand, qualification levels, and further and higher education participation (including apprenticeships). Overall, this has produced a comprehensive Greater Lincolnshire focused evidence base for the Green Energy sector and four identified subsectors:

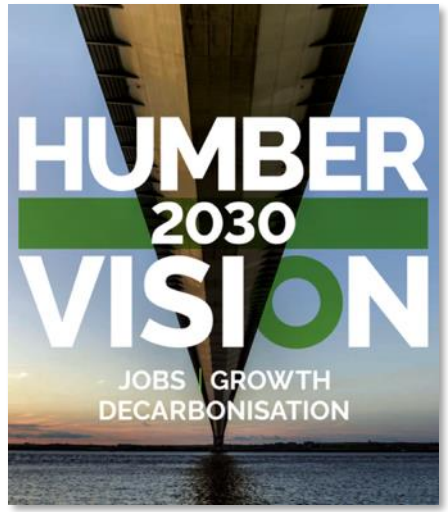
- Offshore Wind
- Carbon Capture, Utilisation and Storage
- Alternative / Biofuels
- Hydrogen.

Chief among this evidence base is the production of a typology of Standard Occupational Classification (SOC) codes at four-digit level which can be used to identify occupations which strongly align with relevant labour market activity across the four Green Energy subsectors.

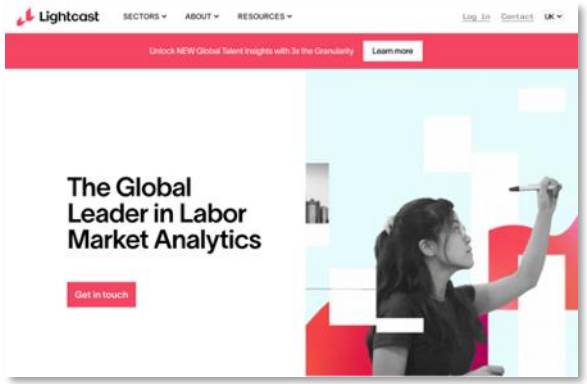











# METHODOLOGY – STAKEHOLDER CONVERSATIONS

Our approach strikes a balance between labour market data analysis and the capture of real-time, local insight through 'Skills Conversations' with employers and other key place or sector stakeholders.

Our Skills Conversations add validation, challenge, and the sharing of challenges and opportunities at a local and regional place level, providing ample opportunity for data analysis (generally nationally driven) to be stress-tested and balanced by local 'intelligence'.

Over the course of this project, we have conducted over 30 in-depth face-to-face or virtual skills conversations with national and local employers and a range of other stakeholders.

# METHODOLOGY - OUR SKILLS ECOSYSTEM APPROACH

Place-based outcomes are informed by, and presented in, the context of a local 'Skills Ecosystem', reflecting the importance and balance between three interdependent elements of Employers (demand), People (supply) and Skills Infrastructure (provision, providers, and other skills leaders). This report is structured around these elements with three main chapters covering:

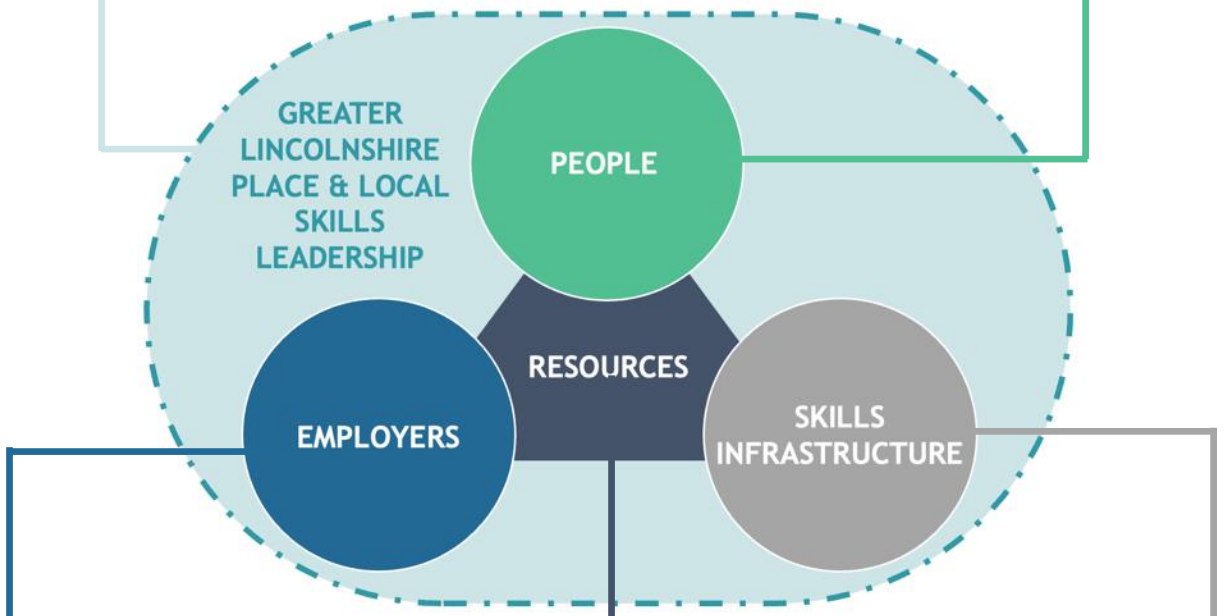
- EMPLOYERS (Demand) - employment, vacancies, replacement demand, and future growth
- PEOPLE (Supply) - occupations, qualification levels of unemployed, and the balance between Green Energy Relevant* jobs and Greater Lincolnshire residents in Green Energy Relevant* roles
- SKILLS INFRASTRUCTURE - participation on Green Energy Relevant* Apprenticeships, T levels, Skills Bootcamps, and Further/Higher Education courses

Insights from our 'Skills Conversations' conducted with local employers and other stakeholders are fully integrated.

***Note** – 'Green Energy Relevant' includes those not currently working in the Green Energy sector but in occupations in-demand in the Green Energy sector.

**PLACE:** The critical driver focusing upon local skills need, opportunity, initiative, innovation and action, adding local place value to national skills policy.

**PEOPLE:** Our potential 'Green Energy' workforce, including Greater Lincolnshire residents, workers, young people, self-employed, unemployed, and economically inactive.




**RESOURCES:** Sitting centrally and traversing the three elements, reflecting that each is a potential sources of skills investment.

**EMPLOYERS:** Local/national employers and businesses that generate demand for skills in workforces and supply chains.

**SKILLS INFRASTRUCTURE:** The combined assets and reach of our (primarily local) skills and education providers, physical learning resources, allied stakeholders, e.g., careers advice, etc.

# EMPLOYER DEMAND AND SKILLS IMPLICATIONS

EMPLOYERS

**PURPOSE**

To estimate the current scale, immediate future growth potential, and any jobs and skills implications thereof, for the Green Energy sector in Greater Lincolnshire

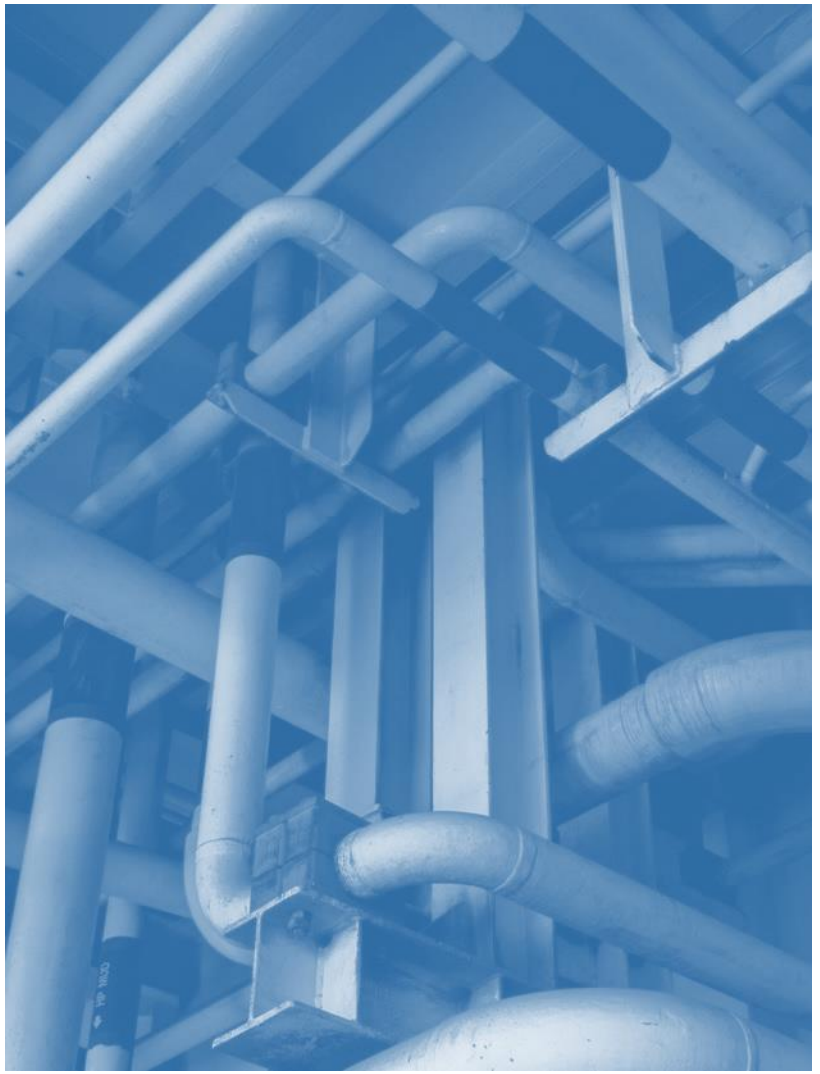
**INCLUDES:**

- Data and Local Insight Summary
- Local employer perspectives on the jobs and skills implications
- Estimates of current employment levels overall, and within four identified subsectors
- Vacancy analysis articulating current levels of demand
- Forecasts of Green Energy sector employment over the next 5 years

# EMPLOYER DEMAND AND SKILLS IMPLICATIONS - DATA SUMMARY

EMPLOYERS

- **Greater Lincolnshire's Green Energy subsectors currently support circa 2,560 jobs**, 7.3 per cent of the UK total for the sector.
- **A total of 206 vacancies were posted in Greater Lincolnshire during 2023 for jobs that mention any of the Green Energy subsectors** (Offshore Wind, Carbon Capture, Hydrogen, Alternative/Bio-fuels); this was 0.8% of the UK total (26,835).
- **2024 has seen a drop in Green Energy sector vacancies from 2023 highs both locally and nationally.**
- Over the last 5 years **recruitment has been heavily concentrated in North East Lincolnshire** (406 vacancies, 69 per cent of the total 597 Greater Lincolnshire in that period), driven mainly by recruitment in the Offshore Wind industry.
- Barring some surges in demand in 2020, **overall recruitment trends in Greater Lincolnshire Green Energy subsectors over the last five years have generally mirrored those seen nationally.**
- **Occupational recruitment has been focussed on engineering roles** (e.g., engineering technicians, production and process engineers, mechanical engineers). **In terms of the actual subsector that employers have been looking to recruit to, there has been a focus upon off-shore wind** - for example Offshore Managers and Wind Turbine Technicians.
- Based on externally generated forecasts and our own desk research, we project that **the Green Energy sector will be supporting 9,760 jobs across Greater Lincolnshire in 2030.**
- Based on reported Green Energy infrastructure projects scheduled to be delivered in Greater Lincolnshire by 2030 and their forecast outputs, **we estimate these projects will support 14,500 jobs, with 12,800 of these being in construction. All of these projects will be located in Northern Lincolnshire.**

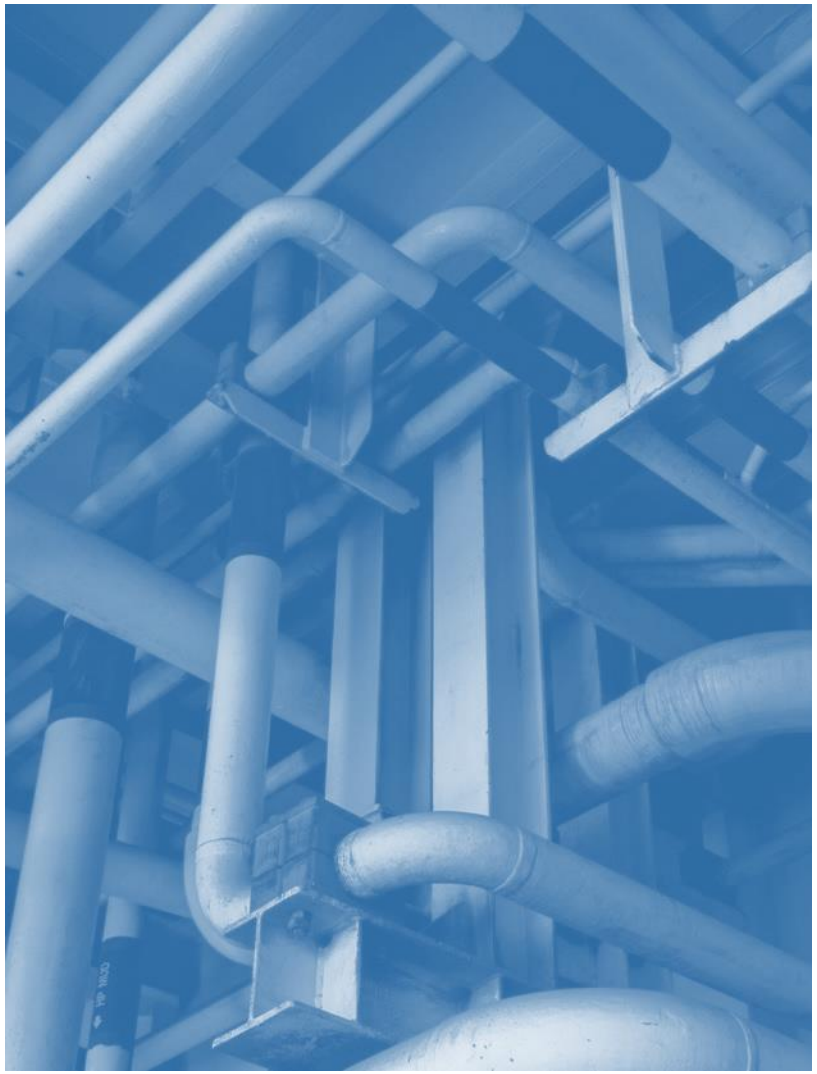


# EMPLOYER DEMAND AND SKILLS IMPLICATIONS - LOCAL EMPLOYER INSIGHT SUMMARY

EMPLOYERS

In our Skills Conversations, local stakeholders shared that:

- The **sheer complexity of the green energy labour market with different dynamics at play** across mainstream employment; ongoing on-demand contracted labour; and engineering construction workers.
- It is an investment 'waiting game', with **no employers outlining active recruitment plans** of scale for new jobs, and **major concerns about local capacity and readiness to 'switch up'** once projects are confirmed.
- **Current demand for new and replacement 'employed' jobs is broadly being met**, with confidence about the ability to recruit future operations and maintenance (O&M) positions – including Apprenticeships
- The **future scale of recruitment required in Northern Lincolnshire presents a substantial displacement risk** within the sector, but also across other manufacturing employers already reporting skills shortages.
- The **long-term ageing engineering worker demographic remains a pressure point** for replacement demand, with contracted labour and specialist engineering skills shortages.
- There remains **continuing demand for 'non-green / higher carbon jobs'** with the oil and gas industry viewed as highly competitive in reward terms.
- All employers shared **concerns about the continuing male/female gender imbalance** in engineering workforces – especially at a 'trades' level.
- **Skillsets for many 'green' and 'non green' engineering jobs are viewed as highly transferable**, with job specifications often not 'green-specific'.
- There are longer-term **expectations of proportionally more higher-skilled jobs**, with less reliance on shorter-term lower-skilled positions. **Level 3 was predicted as the 'industry standard'** qualification-level.
- Some **employers reported reducing Apprenticeship intakes** due to current uncertainties, although data suggests that relevant Apprenticeship numbers overall are actually growing faster locally than national trends.
- The **slowly-emerging hydrogen production labour market is viewed by many as unpredictable and difficult to quantify** in terms of local job, skills, careers implications.



# LOCAL EMPLOYER INSIGHT – GREEN ENERGY LABOUR MARKET ROLES

EMPLOYERS

**A. Green Energy roles:**

- Forecasts of significantly increasing demand for (and shortages of) Engineers and Skilled Technicians at Level 3 and above, with general confidence that 'O&M' vacancies will be filled, backed up by experience of high local applicant demand (sometimes oversubscribed), competitive reward packages and high retention levels.
- There remains a longer-term issue of recruiting highly technical senior engineering roles which are often not green-specific including Electrical (especially High Voltage), Chemical, Digital Control, Control & Instrumentation, Process and Manufacturing, although employers reflected that the renewables sector is a 'sector of choice' for applicants due to its context, work environment and job security.
- In addition to engineering, the importance of new local corporate jobs, and pathways, in areas such as finance, HR, logistics, project management and community engagement was emphasised.
- There is an increasing skills shortage of specialist 'green professionals' in areas such as carbon audit, ecology, environmental planning (including within local authorities).
- At this relatively early stage, hydrogen production skillsets are being identified at a 'sector' or by individual employers in areas such as chemical engineering, materials science, thermodynamics, project development, process engineering and commercial acumen. The emerging sector will certainly need Process Operatives, with likely transferrable skillsets from the Chemicals sector.

# LOCAL EMPLOYER INSIGHT – WIDER GREEN ENERGY LABOUR MARKET ROLES

EMPLOYERS

**B. Contracting roles**

- The critical nature of contract labour, both ongoing and short-term temporary; with forecasts of increasing supply shortages as concurrent green energy projects develop over the next few years.
- A current pressure point is around skilled contract labour tradespeople (especially Welders, Pipefitters, Riggers, Electrician), and this is predicted to worsen.
- There are major challenges now in mobilising sufficient contract labour for scheduled 'shutdowns' – something described by one employer as the 'biggest current headache' where large numbers of skilled people are needed for a short, defined period.


**C. Engineering Construction roles**

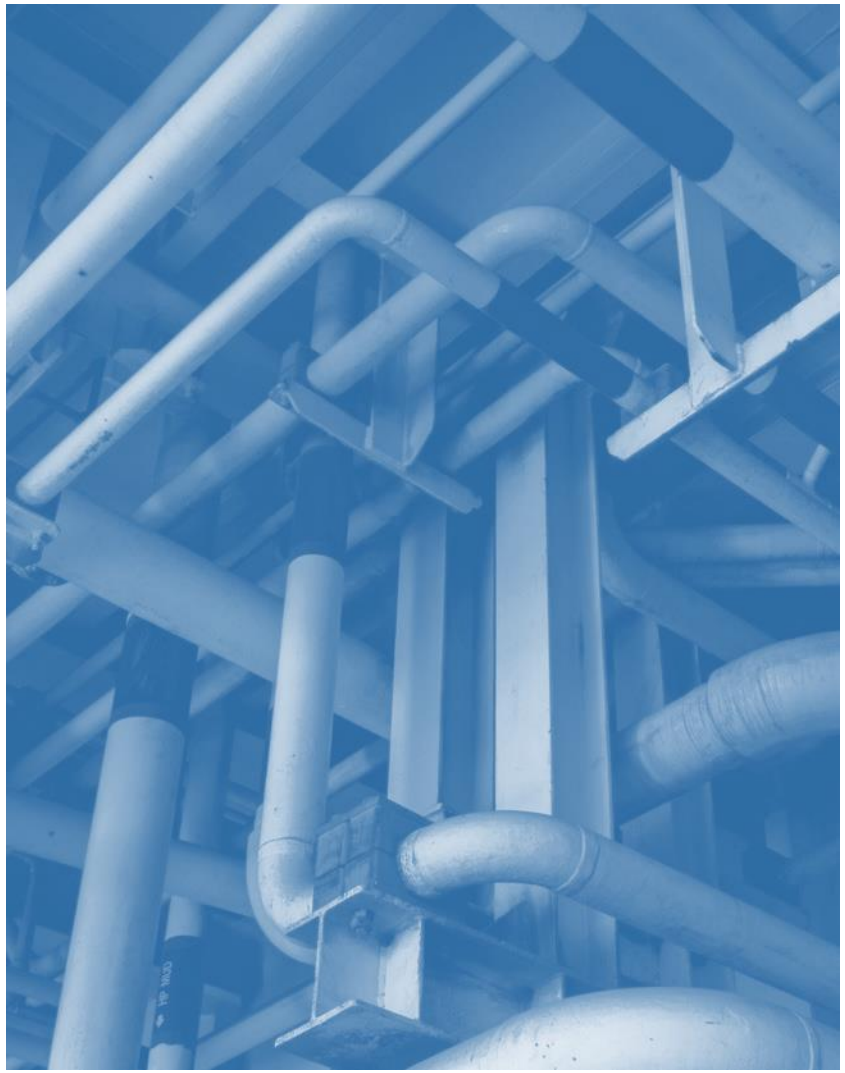
- Recruitment and retention of engineering construction workers is of shared major concern with some estimates of a need to 'quadruple the sector', with 1,000s of jobs likely to be needed concurrently, as planned construction projects run to similar timelines locally and nationally.
- Employers predict a likely 'massive shortage' of contractors due to UK-wide demand for related engineering construction projects.

# LOCAL EMPLOYER IDENTIFIED GREEN ENERGY SKILLS IMPLICATIONS

EMPLOYERS

**OPPORTUNITIES:**

- **for local people to take-up high quality, well-paid jobs** - both new and replacement roles for young people and adults at various entry levels; and also through skills transfer from inside and outside the sector - this includes the lower-profile, less locally-rooted contractor labour market.
- **to support the development of a local 'contractor workforce'** (including engineering construction) that can include more local residents as opposed to a transient workforce from elsewhere.
- **for more accessible local career pathways** with lower entry-level jobs which can progress to a Level 3 trade pathway. Some employers are already reducing minimum qualification requirements in Maths, English and wider STEM.
- **for a more inclusive local workforce** with employers seeking, through equality and diversity planning, to widen access from under-represented groups such as women and ethnic minorities.



**CHALLENGES:**

- **co-ordinating awareness raising, to support a community mindset shift relating to the scale, nature and quality of local green energy careers**
- **ensuring local skills initiatives connect and engage across this highly complex labour market** that includes nationally-based skills decision makers, complex supply chains, and career opportunities that are currently low profile and outside of 'careers thinking'.
- **understanding why constant employer demand for well-paid trades such as Welders, Pipefitters and Riggers is not 'chiming'** with local young people; and considering local responses.
- **developing overall local capacity (green and non-green) in engineering, construction and other technical trades and professions.** Eventually 'every job will be a 'green job', and everyone is, or will be, transitioning'.
- **ensuring Apprenticeships urgently become a bigger part of the immediate local talent pipeline**, with many employers citing a 5-year timeframe before many Apprentices are considered 'time-served'.

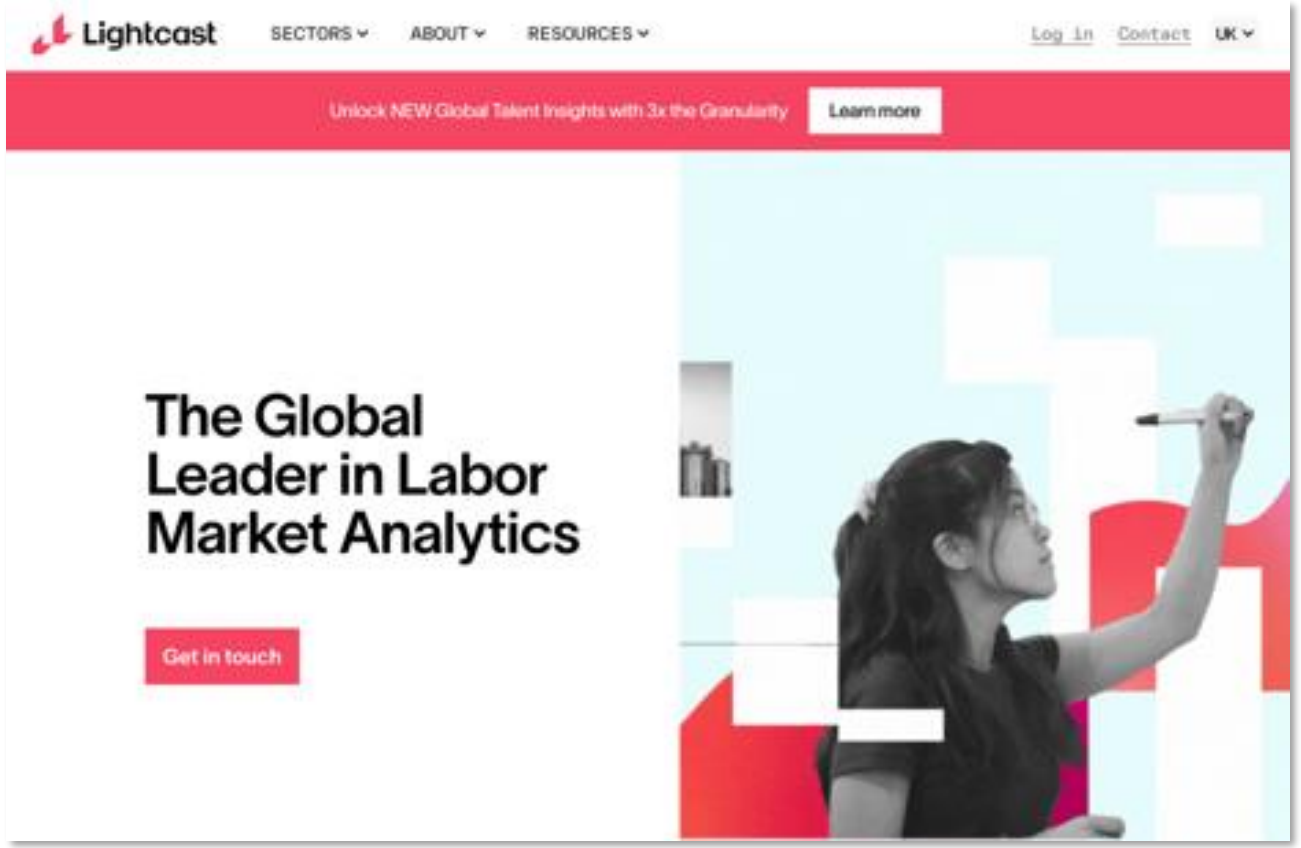
# ESTIMATING EMPLOYER DEMAND ACROSS THE LOCAL GREEN ENERGY SECTOR

EMPLOYERS

To measure changes and possible growth in demand locally across our four Green Energy subsectors, we have utilised online job vacancy data available through the labour market data portal 'Lightcast'.

Using our four Green Energy subsectors (offshore wind, carbon capture, hydrogen, and alternative/biofuels) as key words/phrases in searches across local and national vacancies, we show how online vacancy numbers within these sectors have changed in Greater Lincolnshire (along with comparisons with national trends) over the last five years. We have also been able to show where the demand is concentrated across Greater Lincolnshire at a unitary and local authority district level. The results from this analysis are presented over the next few slides.

We note here that this analysis is based on changes in demand in a traditional or mainstream employment sense through online job vacancy numbers, and therefore is unlikely to pick up significant "contracting" demand.



# ESTIMATING THE SIZE OF THE GREEN ENERGY SECTOR

EMPLOYERS

Greater Lincolnshire's Green Energy subsectors currently support circa 2,560 jobs (the vast majority of which will be full-time), 7.3 per cent of the UK total (which is high given that Greater Lincolnshire only accounts for 1.5 per cent of total jobs nationally). Our estimate for Green Energy sector employment would also be higher if we were to expand our estimate to include other areas of Green Energy activity e.g., onshore wind, solar, bio-energy, geothermal etc.

This sector level analysis provides job estimates including both 'direct' jobs (jobs directly involved in delivering the core business activity of production and transmission of green energy) and 'indirect' jobs (jobs supporting the business to operate i.e., HR, legal, finance etc.) and uses the Humber HEY Skills Partnership report methodology on estimating employment within "green industries" across the Yorkshire and Humber region as its basis. We have also supplemented this analysis with local information gleaned from our skills conversations with offshore wind operators in Northern Lincolnshire, as well as regional offshore wind data.

| | Total Green Energy Jobs | | Offshore Wind | | Carbon Capture & Storage | | Alternative/ Bio-Fuel | | Hydrogen |
|---|---|---|---|---|---|---|---|---|---|
| UK | 35,140 | = | 32,260 | + | 800 | + | 1,680 | + | 400 |
| | Jobs | | Jobs* | | Jobs** | | Jobs*** | | Jobs*** |
| Greater Lincolnshire | 2,560 | = | 2,370 | + | 150 | + | 25 | + | 10 |
| | Jobs | | Jobs* | | Jobs** | | Jobs*** | | Jobs*** |

*Using Offshore Wind Industry Council 2023 data

**Using estimates from the 2022 Low Carbon and Renewable Energy Economy survey, and figures for oil refining jobs from the 2022 Business Register and Employment survey to apportion CCS jobs locally (both Office for National Statistics)

***Using estimates from the 2022 Low Carbon and Renewable Energy Economy survey (Office for National Statistics)

***Based on the Manufacture of gas (from 2022 Business Register and Employment Survey, Office for National Statistics)

EMPLOYERS

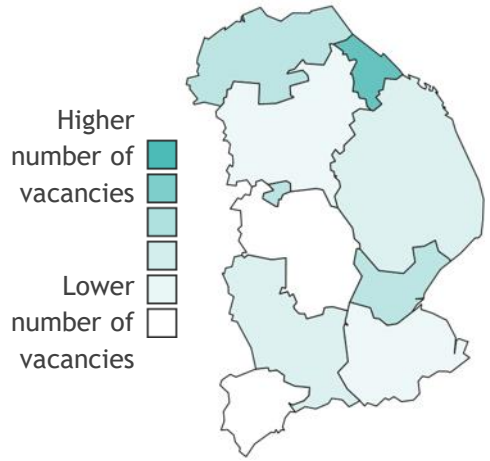
# DEMAND ACROSS GREEN ENERGY SUBSECTORS COMBINED

Total vacancies posted in Greater Lincolnshire during 2023 for jobs that mention any of the Green Energy subsectors totalled 206 in 2023, which was 0.8% of the UK total (26,835). Over the last five years recruitment has been heavily concentrated in North East Lincolnshire, driven mainly by recruitment in the Offshore Wind industry. Over the last five years, and barring some demand peaks in 2020, overall recruitment trends in Greater Lincolnshire Green Energy subsectors have by and large mirrored those seen nationally.

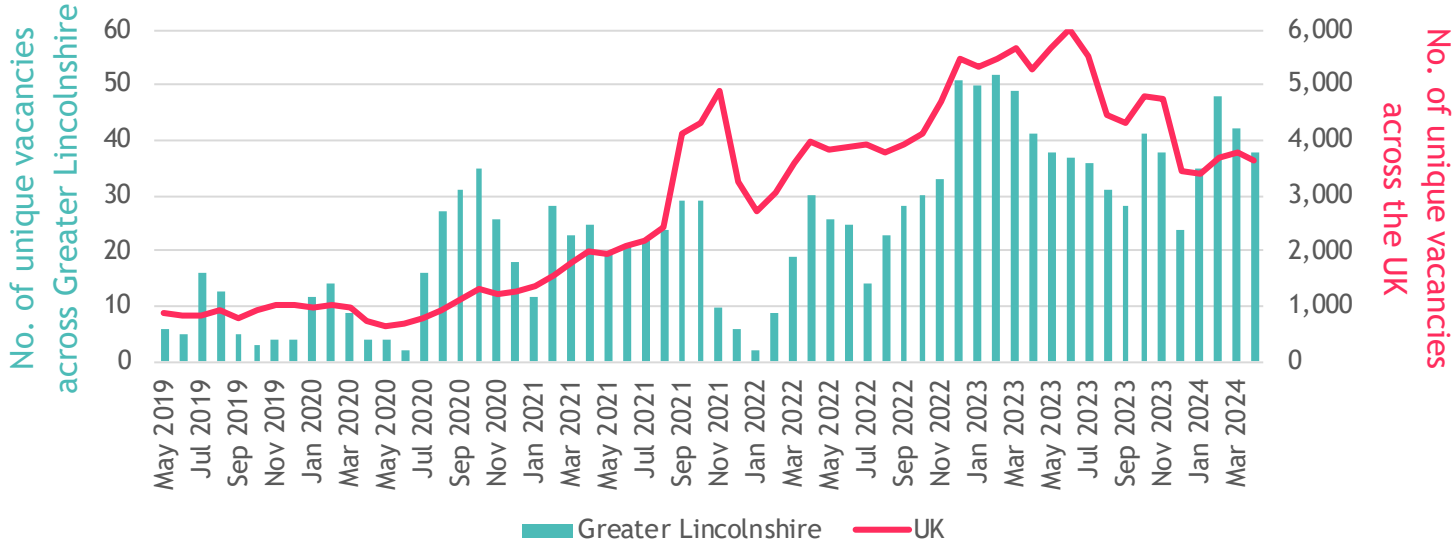
Referring to the next slide, occupational recruitment has been focussed on engineering (e.g., engineering technicians, production and process engineers, mechanical engineers). If we consider the actual job titles that employers have been looking to recruit to, there is a focus upon off-shore wind – for example Offshore Managers and Wind Turbine Technicians.

Note: Total vacancies across the Green Energy subsectors will not necessarily be the sum of the individual subsectors as one vacancy may appear in multiple searches.

**Source:** Lightcast



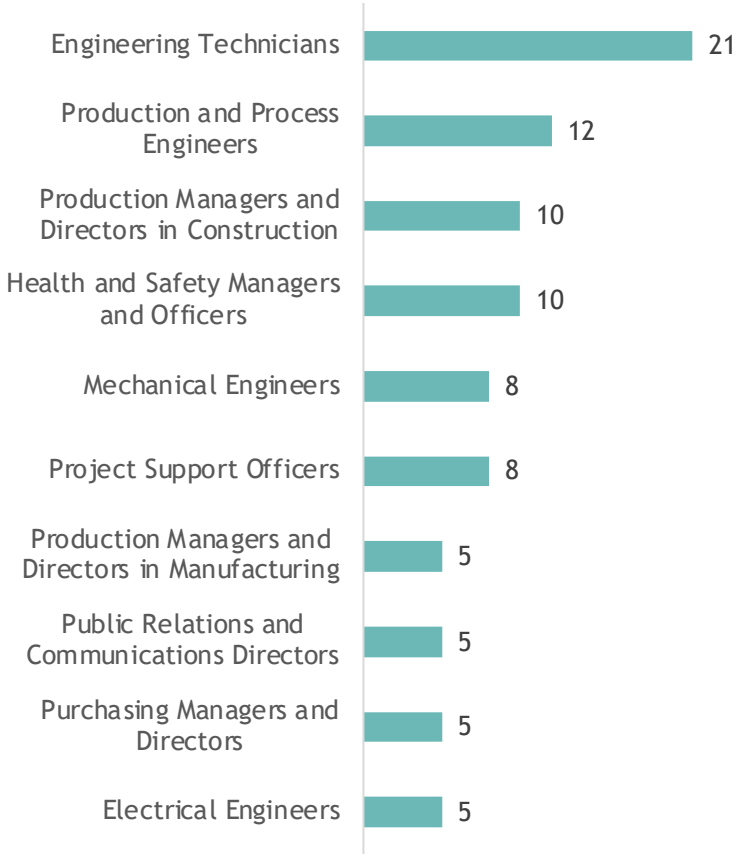

| Unique Postings from May 2019 - Apr 2024 | |
|---|---|
| North East Lincolnshire | 406 |
| North Lincolnshire | 61 |
| Lincoln | 52 |
| Boston | 36 |
| East Lindsey | 11 |
| South Kesteven | 11 |
| West Lindsey | 10 |
| South Holland | 5 |
| North Kesteven | 3 |
| Rutland | 2 |



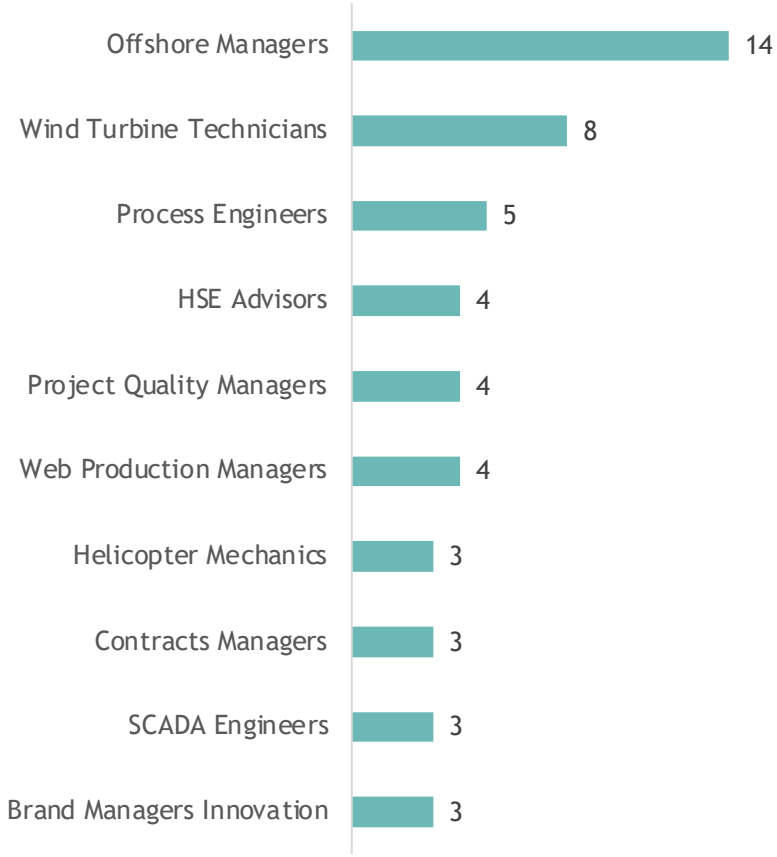
# DEMAND IN COMBINED GREEN ENERGY SUBSECTORS

EMPLOYERS

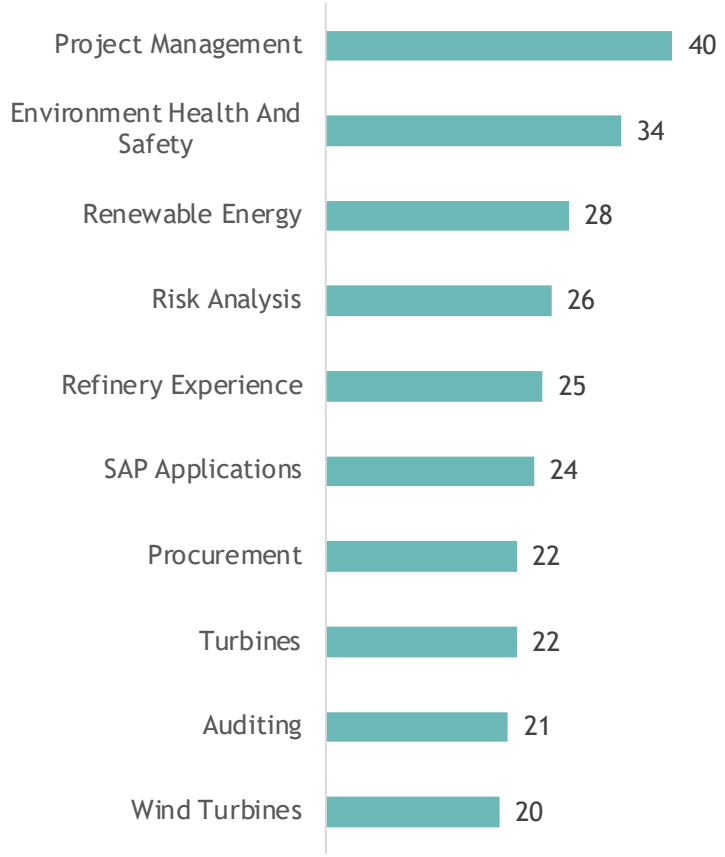
Top 10 occupations of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention either “carbon capture”, “offshore wind”, “hydrogen” or “alternative/biofuels”




Top 10 job titles of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention either “carbon capture”, “offshore wind”, “hydrogen” or “alternative/biofuels”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire during 2023 for jobs that mention either “carbon capture”, “offshore wind”, “hydrogen” or “alternative/biofuels”

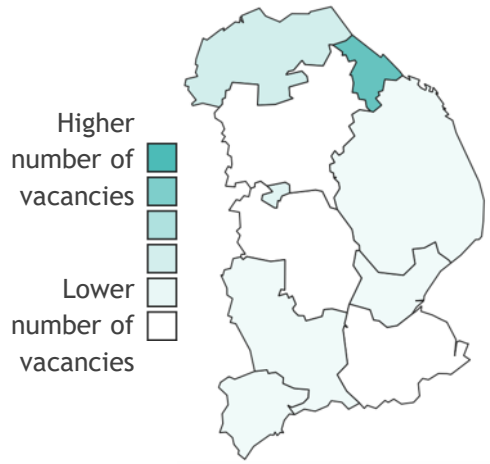


EMPLOYERS

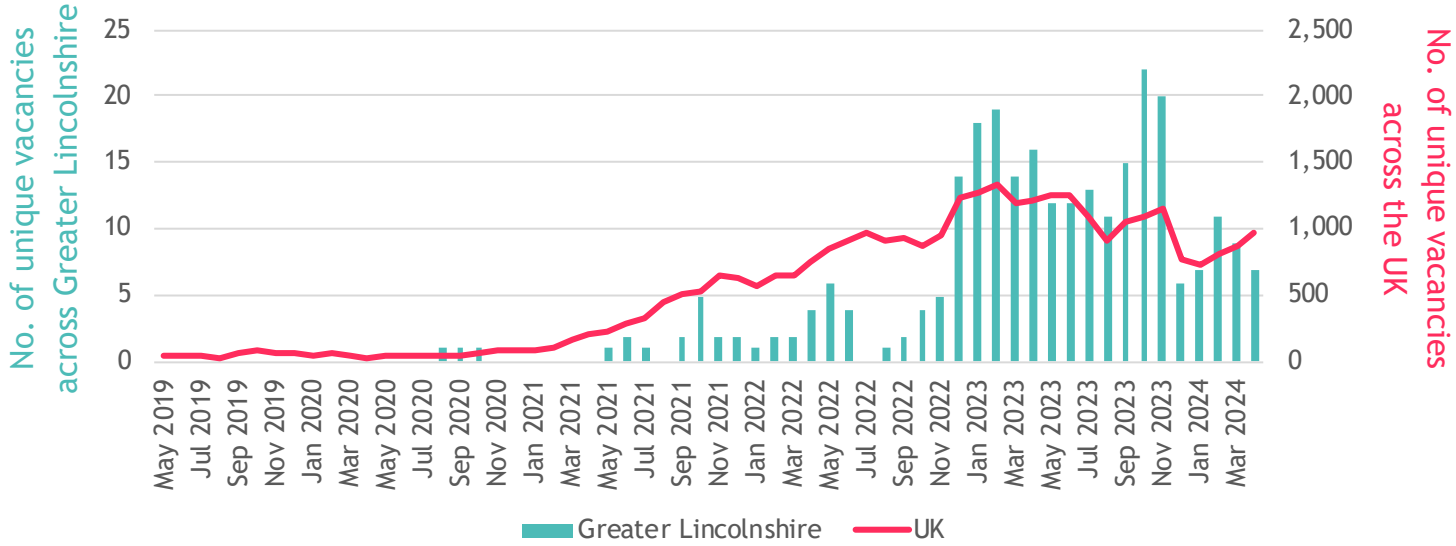
# DEMAND IN CARBON CAPTURE

Total vacancies posted in Greater Lincolnshire during 2023 for jobs that mention the phrase “carbon capture” totalled 73 in 2023, which was 1.2% of the UK total (5,865). Over the last five years recruitment has been concentrated in North East and North Lincolnshire. Sector trends in local recruitment have largely mirrored those at the national level, apart from some significant spikes in local recruitment activity during 2023, and numbers have subsequently dropped in 2024 from an October 2023 peak. Nationally, vacancy numbers have started to rise again, but we are yet to see this in local data up to April 2024. Referring to the next slide, we can see strong occupational demand for engineers with three of the top five being engineering roles. There is also strong demand in IT-related roles. Looking at the skills that employers are requesting, ‘oil and gas’ and ’refinery experience’ feature strongly which shows that both the local oil refinery and gas businesses are “greening”, and these skills and experience are highly transferable between the non-Green Energy and Green Energy sectors.

**Source:** Lightcast




| Unique Postings from May 2019 - Apr 2024 | |
|---|---|
| North East Lincolnshire | 52 |
| North Lincolnshire | 37 |
| Lincoln | 10 |
| East Lindsey | 8 |
| South Kesteven | 5 |
| Boston | 3 |
| Rutland | 1 |
| North Kesteven | 0 |
| South Holland | 0 |
| West Lindsey | 0 |

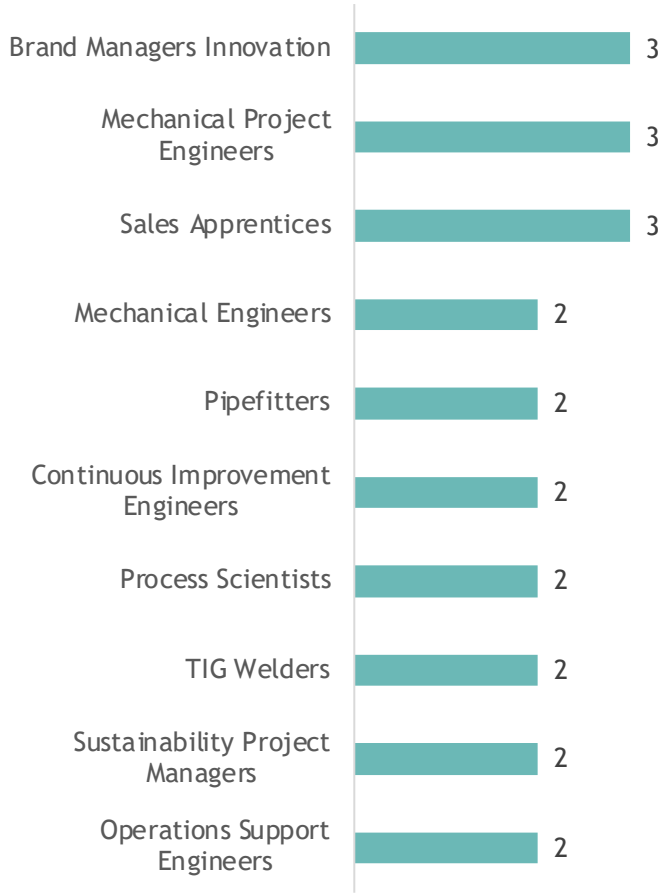


# DEMAND IN CARBON CAPTURE

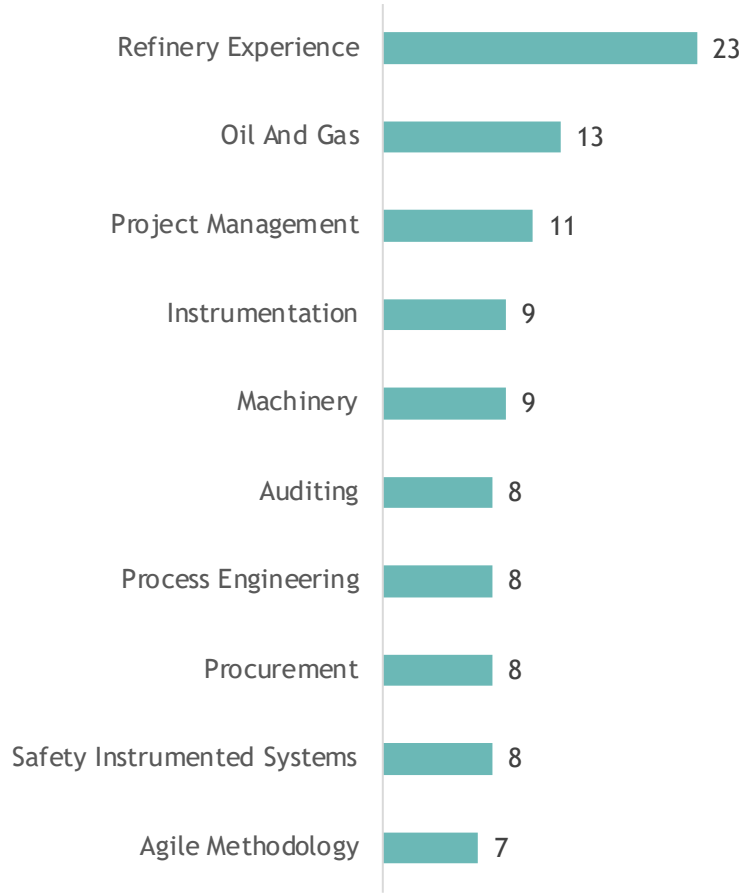
EMPLOYERS

Top 10 occupations of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “carbon capture”


Top 10 job titles of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “carbon capture”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “carbon capture”



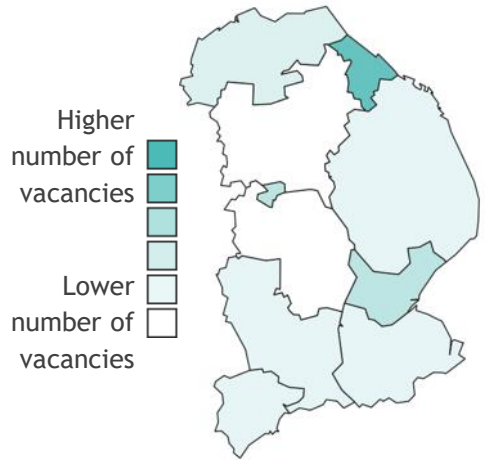
# DEMAND IN OFFSHORE WIND

EMPLOYERS

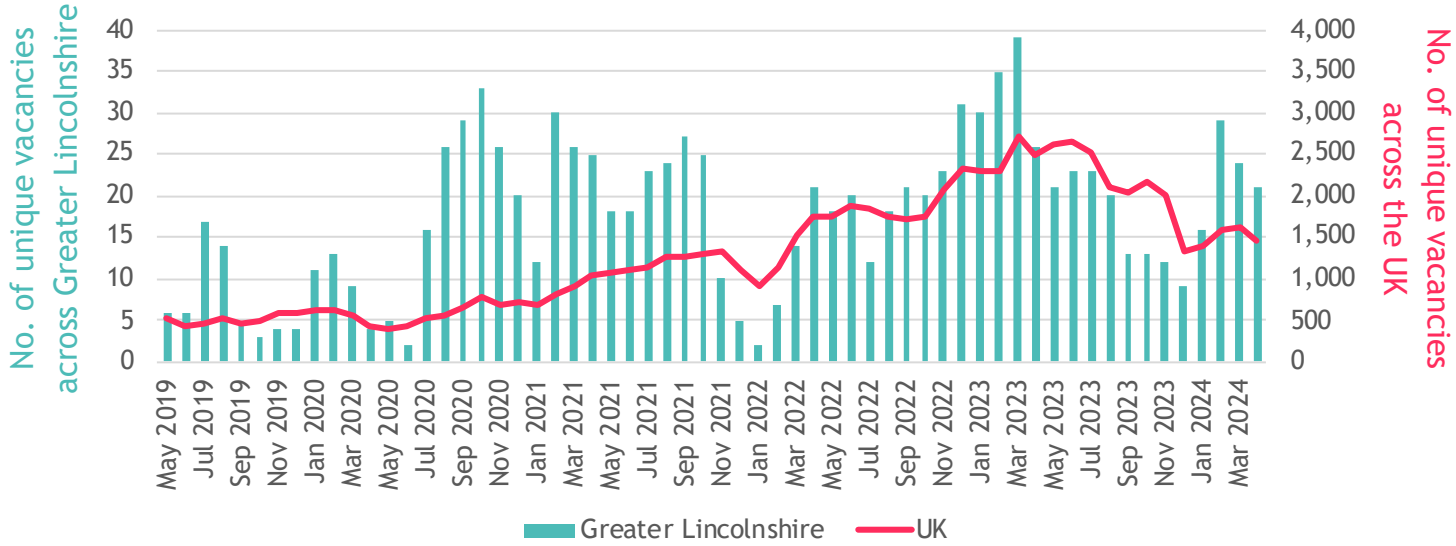
Total vacancies posted in Greater Lincolnshire during 2023 for jobs that mention the phrase “offshore wind” totalled 123 in 2023, which was 1.0% of the UK total (12,195). Over the last five years, sector recruitment activity has been highly concentrated in North East Lincolnshire. 2020 and 2021 saw high levels of demand from this sector locally - stronger than that playing out nationally; and more recently in 2023 and 2024 there have been strong peaks in demand. Vacancy numbers have declined in recent months although this appears to be in line with previous trends seen at this time of year.

Referring to the next slide there is strong sector occupational demand locally for Technicians (in engineering and more specifically wind turbines) and Managers (specifically offshore but also across construction, manufacturing, health and safety, and contracts).

**Source:** Lightcast



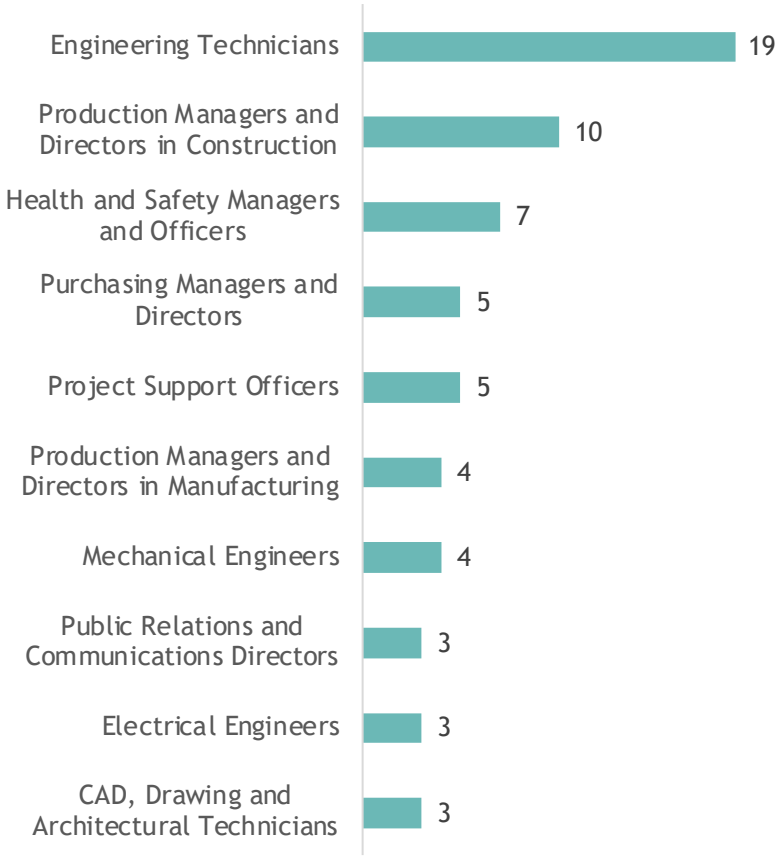

| Unique Postings from May 2019 - Apr 2024 | |
|---|---|
| North East Lincolnshire | 355 |
| Boston | 33 |
| Lincoln | 29 |
| North Lincolnshire | 11 |
| South Kesteven | 5 |
| South Holland | 4 |
| East Lindsey | 3 |
| Rutland | 1 |
| North Kesteven | 0 |
| West Lindsey | 0 |



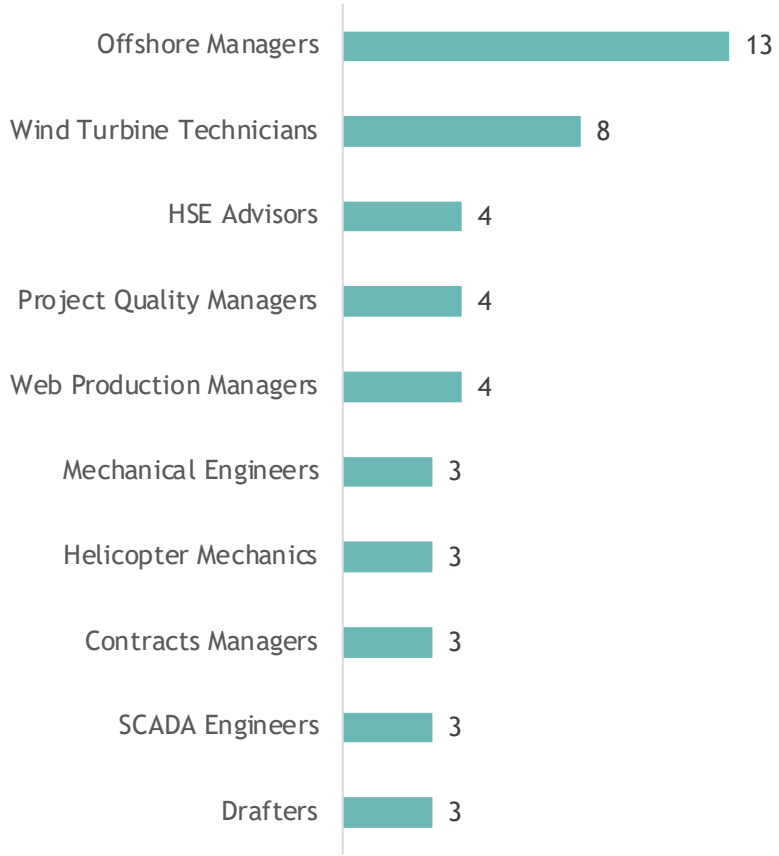
# DEMAND IN OFFSHORE WIND

EMPLOYERS

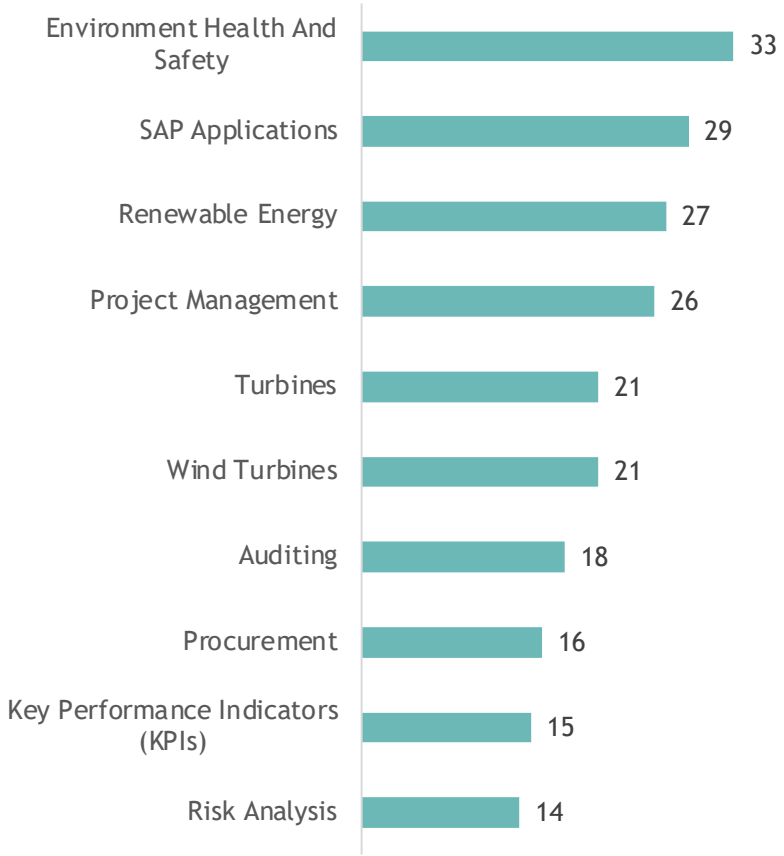
Top 10 occupations of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “offshore wind”




Top 10 job titles of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “offshore wind”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “offshore wind”



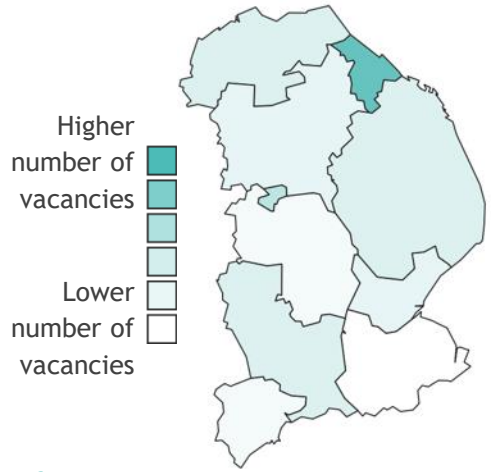
EMPLOYERS

# DEMAND IN ALTERNATIVE / BIOFUELS

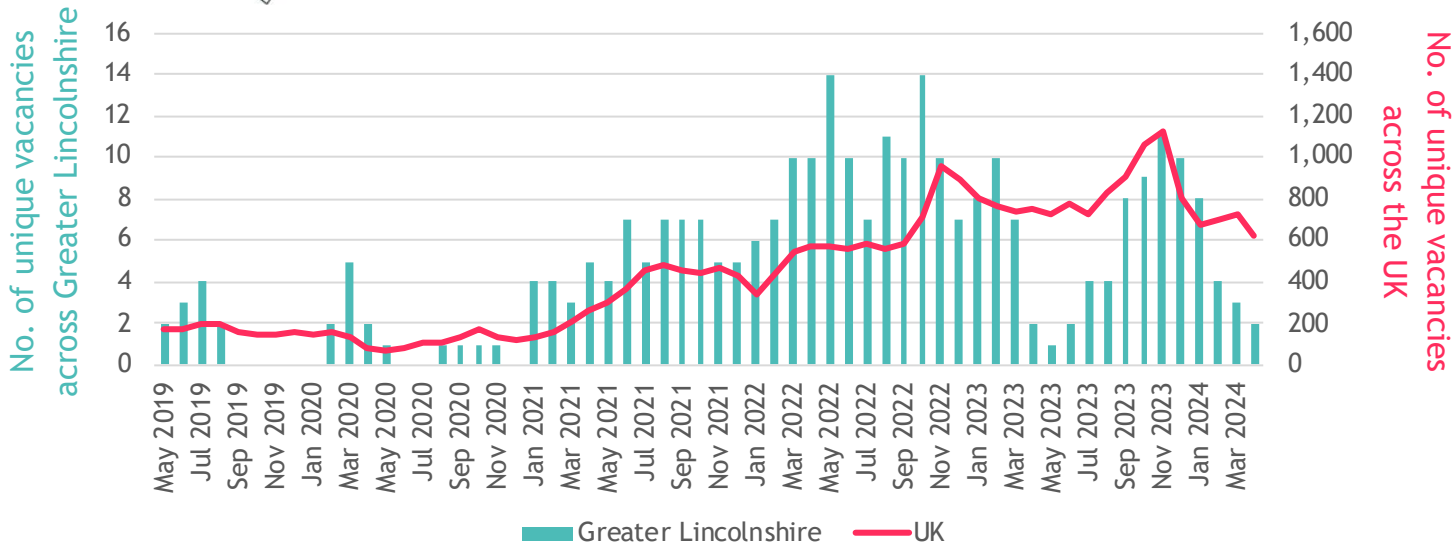
Total vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “alternative fuels” or “biofuels” totalled 38 in 2023, which was 0.8% of the UK total (4,564). Over the last five years, demand in roles that mention this subsector activity have been highest in North East Lincolnshire, with Lincoln also featuring relatively strongly. Local trends in vacancy numbers have largely mirrored national changes (apart from the summer of 2023) with peaks of strong demand.

Referring to the next slide, Technicians feature strongly as an in-demand occupation both in engineering and vehicle maintenance (something covered in more detail in the later section on hydrogen usage in the heavy transport sector), as well as natural science specialists. We note again that ‘refinery experience’ and ‘oil and gas’ feature in terms of skills in demand, confirming job-transferability.

**Source:** Lightcast



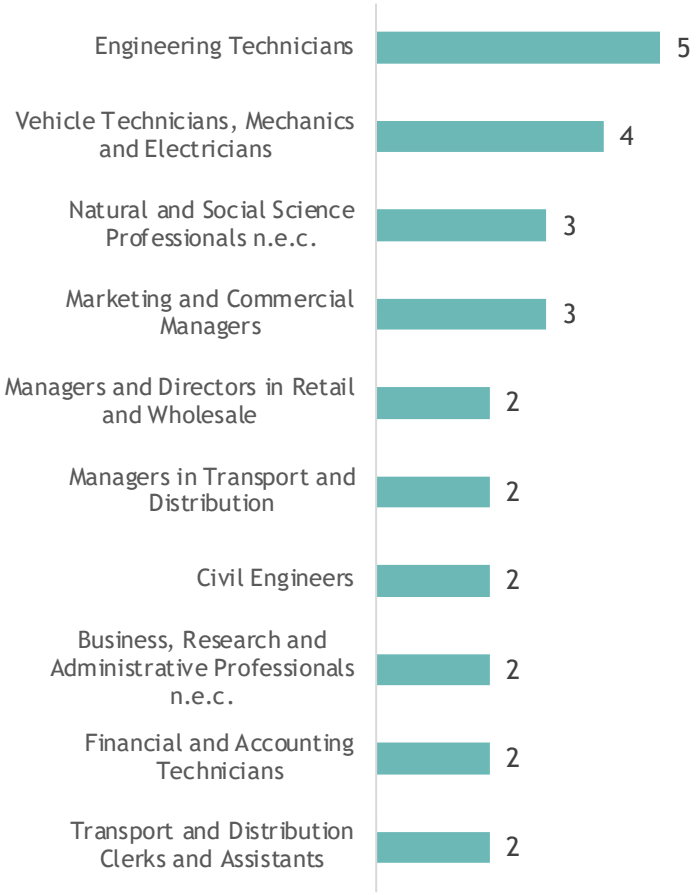

| Unique Postings from May 2019 - Apr 2024 | |
|---|---|
| North East Lincolnshire | 62 |
| Lincoln | 19 |
| East Lindsey | 10 |
| North Lincolnshire | 8 |
| South Kesteven | 6 |
| Boston | 5 |
| West Lindsey | 5 |
| North Kesteven | 3 |
| Rutland | 2 |
| South Holland | 1 |



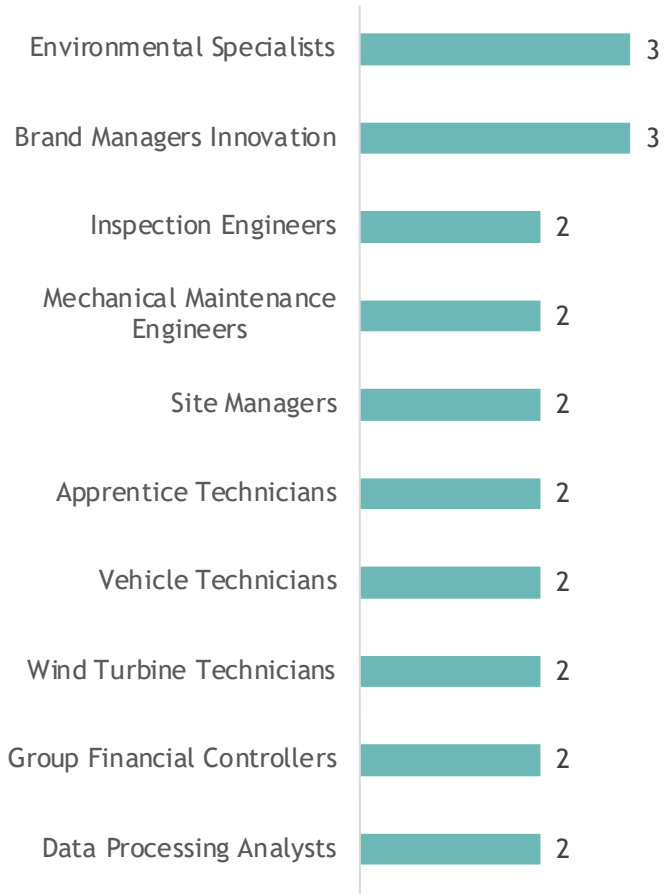
# DEMAND IN ALTERNATIVE / BIOFUELS

EMPLOYERS

Top 10 occupations of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “alternative fuels / biofuels”




Top 10 job titles of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “alternative fuels / biofuels”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “alternative fuels / biofuels”

EMPLOYERS

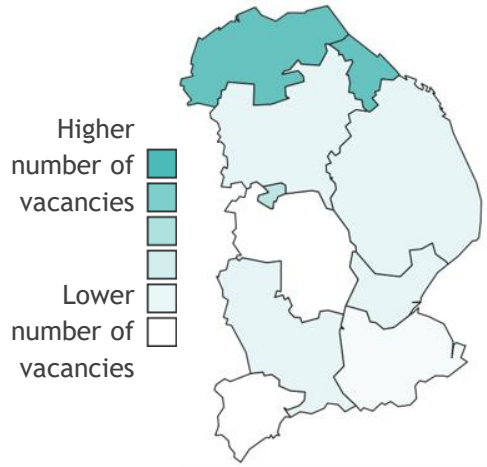
# DEMAND IN HYDROGEN

Total vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “hydrogen” totalled 65 in 2023, which was 0.4% of the UK total (15,119). Over the last five years, vacancies have been highest in North and North East Lincolnshire, with relatively strong demand also in Lincoln. We can also see that trends in recruitment locally have broadly mirrored those seen nationally (albeit less strongly), particularly since 2022.

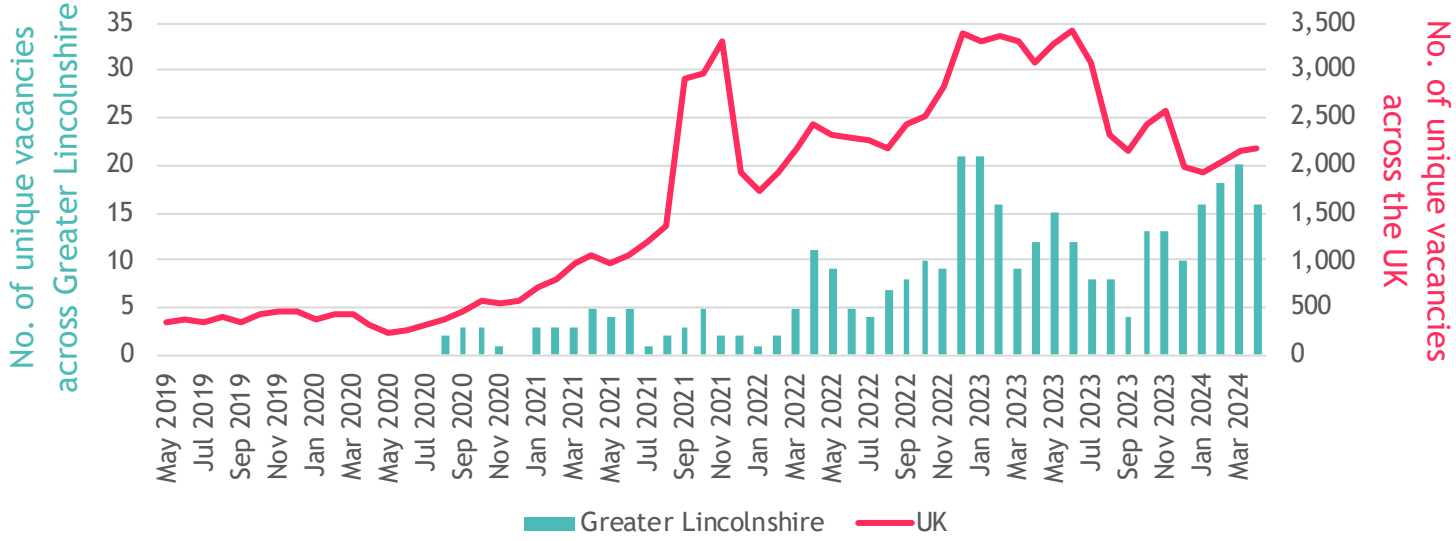
Referring to the next slide, Technicians and Engineers are the most in-demand occupations in 2023, with IT occupations also featuring strongly. We also note again the strong demand for ‘oil and gas’ skills within this Green Energy subsector. Local stakeholders also identified key skills required within this subsector such as chemical engineering, materials science, thermodynamics, project development, process engineering, process operations and commercial acumen.

Note: Our search of Lightcast vacancy data using the search term “hydrogen” produced a number of results relating to dentistry which we have endeavoured to remove from the analysis.

**Source:** Lightcast



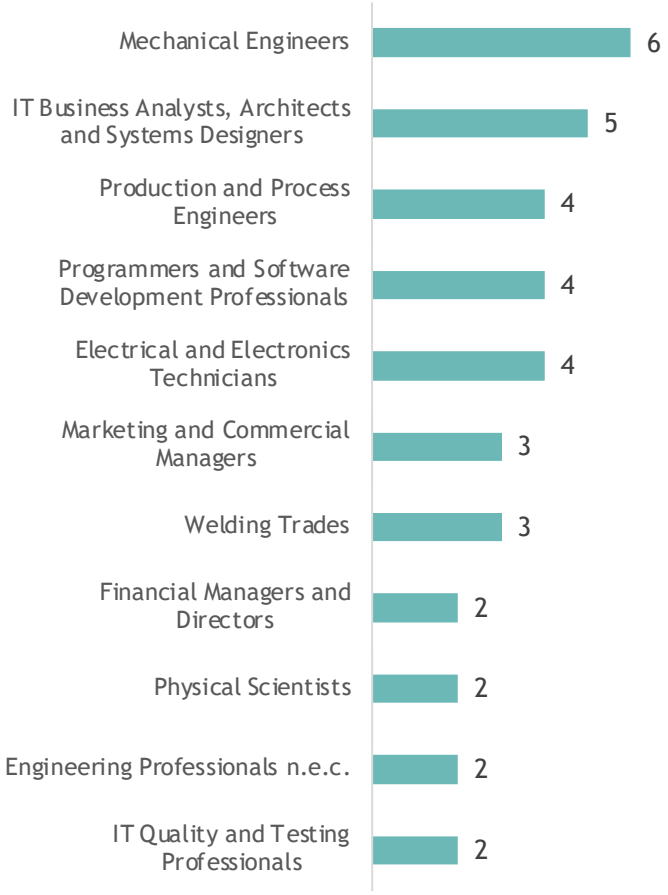

| Unique Postings from May 2019 - Apr 2024 | |
|---|---|
| North Lincolnshire | 44 |
| North East Lincolnshire | 42 |
| Lincoln | 31 |
| West Lindsey | 10 |
| Boston | 8 |
| East Lindsey | 8 |
| South Kesteven | 3 |
| South Holland | 2 |
| Rutland | 0 |
| North Kesteven | 0 |



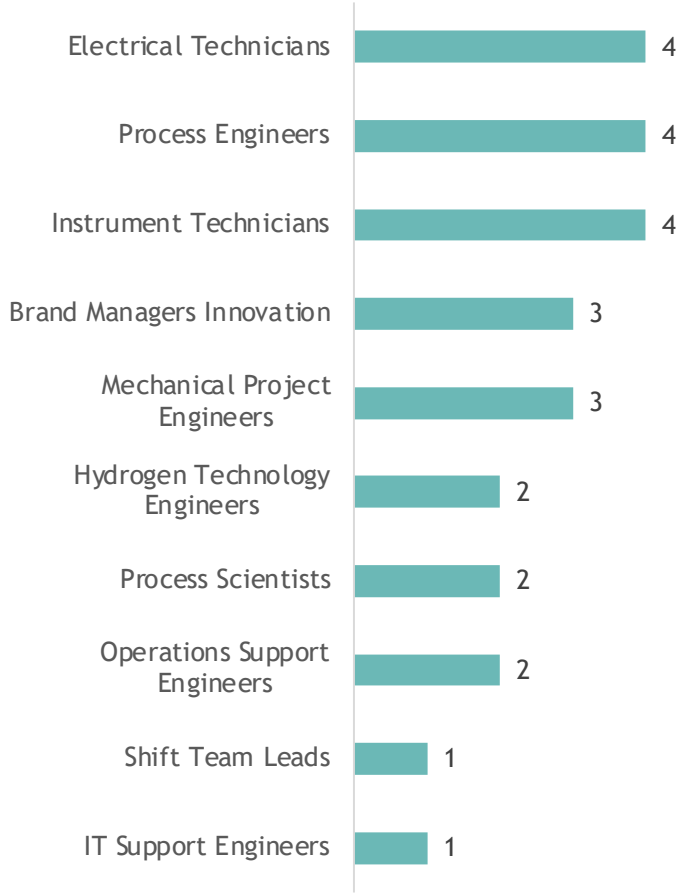
# DEMAND IN HYDROGEN

EMPLOYERS

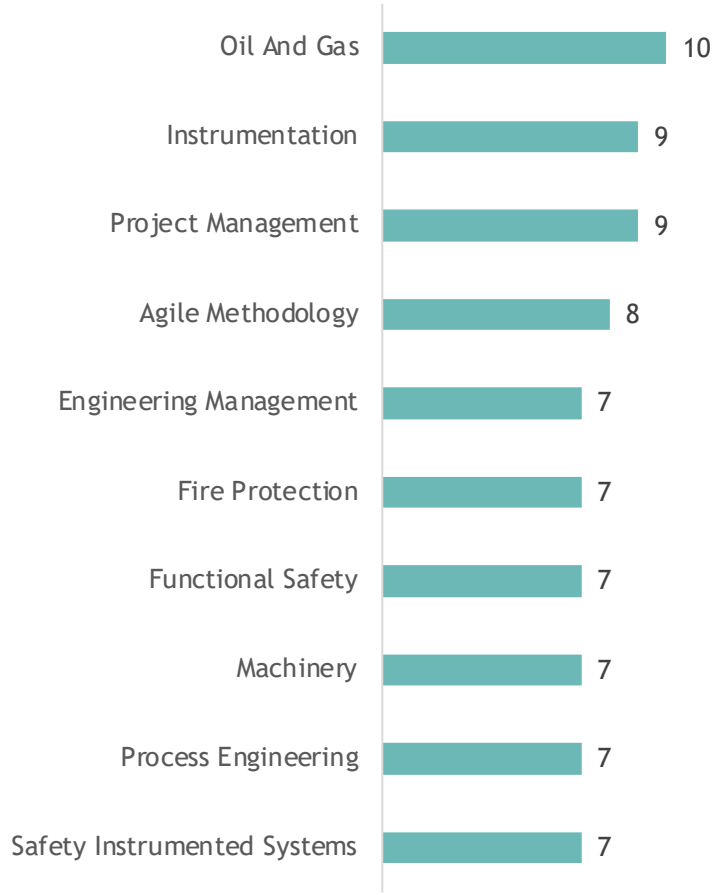
Top 10 occupations of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “hydrogen”




Top 10 job titles of vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “hydrogen”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire during 2023 for jobs that mention “hydrogen”



# ESTIMATING THE FUTURE SIZE OF THE GREEN ENERGY SECTOR – USING NATIONAL GROWTH PROJECTIONS

EMPLOYERS


The latest 'OWIC' intelligence report forecasts direct employment in offshore wind to increase from 43,374 to 104,401 (141 per cent) between now and 2030. Applying this level of growth to our Greater Lincolnshire estimate for the sector would mean:

Offshore Wind

5,700

Jobs

Total Green Energy Sector Jobs, 2030

9,760

Jobs

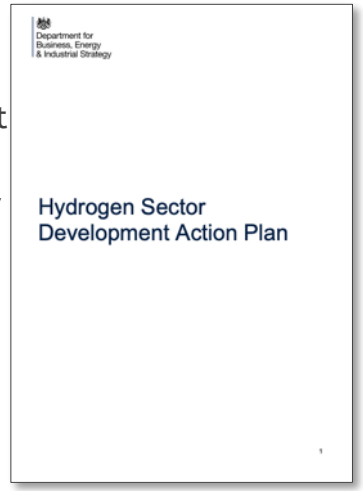
Hydrogen

$H_2$

570

Jobs

Govt analysis suggests the UK hydrogen sector could be worth £900 million and support 12,000 jobs by 2030 (up from an estimated 400 – a 3,000 per cent increase). Applying this level of growth to our Greater Lincolnshire estimate for the sector (and including forecast estimates to gas distribution employment) would mean:





A 2024 report from the CCS Task and Finish Group (for the Green Jobs Delivery Group) forecasts direct employment in Carbon Capture and Storage to increase from 134 to 3,042 (2,170 per cent) between now and 2029. Applying this level of growth to our Greater Lincolnshire estimate for the sector would mean:

Carbon Capture & Storage

$CO_2$

3,400

Jobs

Alternative/ Bio-Fuel

90

Jobs

Estimates for the period 2018 to 2022 from the Low Carbon and Renewable Energy Economy survey show that employment in the Alternative Fuels subsector has increased 78 per cent. Applying this growth rate forward and to our Greater Lincolnshire estimate for the sector would mean:

# ESTIMATING THE FUTURE SIZE OF THE GREEN ENERGY SECTOR – USING LOCAL GREEN ENERGY PROJECT SPECIFIC ESTIMATES

EMPLOYERS

Referring to the *Humber Vision 2030* document, and the Greater Lincolnshire specific projects detailed therein, and supplementing this with additional projects we have identified, these planned projects (where information exists) are estimated to create 1,220 direct jobs, and 6,200 construction jobs by 2030.

For those projects where job creation numbers are currently unknown, if we were to assume that figures would be broadly in line with other similar project types, and adjusted by investment value, our calculations show this would potentially realise a further 450 direct jobs and 6,600 construction jobs.

Further to this, we are aware of two Green Energy sector projects close to the western Greater Lincolnshire border (Staythorpe Gas Powered Station carbon capture project which is set create at least 100 jobs on site by 2032; and STEP Fusion project at West Burton) which will have a significant impact on job opportunities for Greater Lincolnshire residents, as well as increasing competition for skilled engineering construction and O&M trades and professionals.

Green Energy projects identified as part of the Humber Vision 2030:

| Project Title | Company | Location | Green Energy Subsector | Direct Jobs Created | Construction Jobs |
|---|---|---|---|---|---|
| Humber Zero | Phillips 66 Ltd and VPI Immingham | Port of Immingham | Carbon Capture | 200 | 2,500 |
| Keadby 3 Carbon Capture Power Station | Equinor and SSE Thermal | Keadby, North Lincolnshire | Carbon Capture | 320 | Currently unknown |
| Prax Lindsey Oil Refinery Carbon Capture | Prax Group | Port of Immingham | Carbon Capture | Currently unknown | 2,000 |
| ZerCal250 | Singleton Birch / Origen | Port of Immingham | Carbon Capture | Currently unknown | Currently unknown |
| Humber H2ub | Shell / Uniper | Port of Immingham | Hydrogen | 120 | Currently unknown |
| Humber Hydrogen Hub (H3) | Air Products / VPI Immingham | Port of Immingham | Hydrogen | Currently unknown | Currently unknown |
| Immingham Green Energy Terminal | ABP / Air Products | Port of Immingham | Hydrogen | 280 | 1,100 |
| Keadby Hydrogen Power Station | Equinor and SSE Thermal | Keadby, North Lincolnshire | Hydrogen | Currently unknown | Currently unknown |
| Refinery of the Future | Phillips 66 Ltd | Port of Immingham | Carbon Capture | Covered as part of Humber Zero project | |
| Viking CCS | Harbour Energy | Port of Immingham | Carbon Capture | "Enables" 10,000 jobs (4,000 permanent) across Humber cluster projects | |

Additional Green Energy projects in Greater Lincolnshire identified:

| Project Title | Company | Location | Green Energy Subsector | Direct Jobs Created | Construction Jobs |
|---|---|---|---|---|---|
| Stallingborough Gas Turbine Project | RWE | North East Lincolnshire | Carbon Capture | 50 | Currently unknown |
| North Lincolnshire Green Energy Park | Solar 21 | Flixborough Wharf | Multiple | 250 | 600 |

PEOPLE

# SUPPLY OF PEOPLE & SKILLS

**PURPOSE**

To estimate the scale, location, and implications thereof, of the current and potential supply of Green Energy skills required for a growing Green Energy economy in Greater Lincolnshire.

**INCLUDES:**

- Data and Local Insight Summary
- Local employer perspectives on the implications of the current and likely future levels of labour supply in a growing green energy economy
- Proposed segmentation of the local Green Energy labour market
- Estimation of the overall current talent pool including workers in occupations that are transferrable to the green energy sector
- Forecasts of the available Green Energy relevant occupational talent pool available in 2030
- Summary of the scale and skills levels, by location, of local unemployed people who may consider green energy opportunities

PEOPLE

# SUPPLY OF PEOPLE & SKILLS- DATA ANALYSIS SUMMARY

- **There are 62,500 people currently working in occupations in Greater Lincolnshire that align with the skills needed to work in the local Green Energy and Engineering Construction sectors**. Of the 52,200 people in Green Energy 'Relevant' jobs only then some will be working in the Green Energy sector, but the vast majority will be working in more traditional industries e.g., manufacturing, oil and gas etc.
- **There is a clear cluster of Green Energy Relevant and Engineering Construction jobs in Northern Lincolnshire,** with North East Lincolnshire and North Lincolnshire combined home to 20,700 of these roles (33 per cent of all these jobs across Greater Lincolnshire).
- **Both West Lindsey and North Kesteven have high levels of Green Energy Relevant and Engineering Construction jobs** as a proportion of total jobs at 1 in 7 jobs.
- **Unemployment is generally higher in those areas which are set to initially gain the most from Green Energy developments** (through proximity) i.e., North East Lincolnshire and North Lincolnshire, East Lindsey, and Lincoln to a lesser extent. These areas also had significant numbers of unemployed residents with Level 3 qualifications or above based on our analysis of 2021 Census data.
- We estimate that **the number of people in Green Energy Relevant and Engineering Construction jobs in Greater Lincolnshire by 2030 will increase by approximately 2,400 to 64,900**. At the same time, approximately 13,200 of these job types will need to be filled due to people leaving the workforce. This is in addition to the jobs that will be created by Green Energy infrastructure projects between now and 2030.
- **The occupations where growth is projected to be highest are all roles requiring a Level 3 qualification** (Metal Working Production and Maintenance Fitters, Electricians and Electrical Fitters, Production Managers in Construction, Plumbers and Heating and Ventilating Engineers).
- **Younger and working age populations in Northern Lincolnshire have been in decline over the last ten years** which does place a question mark over how currently well-equipped these areas are to fill imminent Green Energy Relevant and Engineering Construction job opportunities. This does present an opportunity for surrounding Greater Lincolnshire authorities (and wider) where these populations are growing.

# SUPPLY OF PEOPLE & SKILLS – LOCAL EMPLOYER INSIGHT SUMMARY

PEOPLE

In our Skills Conversations with local stakeholders, we found a general consensus that:

- Several **large local and national employers were pleased with the success of their recruitment campaigns so far i**n Northern Lincolnshire, compared to other regions.
- **Green energy production O&M jobs** (e.g., Offshore Wind Technician) are **viewed as competitive, contemporary and secure, attracting large numbers of local applicants** – both young people and adults.
- The green, carbon-zero nature of jobs is a significant positive influence on numbers of applications, although **other factors such as security, pay and benefits remain important.**
- Young entry-level talent is critical to the green energy economy locally, although **a focus only on young people will not generate sufficient skills supply to meet employer demand.**
- The **future green energy workforce will be predominantly sourced from the current engineering, manufacturing and construction adult workforce** – probably working currently in higher-carbon jobs.
- **Most jobs are transferable, and most current workers will be able to transfer** to operate within a green energy workforce.
- **Longer-term O&M jobs are more rooted in place** than contracting roles, although in-commuting is still a significant factor.
- Proximity and easy transport infrastructure has opened up the **opportunities for recruiting commuters from across Greater Lincolnshire, Yorkshire and Nottinghamshire.**
- **Employment diversity remains a big issue** with many engineering occupations still at least 85% male.
- **Contract labour for the energy sector is often mobile nationally** across a competitive, burgeoning national programme of large -scale projects and will move to where pay is highest across different projects.
- Although often well-rewarded, **contractor occupations are generally 'under the radar' in terms of local profile, skills investment, and career pathways.**

# LOCAL EMPLOYER INSIGHT – DIFFERENT ELEMENTS OF THE LABOUR MARKET

PEOPLE

**A. Young People**

- Apprenticeship pathways to existing green energy roles are often heavily oversubscribed.
- Young people are motivated by a 'clean, green' employment offer but other factors remain important too – e.g., job security, overall employment package.
- The lack of certainty on the timing and nature of new local job opportunities makes it difficult to inform young people's career decisions now.
- Perceived insecurity and inaccessibility of contractor trades is a barrier to young people factoring in these career opportunities.


**B. Adults**

- The importance of adult workers as part of the new and existing talent pool - both new entrants, and those transitioning from other industries - cannot be over-estimated; although the skills funding challenges are sometimes an insurmountable barrier for willing applicants seeking to move from a less directly-related occupation such as Vehicle Technician.
- Despite the fact that many employers minimise the level of transition required from high to low carbon jobs, there are views that some of the existing older workforce will not have the appetite for such job transition and may leave the sector.
- On some 'site-shutdowns', up to 80% of trade contractors are not local residents, incurring significant travel and accommodation costs and profiling a fragile, expensive, unpredictable skills base in times of high demand.

# LOCAL EMPLOYER INSIGHT – DIFFERENT ELEMENTS OF THE LABOUR MARKET

PEOPLE

**C. Talent Pools**

- Senior engineering and other leadership roles generally require national recruitment campaigns, supported by a view that such applicants prefer renewables as a 'sector of choice'.
- On many energy production sites, the large majority of longer-term 'employees' live locally (within 20 miles) - proximity is important for such mainstream jobs and provides a built-in advantage for local residents.
- There has, however, been modest progress in terms of local employment diversity (for example females in traditionally male-dominated jobs) with many employers investing in Equality & Diversity plans.
- Both newer and long-established local employers have community engagement strategies which includes the promotion of career employment opportunities.
- Despite the above, local residents are insufficiently aware of career opportunities for themselves, and their families; and would benefit from a greater understanding of the sector, occupational career options, what these entail and reward etc.

# LOCAL EMPLOYER IDENTIFIED OPPORTUNITIES AND CHALLENGES – THE SO WHAT?

PEOPLE

**OPPORTUNITIES:**

- **for proactive, local sector- retention support through 'green-skilling' the existing workforce** – not 'transformational' training, but rather enhancing and transferring existing skillsets, supporting smooth transitions, occupational fluidity and retention of older workers.
- **to create new talent pipelines that optimise new entry opportunities for residents across Greater Lincolnshire** and thereby reduce the risk of displacing people from jobs in other local game-changing sectors.
- **for myth-busting around engineering construction trades** as local perceptions of job-quality and pay/reward for roles may be dated - both for young people, their parents, and teachers.
- **to reach out (in collaboration with local skills providers) to targeted Greater Lincolnshire communities** (e.g., over 50s, ex-offenders, skills-deprived areas) - with the long-term aim of reducing local unemployment and economic inactivity; and achieving a greater inflow of skilled green energy workers.

**CHALLENGES:**

- **to provide a stronger place-based underpinning for employer E&D activity to challenge gender stereotyping and support a more balanced workplace** - perhaps focusing particularly on entry-level and trade occupations (e.g., as opposed to graduates) which are most likely to engage and benefit long-term local residents.
- **of articulating that an important entry-level routeway for young people into a 'green job' may actually be a 'higher-carbon job' pathway** – at least, in the short-term.
- **to develop local initiatives supporting adults into entry level and qualified positions (with pathways) in the green energy sector,** as a young people-based talent pipeline will not have sufficient impact relative to the scale, scope, and timing of likely new local jobs.
- **to create a local talent pipeline of traditionally-contracted occupations to attract more local people** as opposed to recycling contracting opportunities for higher-cost in-bound workers that are resident elsewhere and itinerant.

# DEFINING GREEN ENERGY RELEVANT JOBS AND THE CURRENT LABOUR MARKET

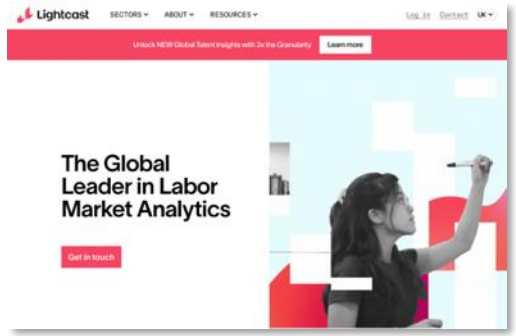
PEOPLE

Our starting point for defining ‘green energy’ jobs was the three reports identified in the original project brief. All three identified a number of occupations which aligned well with the activity they were focused on, namely engineering construction, hydrogen, and general ‘green jobs’. Taking these existing typologies, we set about challenging and confirming their suitability as ‘green energy’ jobs. We did this by combining and cross checking the existing typologies with national level vacancy data (covering the last five years) for our Green Energy subsectors using Standard Occupational Classification (SOC) codes. This revealed that some occupations were in demand from our Green Energy subsectors whilst some did not appear in our analysis at all. As part of this process, we also identified a number of additional suitable occupations that were in demand from one or more of our Green Energy subsectors. These occupations were then grouped up in terms ‘Green Energy’ roles, ‘Professional Support’ roles, and ’Engineering Construction’ roles.

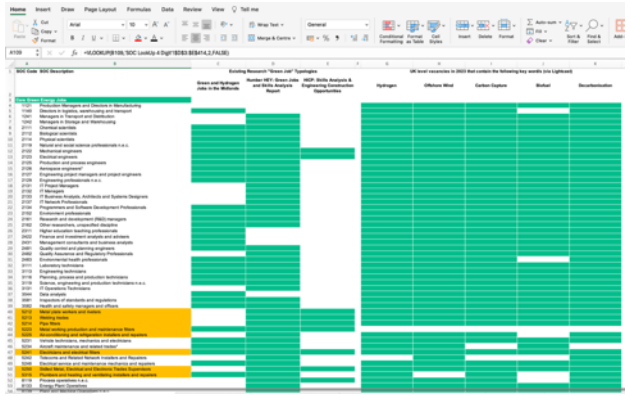
Full details of the occupations identified as part of this process are provided in the appendix.

Step 1: Review existing ‘green job’ typologies from recommended research

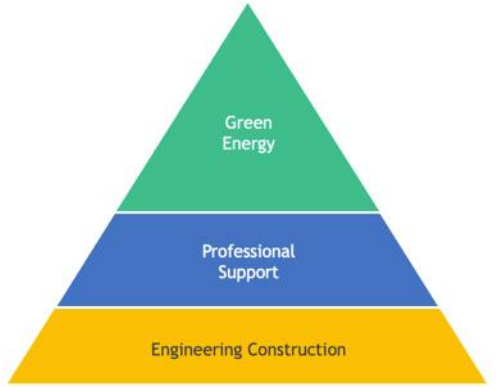

Step 2: Use vacancy data from Lightcast to test occupational demand from Green Energy subsectors




Step 3: Combine and compare results from Steps 1 and 2 to identify which occupations best align with our Green Energy subsectors



Step 4: Arrive at a local view of green jobs that aligns with our Green Energy subsectors



# GREEN ENERGY JOBS, PROFESSIONAL SUPPORT JOBS & ENGINEERING CONSTRUCTION JOBS – A SEGMENTATION

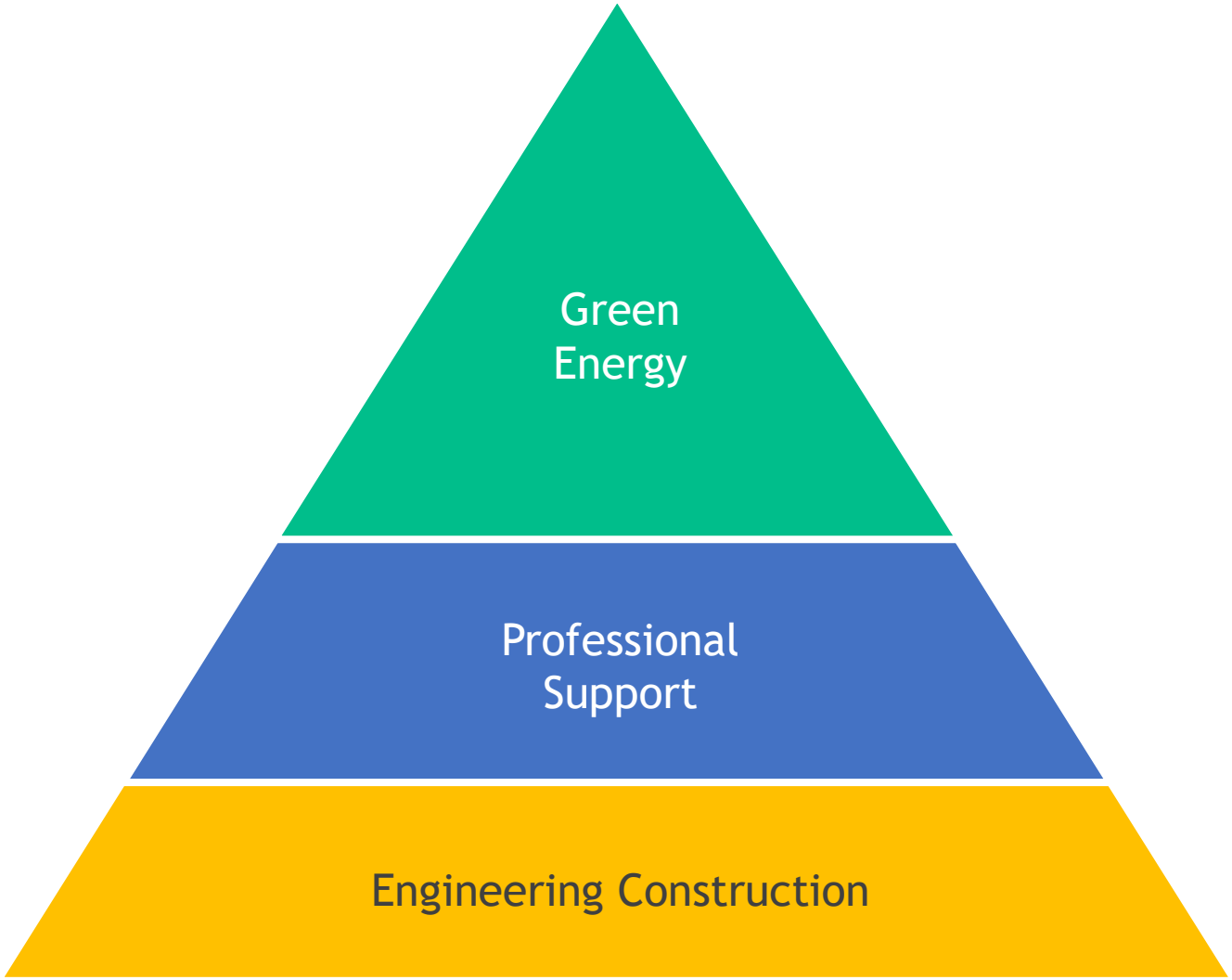
PEOPLE

Our review of existing 'green job' typologies, and our 'in-house' methodology (typology), resulted in the identification of three distinct green energy sector related job types:

- **Green Energy** jobs (jobs which are involved directly in the production / delivery of Green Energy) are those strongly aligned with existing 'green job' typologies as well as being jobs that our green energy sub-sectors (offshore wind, hydrogen, carbon capture, and biofuel) show strong demand

- **Professional Support** jobs are those jobs which are present within Green Energy businesses (and many others) and that are essential in terms of the business running but not directly involved in the direct production / delivery of green energy.

- **Engineering Construction** jobs are integral to getting 'Green Energy' sectors projects up and running, however most are not directly involved in producing ongoing green energy outputs.



PEOPLE

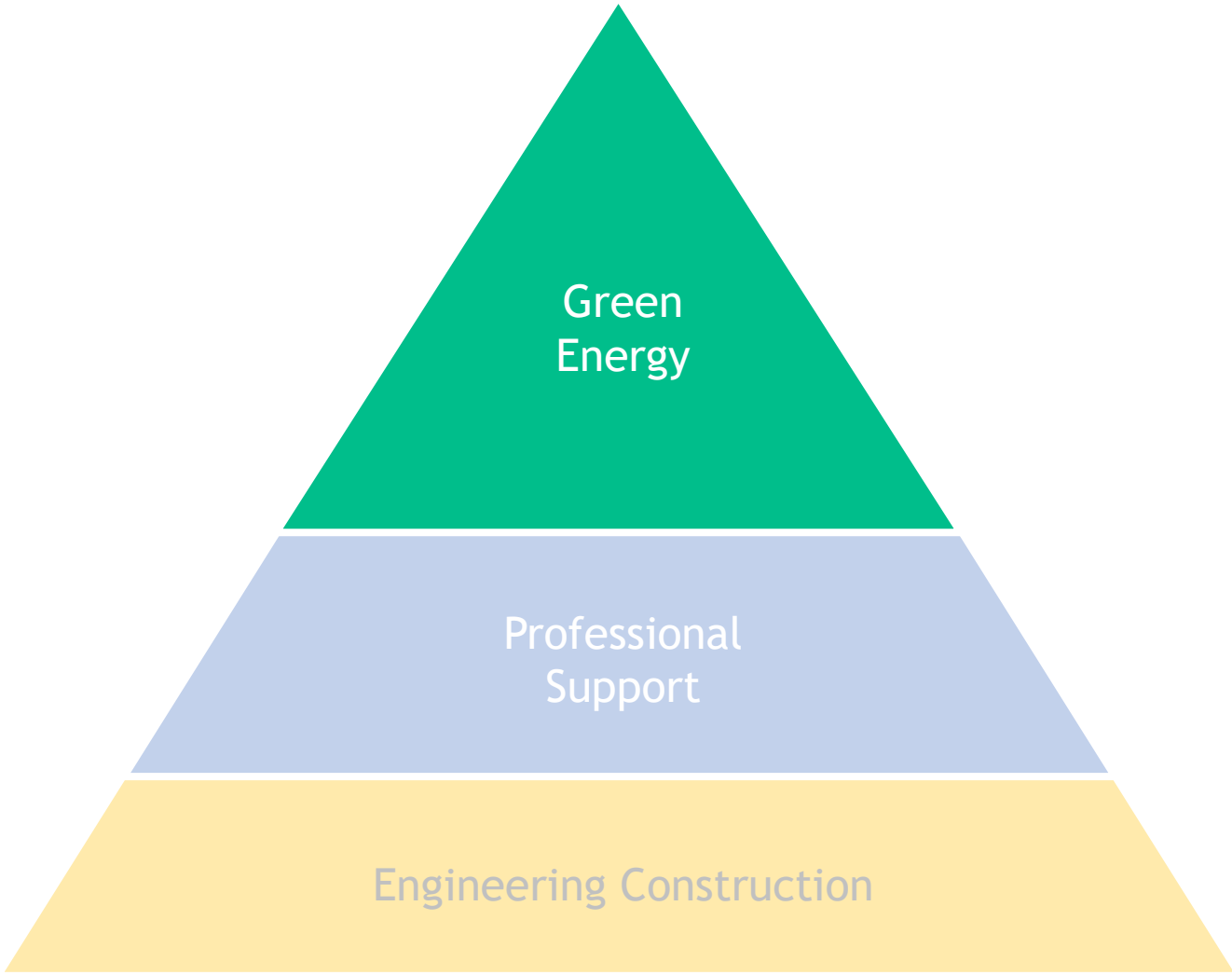
# GREEN ENERGY JOBS

Green Energy jobs are those jobs which strongly align with existing 'green job' typologies as well as being jobs that our green energy sub-sectors (offshore wind, hydrogen, carbon capture, and biofuel) show strong demand for. Jobs include, for example:

- Scientist roles
- Mechanical engineers
- Electrical engineers
- Production and process engineers
- Health and safety managers and officers
- R&D managers
- IT business analysts, architects and system designers.

Note here that these jobs are not just specific to the Green Energy sector, but instead highlight occupations with the most straightforward transitions into the sector. They also enable us to estimate the local labour supply with the required skills/qualifications/experience to support growth in the sector.

A full list of 'Green Energy' jobs is provided in the appendix page 96.



PEOPLE

# PROFESSIONAL SUPPORT JOBS

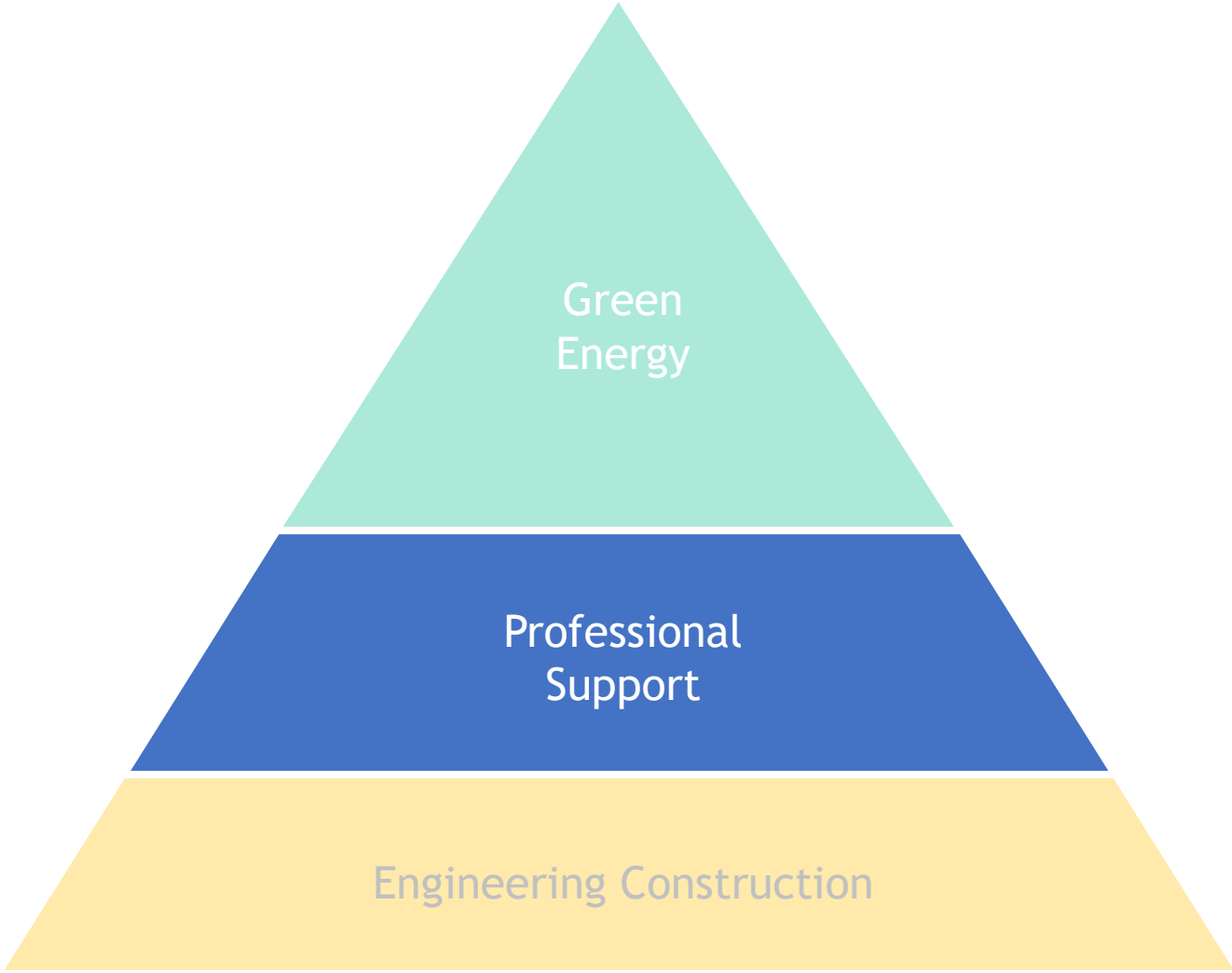
Professional Support jobs are those jobs which are present within Green Energy businesses that are essential in terms of the business running but not directly involved in the delivery of the business's final output / product.

These 'support service' roles do appear in some existing 'green job' typologies as well as being jobs that our green energy sub-sectors (offshore wind, hydrogen, carbon capture, and biofuel) unsurprisingly show demand for. Jobs include for example:

- Financial managers and directors
- Solicitors and lawyers
- Chartered and certified accountants
- Marketing and commercial managers
- Sales accounts and business development managers
- Human resources and industrial relations officers
- Other administrative occupations n.e.c.

By their very nature these job roles can be quite generic and therefore are not specific to the 'Green Energy' sector.

A full list of Professional Support jobs is provided in the appendix page 99.



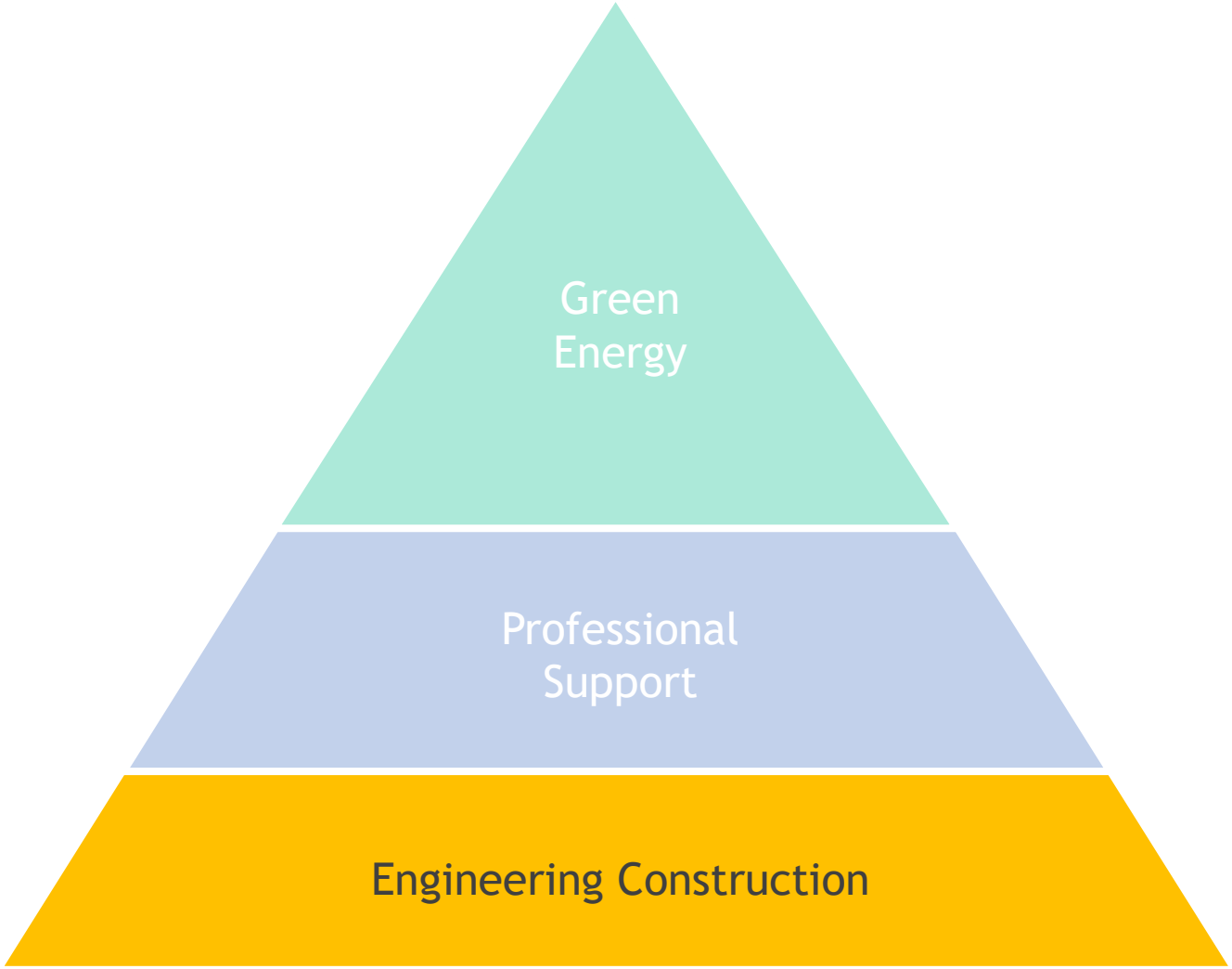
PEOPLE

# ENGINEERING CONSTRUCTION JOBS

Numerous construction roles are heavily linked with the 'Green Energy' sector primarily due to the sheer scale of jobs that new 'Green Energy' infrastructure projects currently generate, and will do so for some time. However, whilst these types of role are integral to getting these projects up and running, most are not directly involved in delivering the final green energy outputs. We do note that some roles will be required on site post-construction in order to carry out maintenance and repairs e.g., welders, and pipefitters. As such these roles straddle both our 'Green Energy' and Engineering Construction jobs. The overall importance of construction roles does mean that they do appear in some existing 'green job' typologies as well as being jobs that our green energy sub-sectors (offshore wind, hydrogen, carbon capture, and biofuel) show some demand for. Jobs include for example:

- Civil engineers
- Quantity surveyors
- Construction and building trades supervisors
- Elementary construction occupations n.e.c.

A full list of Engineering Construction jobs is provided in the appendix page 98.



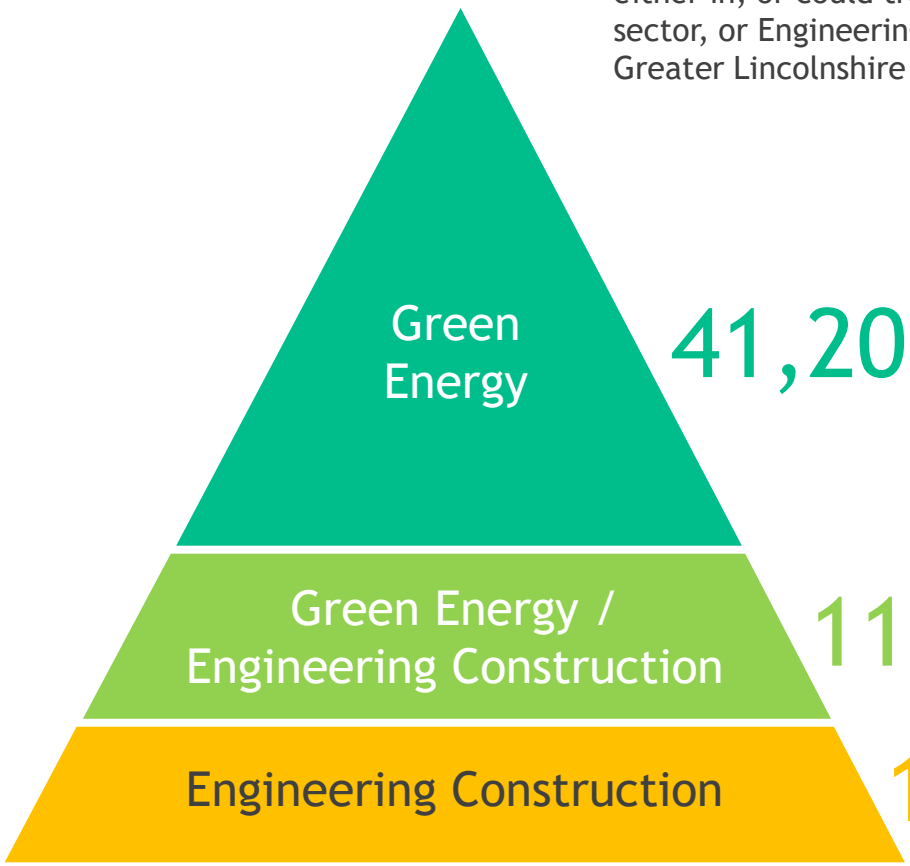
# GREEN ENERGY 'RELEVANT' & ENGINEERING CONSTRUCTION JOBS, 2023

PEOPLE

Our methodology concludes that there are 52,200 people currently working in occupations in Greater Lincolnshire that align with the skills and experience needed to work in the local Green Energy sector. Some of these Green Energy 'Relevant' jobs are already part of the Green Energy sector, however the majority will be in more traditional sectors such as Manufacturing, Engineering, and Oil and Gas.

The Green Energy / Engineering Construction jobs section highlights those Engineering Construction jobs which will be required in the Green Energy sector outside of the initial build work e.g., pipe-fitters, plate welders etc.

We note at this stage that we are omitting 'professional support' jobs and whilst we recognise their importance, they are not the focus of this project, and therefore subsequent analysis concentrates on Green Energy and Engineering Construction jobs.




**62,500** people currently working in occupations that are either in, or could transition into, the Green Energy sector, or Engineering Construction occupations, in Greater Lincolnshire (1.3% of UK total).

**41,200**

**11,000**

**52,200** people currently working in occupations that are either in, or could transition into the Green Energy sector in Greater Lincolnshire (1.3% of UK total).

**10,300** people currently working in Engineering Construction occupations in Greater Lincolnshire (1.4% of UK total).

# DEFINING GREEN ENERGY JOBS AND THE CURRENT/FUTURE LABOUR MARKET

PEOPLE

This slide shows how our Green Energy Relevant and Engineering Construction jobs typology measures up against those that we have referred to as part of our methodology, using the resulting number of jobs in Greater Lincolnshire in 2023 from each typology (based on data from Lightcast) as a comparison:

Greater Lincolnshire

## Greater Lincolnshire LEP Energy Council Skills Analysis Project

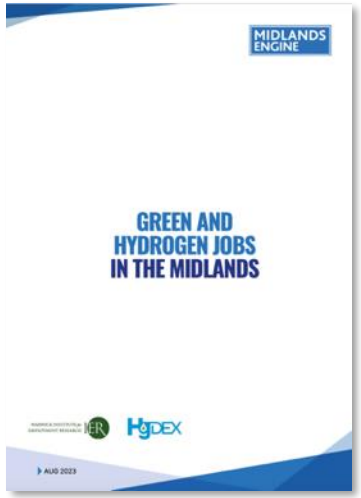
SkillsReach
SKILLS | HR | PROJECT MANAGEMENT

Codename: Consulting

**62,500**

The total number of Green Energy Relevant and Engineering Construction jobs in the Greater Lincolnshire area.

## Green and Hydrogen Jobs in the Midlands




**43,500**

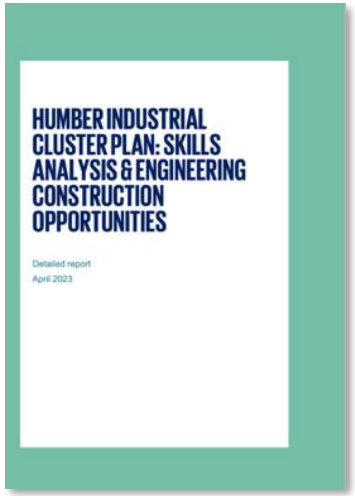
Report title infers that the occupational typology is wider than 'Green Energy' but with a sub-focus on hydrogen. Includes some elements of road transport but not HGV drivers.

## Green Jobs and Skills Analysis Report


**132,200**

Analysis conducted at 3 digit SOC (as opposed to 4 digit used in other reports) which produces a less detailed / focussed typology of occupations and a resulting bigger jobs number. Report title infers that the occupational typology is wider than 'Green Energy' e.g., including HGV drivers.

## Skills Analysis and Engineering Construction Opportunities




**14,200**

Focused on Engineering Construction only and highlights just 12 occupations (i.e., not mainstream construction)

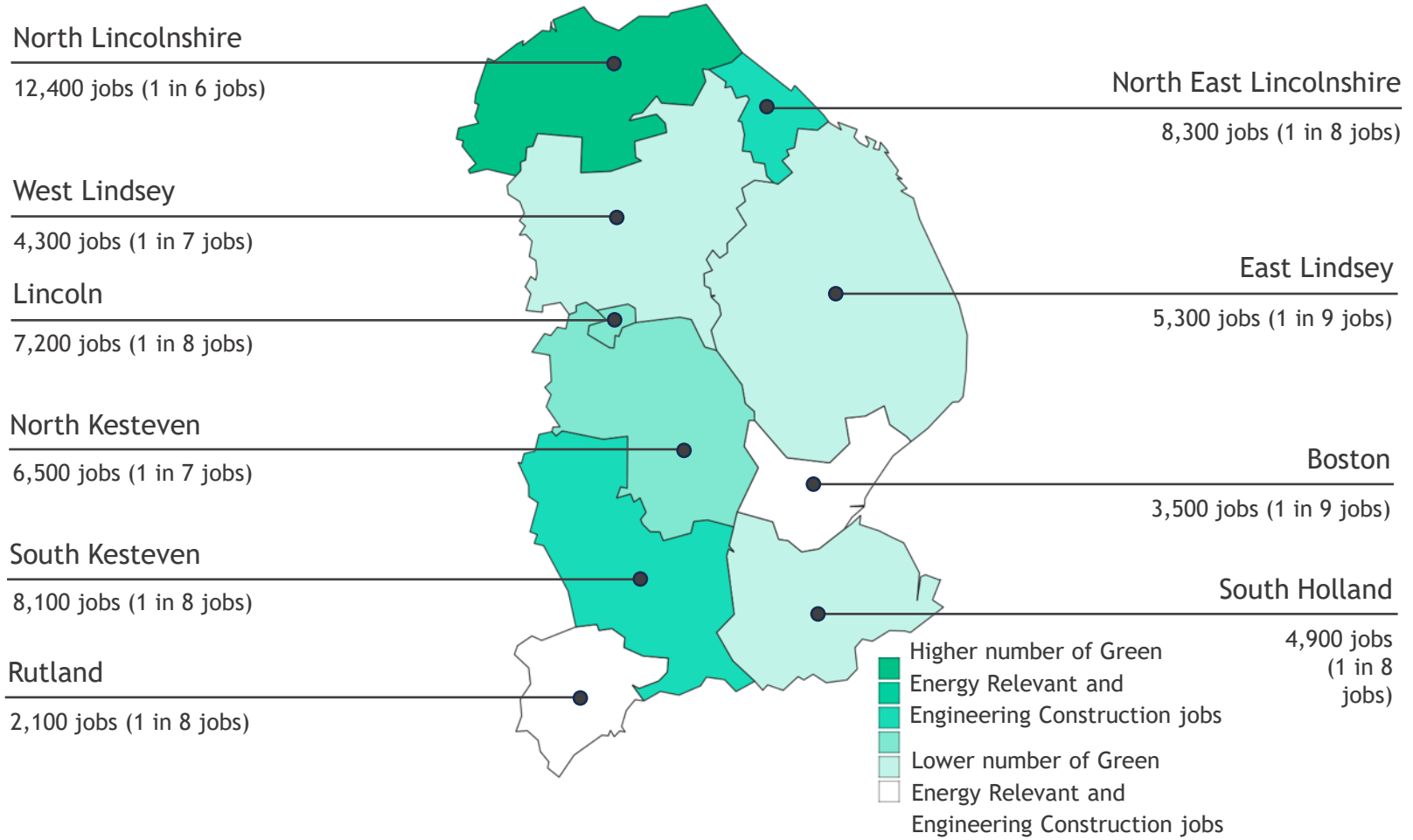
# GREEN ENERGY RELEVANT & ENGINEERING CONSTRUCTION JOBS, 2023

PEOPLE

This shows how current Green Energy Relevant and Engineering Construction jobs are spread across Greater Lincolnshire. There is a clear cluster of these jobs in Northern Lincolnshire with North East Lincolnshire and North Lincolnshire combined home to 20,700 of these roles (33 per cent of all these jobs across Greater Lincolnshire). South Kesteven also has a high number of these jobs relative to other parts of Greater Lincolnshire. We also note that West Lindsey and North Kesteven have high proportions of these jobs with 1 in 7 of total jobs being a Green Energy Relevant / Engineering Construction job.

**Source:** Lightcast

Green Energy Relevant and Engineering Construction Jobs Across Greater Lincolnshire
(Total Jobs = 62,500)



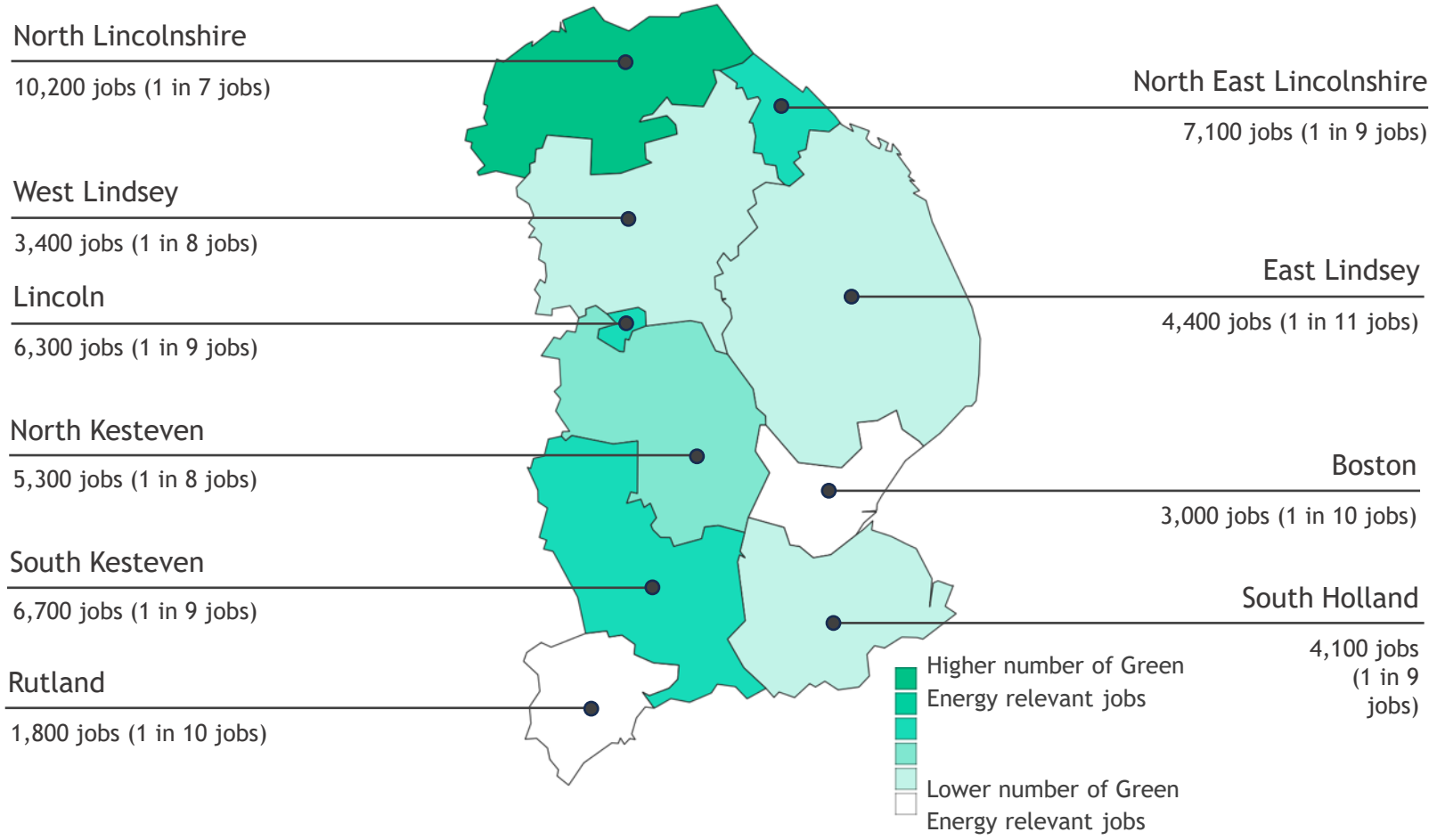
PEOPLE

# GREEN ENERGY RELEVANT JOBS ONLY, 2023

Focusing only on Green Energy Relevant jobs, this again shows a significant concentration of these jobs in North Lincolnshire and North East Lincolnshire. Combined, these two areas account for 17,300 of total Green Energy Relevant jobs across Greater Lincolnshire (33 per cent of all these jobs across Greater Lincolnshire). South Kesteven and Lincoln also have high number of these jobs relative to other parts of Greater Lincolnshire. We again note that West Lindsey and North Kesteven have high proportions of these jobs with 1 in 8 of total jobs being a Green Energy Relevant job.

**Source:** Lightcast

Green Energy Relevant Jobs Across Greater Lincolnshire
(Total Jobs = 52,200)



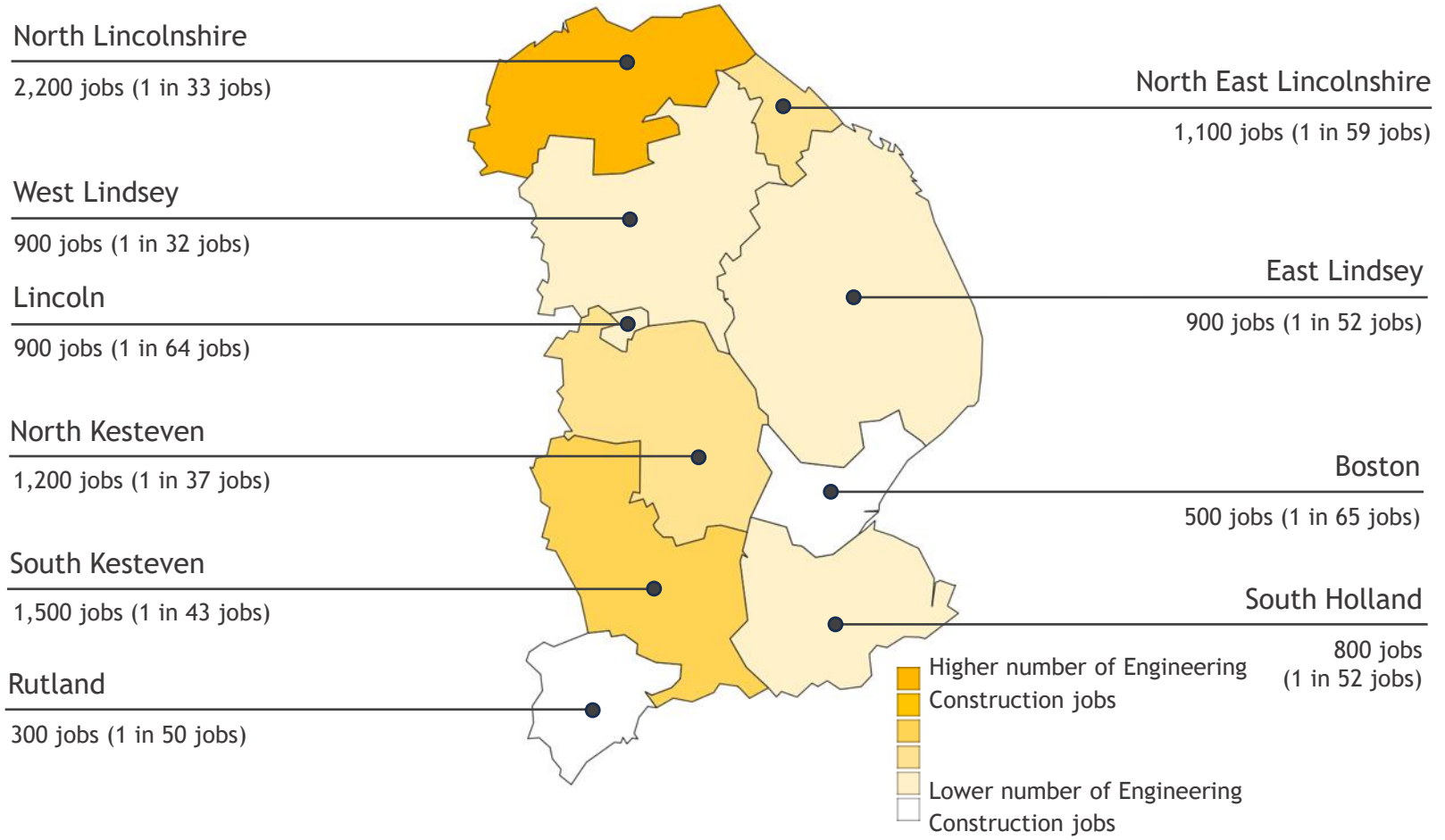
PEOPLE

# ENGINEERING CONSTRUCTION JOBS ONLY, 2023

For Engineering Construction jobs, this slide shows the highest numbers of these jobs in North Lincolnshire (2,200 jobs – 21 per cent of total Engineering Construction jobs across Greater Lincolnshire). However, both South Kesteven (1,500 jobs) and North Kesteven (1,200 jobs) have higher numbers of these jobs present in their local economies than North East Lincolnshire (1,100 jobs). North Lincolnshire, North Kesteven and West Lindsey all have relatively high concentrations of these job types when compared with the rest of Greater Lincolnshire.

**Source:** Lightcast

Engineering Construction Jobs Across Greater Lincolnshire
(Total Jobs = 10,300)



# QUALIFICATION LEVELS OF THOSE UNEMPLOYED ACROSS GREATER LINCOLNSHIRE

PEOPLE

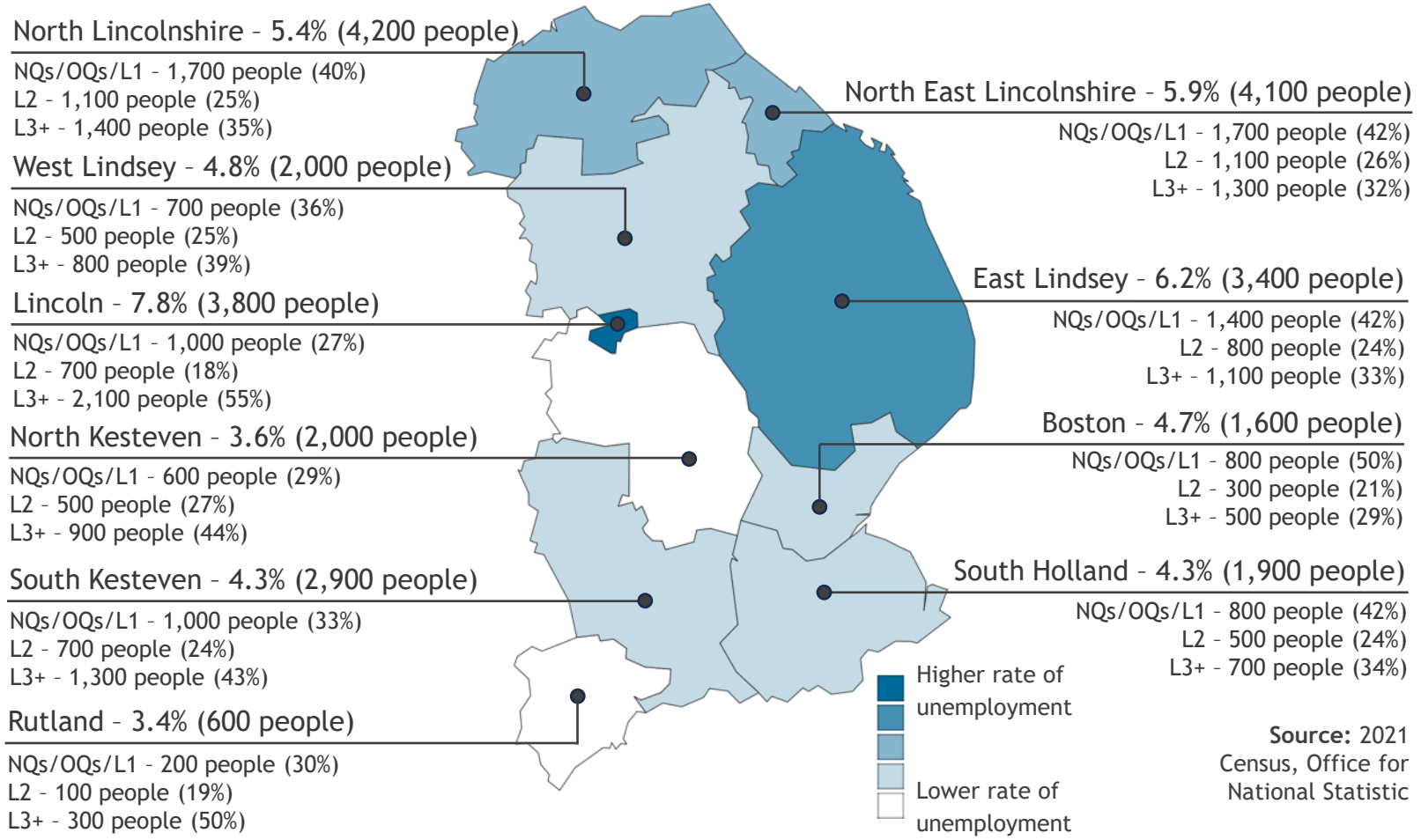
An aspirational element of future supply of labour for local Green Energy infrastructure projects should be those that are unemployed. Whilst the data used is a point in time (2021), it does give us an indication that unemployment is generally higher in those areas which are set to initially gain the most from green energy developments (through proximity) i.e., North East Lincolnshire and North Lincolnshire, East Lindsey, and Lincoln to a lesser extent. These areas also had significant numbers of unemployed residents with Level 3 qualifications or above.

**Notes:**

Unemployment rate calculated as the proportion of the 16-64 economically active population that are unemployed. This is self reported data from the Census that was captured during the pandemic and therefore may be overinflated due to people on furlough self-reporting as being unemployed.

NQs = No Qualifications
OQs = Other qualifications
L1 = Level 1 qualifications
L2 = Level 2 qualifications
L3+ = Level 3 qualifications and above

## Unemployment Rates and Qualification Levels of Those Unemployed Across Greater Lincolnshire, 2021



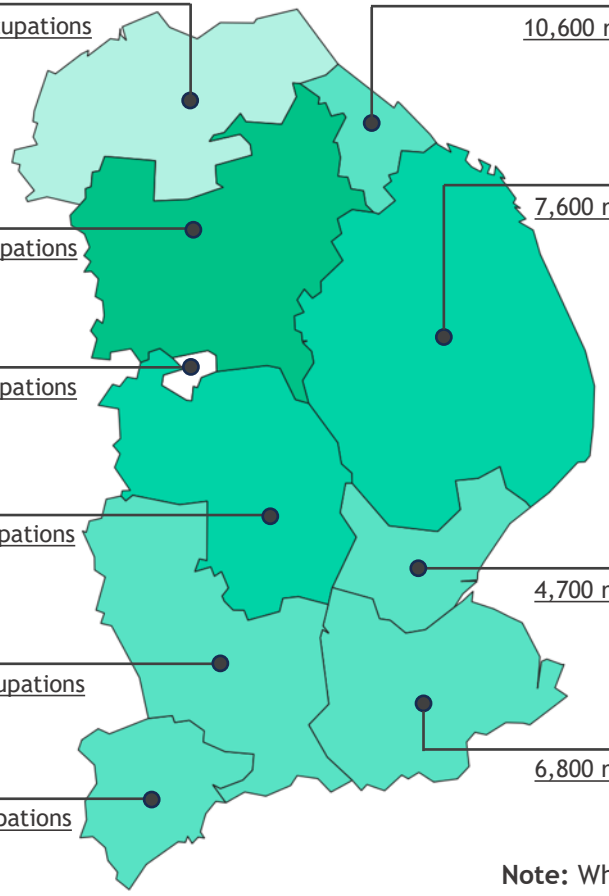

**Source:** 2021 Census, Office for National Statistic

# A COMPARISON OF LOCAL GREEN ENERGY RELEVANT JOBS AND APPROPRIATELY SKILLED / EXPERIENCED LOCAL RESIDENTS

PEOPLE

This analysis provides a comparison between the number of Green Energy Relevant jobs in a local authority area, and the number of residents working in Green Energy Relevant occupations. This provides a proxy measure for over and under capacity, in terms of local workers with the transferable skills, when it comes to filling new job opportunities created by growth in the Green Energy sector (although this could create labour gaps elsewhere). In the case of North Lincolnshire where capacity is at 102 per cent, this suggests an evenly balanced local labour market when it comes to Green Energy Relevant roles (though we note that there will be some element of in and out-commuting i.e., not all residents in green energy relevant occupations will be working in North Lincolnshire based Green Energy Relevant jobs, and vice versa). Greater Lincolnshire overall has an over capacity (125 per cent) with 15,800 more residents in Green Energy Relevant jobs. This suggests that they are currently working outside of the area but could be attracted to working in Greater Lincolnshire and potentially fill new Green Energy roles. With high levels of over-capacity, East Lindsey and West Lindsey are both well placed in this regard.

## Over/Under Capacity for Green Energy Relevant Jobs Across Greater Lincolnshire



**North Lincolnshire**
12,600 residents in Green Energy relevant occupations
12,400 Green Energy relevant jobs
= 102%

**West Lindsey**
7,000 residents in Green Energy relevant occupations
4,300 Green Energy relevant jobs
= 164%

**Lincoln**
6,500 residents in Green Energy relevant occupations
7,200 Green Energy relevant jobs
= 90%

**North Kesteven**
9,300 residents in Green Energy relevant occupations
6,500 Green Energy relevant jobs
= 143%

**South Kesteven**
10,600 residents in Green Energy relevant occupations
8,100 Green Energy relevant jobs
= 130%

**Rutland**
2,700 residents in Green Energy relevant occupations
2,100 Green Energy relevant jobs
= 126%

**North East Lincolnshire**
10,600 residents in Green Energy relevant occupations
8,300 Green Energy relevant jobs
= 128%

**East Lindsey**
7,600 residents in Green Energy relevant occupations
5,300 Green Energy relevant jobs
= 144%

Over capacity for residents in Green Energy relevant occupations

Under capacity for residents in Green Energy relevant occupations

**Boston**
4,700 residents in Green Energy relevant occupations
3,500 Green Energy relevant jobs
= 134%

**South Holland**
6,800 residents in Green Energy relevant occupations
4,900 Green Energy relevant jobs
= 139%

**Source:** Lightcast; 2021 Census, Office for National Statistics

**Note:** Where we have used the term 'green energy relevant' then we are also including engineering construction occupations in this analysis

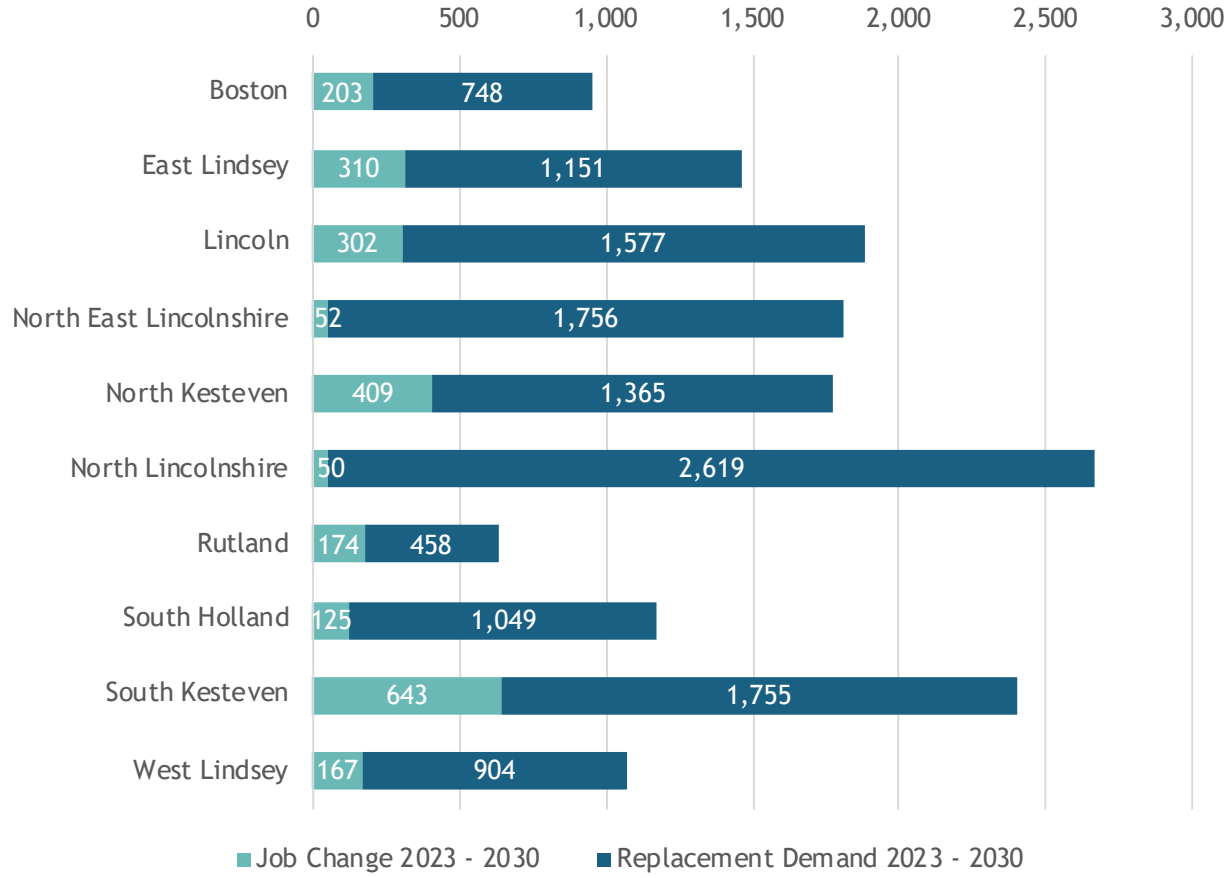
# ESTIMATING THE FUTURE SUPPLY OF GREEN ENERGY RELEVANT SKILLED PEOPLE

PEOPLE

Using our full list of identified Green Energy Relevant and Engineering Construction jobs, and referring to projected change in these jobs to 2030 from Lightcast, we estimate that the number of people in these jobs in Greater Lincolnshire by 2030 will increase by approximately 2,400 to 64,900. This represents an increase of four per cent (compared to four per cent across all jobs). At the same time, approximately 13,200 of these jobs will need to be filled due to people leaving the workforce. We note here the low levels of Green Energy Relevant and Engineering Construction job creation in Northern Lincolnshire as well as high levels of replacement demand. **It is important to note that this is solely a projection of past trends and does not take into consideration the sizable job creation numbers that many near-future Greater Lincolnshire based Green Energy projects will deliver.** This analysis does however, when considered alongside project specific job creation estimates, provide an estimate of the scale of the considerable task when it comes to additional job creation (and job filling) between now and 2030.

**Source:** Lightcast

Projected Change in Green Energy Relevant Jobs and Levels of Replacement Demand Across Greater Lincolnshire, 2023 - 2030



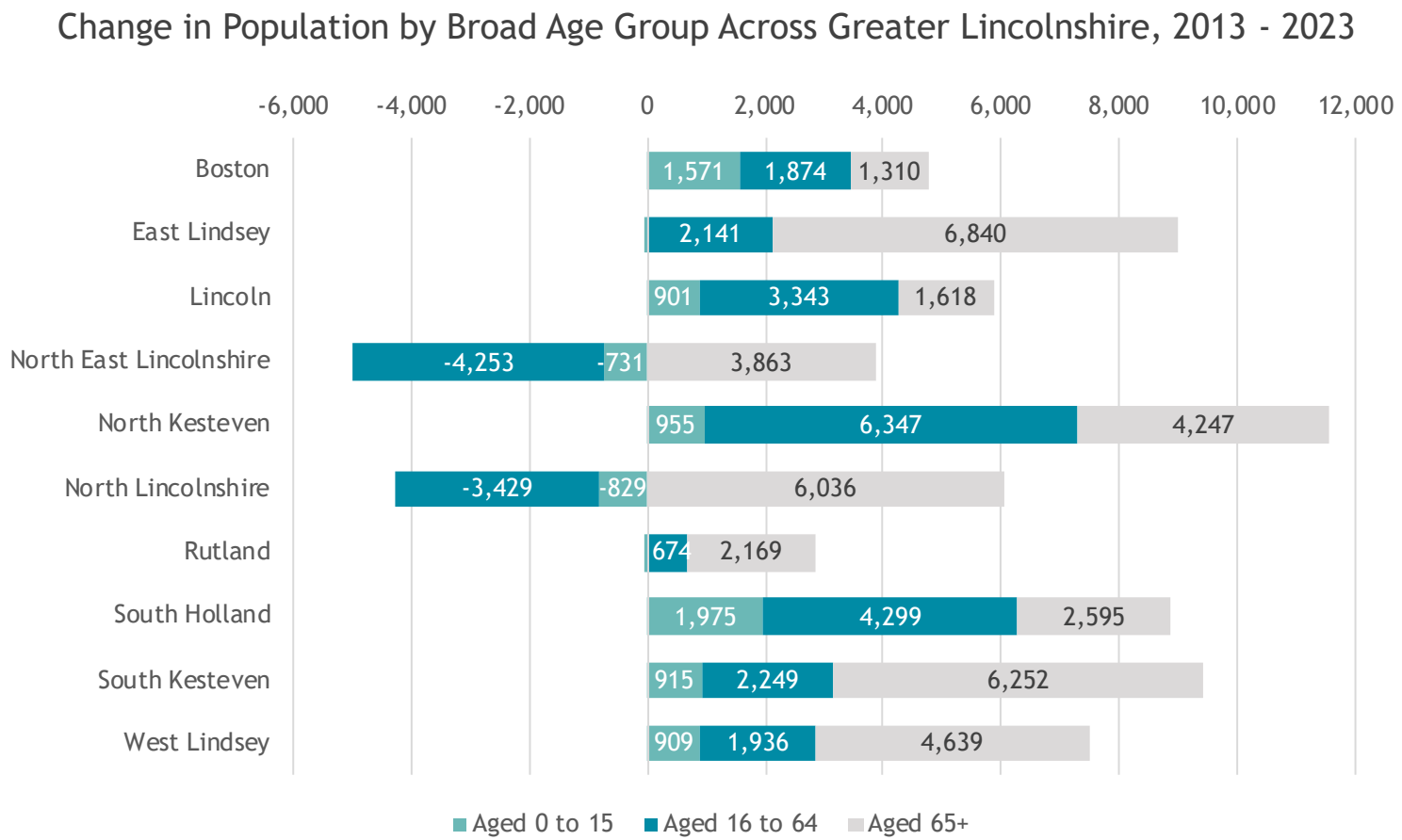
# ESTIMATING THE FUTURE SUPPLY OF GREEN ENERGY RELEVANT SKILLED PEOPLE CONTINUED

PEOPLE

Whilst Northern Lincolnshire looks set to experience minimum 'organic' growth in suitably skilled people for Green Energy Relevant jobs and high levels of replacement demand in those jobs, its population looks unable to support imminent job growth due to population decline. The slide shows that over the last ten years both younger age (aged 0 to 15), and working age (aged 16 to 64), populations have declined in North East Lincolnshire and North Lincolnshire. Whilst these population declines have been offset in North Lincolnshire by growth in the older age population (aged 65+) this is not the case in North East Lincolnshire where the total population figure has actually fallen over this period.

What these three challenges (low local relevant skills growth, high levels of replacement demand, and likely continued declines in younger and working age populations) present for Northern Lincolnshire is actually a significant opportunity for other areas of Greater Lincolnshire (and further afield) to fill these gaps in the labour market.

**Source:** Mid-year Population Estimates, Office for National Statistics



# TOP 10 GREEN ENERGY RELEVANT OCCUPATIONS BY PROJECTED GROWTH AND REPLACEMENT DEMAND

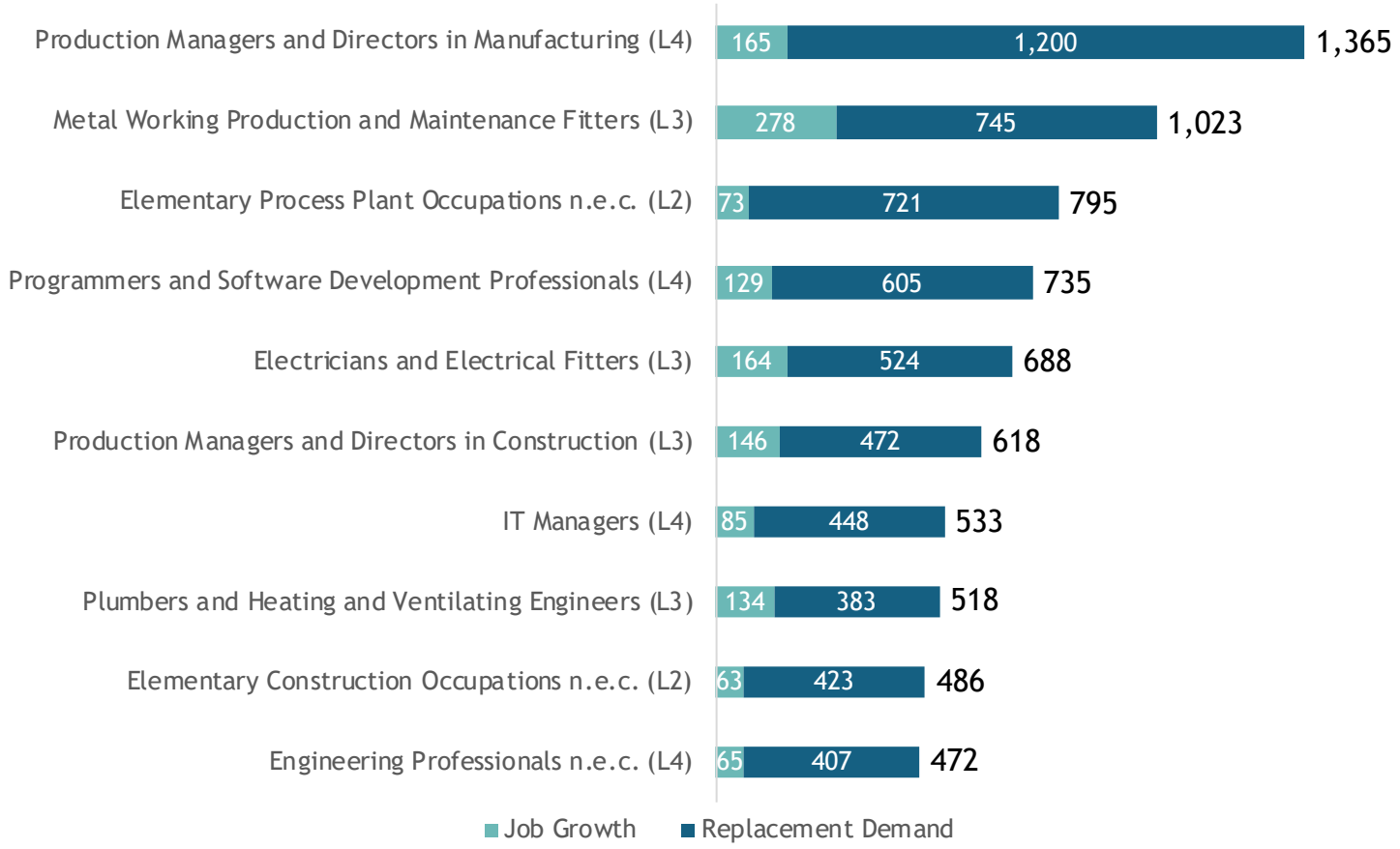
PEOPLE

Referring back to slide 55, and our total figures of projected occupational growth (2,400) and replacement demand (13,200) across our Green Energy Relevant and Engineering Construction occupations by the end of this decade, this chart shows the top ten occupations based on these projected job openings (job growth plus replacement demand). Production Managers and Directors in Manufacturing features as the number one occupation but this is primarily down to the level of replacement demand projected in this occupation (which signifies an ageing demographic currently filling these roles). In fact, if we consider those occupations where growth is projected to be highest then they all roles requiring a Level 3 qualification (Metal Working Production and Maintenance Fitters, Electricians and Electrical Fitters, Production Managers in Construction, Plumbers and Heating and Ventilating Engineers). Note again that these are projections and therefore do not take into account the job creation set to take place in Northern Lincolnshire but do give us a guide as to where that occupational growth will be.

**Source:** Lightcast

Top 10 Green Energy / Engineering Construction Relevant Occupations by Projected Total Job Openings (Job Growth Plus Replacement Demand), Greater Lincolnshire 2023 - 2030

(Educational level of occupation i.e., L3 = Level 3)



SKILLS
INFRASTRUCTURE

# GREEN ENERGY SECTOR SKILLS PATHWAYS

**PURPOSE**

To consider the scale and contribution of skills pathways for young people, adults and workers in respect of the Greater Lincolnshire Green Energy sector.

**INCLUDES:**

- Data and Local Insight Summary
- Apprenticeships – Green Energy occupational standards and local participation
- Apprenticeships – Engineering Construction occupational standards and local participation
- T Levels – provision and participation
- Skills Bootcamps – provision and participation
- Education and Training – provision and participation
- Higher Education – provision and participation
- 'Near-future' view of sector skills pathways based on early 2023/24 data

# GREEN ENERGY SECTOR SKILLS PATHWAYS – DATA SUMMARY

SKILLS INFRASTRUCTURE

- **Starts in Green Energy Relevant apprenticeships by Greater Lincolnshire residents and providers are growing at a much stronger rate than nationally** with latest projections showing that this has continued into this academic year.
- **Local resident demand and provider supply is more geared towards the 'Maintenance and Operations Engineering Technician' (MOET) apprenticeship** (particularly utilised by the offshore wind sector) than nationally.
- In 2022/23, 54 per cent of Greater Lincolnshire resident starts and 60 per cent of Greater Lincolnshire-based provider starts were recorded in North and North East Lincolnshire, demonstrating **a very high concentration of green energy skills activity in Northern Lincolnshire.**
- **Just 45 starts in Engineering Construction apprenticeships by local residents in 2022/23** (nationally - 3,557 starts) demonstrates the scale of the task in increasing these numbers in line with substantial future Green Energy project requirements, both locally and nationally.
- **Delivery of Engineering Construction apprenticeships by local providers is heavily concentrated** in Northern Lincolnshire, and in Lincoln.
- 2022/23 data shows that **neither T Levels or Skills Bootcamps have yet delivered at a scale to impact significantly on future skilled labour requirements.** Early provisional data for 2023/24 suggests that **T levels, alongside apprenticeships, is becoming a much more important sector skills pathway.**
- **Aim enrolments on Green Energy Relevant Education and Training have surged** in 2022/23 with encouragingly large increases in construction, engineering, and ICT enrolments by both local residents and providers.
- Amongst Green Energy Relevant HE courses in Greater Lincolnshire universities, **growth in student enrolments over the last three years has been highest in Engineering and Technology.**

# GREEN ENERGY SECTOR SKILLS PATHWAYS - LOCAL EMPLOYER INSIGHT SUMMARY

SKILLS INFRASTRUCTURE

In our Skills Conversations with local stakeholders, feedback included:

- **Northern Lincolnshire benefits from a tight cluster of collaborative FE Colleges and Apprenticeship Providers sharing high aspirations and energy sector expertise**; and with the potential to provide an energy sector 'Skills Beacon' locally, regionally and nationally.
- **There are terrific examples of local energy skills investment initiative and excellence**, with employer-provider collaborations creating high quality development opportunities for local people.
- **A key pathway to green jobs is through existing skills pathways in higher carbon jobs**.
- There is **high demand for sector apprenticeships from local young people** although anecdotally **demand for locally-commissioned Green Energy-related Skills Bootcamps has been lower than expected. Plans for a bespoke wind-turbine based engineering Skills Bootcamps in Grimsby have just been announced.**
- The high proportion of large 'apprenticeship levy' (now Growth and Skills Levy) paying employers locally in the energy sector provides **an opportunity to creatively capitalise on the large sums of unspent levy.**
- The prevalence of national employers headquartered elsewhere and labour market subcontracting, means that **skills leadership, planning, accountability, investment risk and commissioning is often not locally-driven** in terms of business head office, worker residence or training provider.
- The **current skills system discourages skills provider enterprise and proactive investment** due to the lack of current demand-certainty from employers and learners.
- Although our data suggests increasing apprenticeship numbers, **several employers described a decrease or at least a flatlining of their apprenticeship recruitment** in the short term.
- There is **a lack of (micro-credential based) skills units / programmes and funding** to support current workforce transition to greener jobs.
- **Local young people (and parents/teachers) underestimate the career, earnings potential and lack of student loan liability of Green Energy Related trade and professional skills pathways.**

# LOCAL EMPLOYER INSIGHT – FEEDBACK ON SKILLS PATHWAYS

SKILLS INFRASTRUCTURE

**CAREERS AND CAREER PATHWAYS**

- The need for more visible local adult and young people pathways for engineering construction and in-demand engineering trades with a recognition that these occupations can be low profile due to the sector sub-contracting ethos.
- A concern that local schools still promote higher education ahead of work-based apprenticeships – without parity of esteem and through a perceived lack of understanding of engineering apprenticeship pathways and prospects - including as higher education alternatives.
- There is a lack of a local (or national) hydrogen skills infrastructure, although some early work has been undertaken locally by employers in identifying competences and early alignment with apprenticeship standards.


**NATIONAL SKILLS SYSTEM**

- The national funding model is not currently retraining skilled workers from related trades at a scale required, with Green Energy Relevant Skills Bootcamps seemingly low profile and anecdotally attracting limited interest from local people.
- Requirements to access entry level jobs / apprenticeships are sometimes too high in respect of functional skills and STEM; denying easy access for occupationally-capable young people and adults where schooling has not resulted in the required entry grades.

# LOCAL EMPLOYER INSIGHT – FEEDBACK ON SKILLS PATHWAYS

SKILLS INFRASTRUCTURE

**APPRENTICESHIPS**

- Apprenticeships are relatively well-utilised in local green energy occupations, although they still support only a modest proportion of new entry and upskilling learning pathways.
- The high demand for apprenticeships from local residents in Northern Lincolnshire is a strength to capitalise on with vacancies often heavily oversubscribed with applications. This is something not always mirrored in other parts of the UK.
- Apprenticeships are viewed by some employers as a high value (and expensive), long-term investment; with apprentices viewed as taking up to 5 years to become fully 'time-served' - thereby already going beyond the ambitious timelines of many local projects.
- Ongoing policy and investment uncertainty (including a new Government, has meant that employers have been reluctant to proactively invest (or over-invest?) in apprenticeships to support their anticipated growth plans - perhaps suggesting a funding gap under the current model to enable timely local community talent pipelines for 3-5 years ahead.
- Local apprenticeship providers find engagement with global or national-facing energy sector employers challenging in terms of making the case for localised skills engagement and investment.

# LOCAL EMPLOYER IDENTIFIED OPPORTUNITIES AND CHALLENGES

SKILLS
INFRASTRUCTURE

## OPPORTUNITIES:

- **to scale up local skills investment; thereby widening access to quality job opportunities for residents across Greater Lincolnshire through** greater national (levy) and local (skills devolution) funding flexibilities.
- **to build further on the collaborative approach of Northern Lincolnshire providers and employers to become a beacon of energy skills excellence**
- **to scale-up community outreach and school engagement through Future Energy Ambassadors**, raising awareness with young people, parents, and teachers about what the local net-zero economy can practically deliver in terms of local career opportunities. This could include initiatives such as a 'Day in the Life of……' campaign explaining key skills shortage jobs such as Welder, Pipefitter or Rigger to young people.

## CHALLENGES:

- **in undertaking locally-led sector skills planning, supporting a labour market with national or international skills leadership and extensive sub-contracting business models.**
- **in de-risking local energy-relevant skills investment for employers, residents, and skills providers** in Northern Lincolnshire, and across Greater Lincolnshire.
- **in significantly scaling up apprenticeship numbers by making access easier for more local people;** for example, through local initiatives such as that of CATCH seeking to raise aspirations for Engineering Construction and Green Energy careers and proactively build local capacity-through a massive upscaling of Apprenticeship starts.

# GREEN ENERGY RELEVANT APPRENTICESHIP STANDARDS

SKILLS INFRASTRUCTURE

In identifying Green Energy Relevant apprenticeships, we reviewed those highlighted in the Humber HEY Skills Partnership 'Green Jobs and Skills Analysis Report' as to their suitability for Green Energy Relevant jobs, as well as identifying additional relevant apprenticeship standards. These provide the basis for further analysis over the next few slides.

Whilst we have identified this 'long-list' of apprenticeships (through desk research and consultation with business stakeholders) not all are being delivered by Greater Lincolnshire located providers; nor are Greater Lincolnshire residents necessarily on these programmes. The full list is presented to give a perspective of the breadth and scale of the Green Energy Relevant apprenticeships currently available.

***Note:*** *The Humber HEY Skills Partnership 'Green Jobs and Skills Analysis Report' does identify a longer list of apprenticeships but that we have concentrated solely on those that are relevant to this project i.e., 'Offshore Renewable Energy', 'Carbon Capture, Utilisation and Storage', and 'Hydrogen' & 'Alternative Fuels'.*

**Humber HEY Skills Partnership identified apprenticeships:**

- Control technical support engineer
- Electrical or electronic technical support engineer (Degree)
- Electrical power networks engineer
- Electrical power protection and plant commissioning engineer
- Engineering design and draughtsperson
- Engineering fitter
- Engineering technician
- Geotechnical engineer (integrated degree)
- Maintenance and operations engineering technician
- Marine Surveyor (Degree)
- Multi-skilled mechatronics maintenance technician
- Pipe welder
- Plate welder
- Power industry distribution cable jointer
- Power industry overhead linesperson
- Power industry substation fitter
- Power Support Operative
- Project controls professional
- Project controls technician

**Key:**

Approved for delivery from 11.2023

In Development

Enrolments Paused

**Additional apprenticeships identified:**

- Automation and controls engineering technician
- Control Technical Support Engineer
- Digital and technology solutions professionals
- Digital and technology solutions specialist
- Digital engineering technician
- Electro-mechanical engineer
- Embedded electronic systems design and development engineer
- Engineering
- Engineering construction pipefitter
- Engineering manufacturing technician
- Engineering operative
- Engineering technology
- Engineer surveyor
- Gas engineering operative
- Gas network craftsmen
- Gas network operative
- Lead engineering maintenance technician
- Non-destructive testing engineer (Degree)
- Post graduate engineer
- Power and propulsion gas turbine engineer
- Power engineer
- Power network craftsman (*being replaced by those highlighted as approved for delivery from 11.2023*)
- Product design and development engineer (Degree)
- Science industry maintenance technician
- Science industry process and plant engineer
- Utilities engineering technician

SKILLS INFRASTRUCTURE

# GREEN ENERGY RELEVANT APPRENTICESHIP STARTS

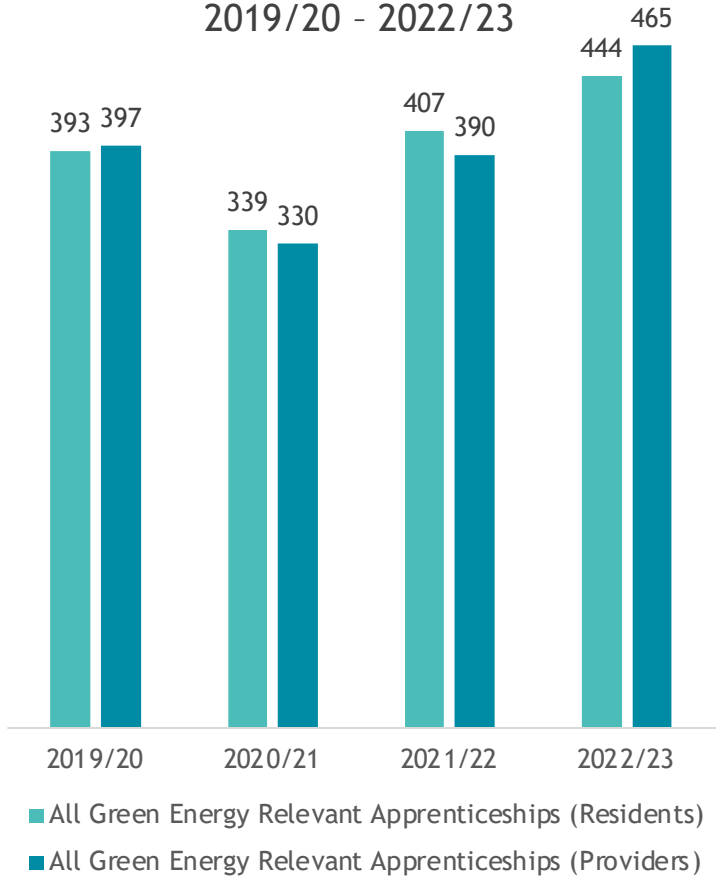
The number of starts in Green Energy Relevant apprenticeships by both Greater Lincolnshire residents and providers dipped in the covid impacted academic year of 2020/21 but since then have grown at a much stronger rate than nationally (which is yet to recover to pre-pandemic levels).

At 444 starts in 2022/23, this represents 6.5 per cent of all apprenticeship starts in that academic year by Greater Lincolnshire residents (6,788). For Greater Lincolnshire providers, 465 starts represents 8.4 per cent of all starts (5,551).

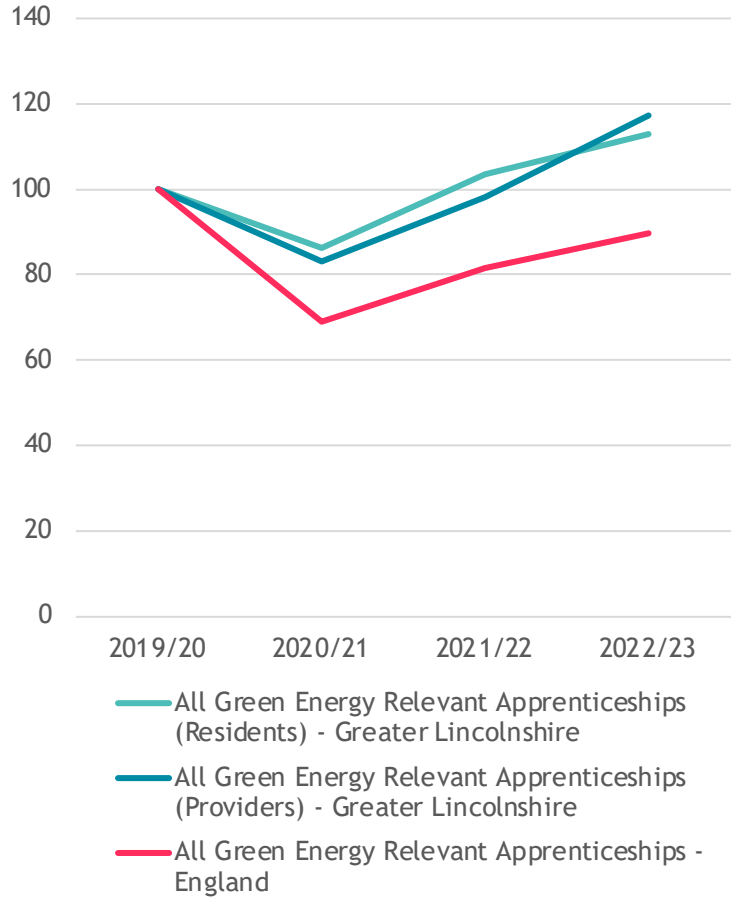
Starts in 'Green Energy' Relevant apprenticeships in 2022/23 by Greater Lincolnshire residents made up 2.6 per cent of all 'Green Energy' relevant apprenticeships started nationally that year (17,284).

**Source:** Department for Education

Number of 'Green Energy' Relevant Apprenticeship Starts Across Greater Lincolnshire (Resident and Provider based), 2019/20 – 2022/23




'Green Energy' Relevant Apprenticeship Starts Index 2019/20 = 100

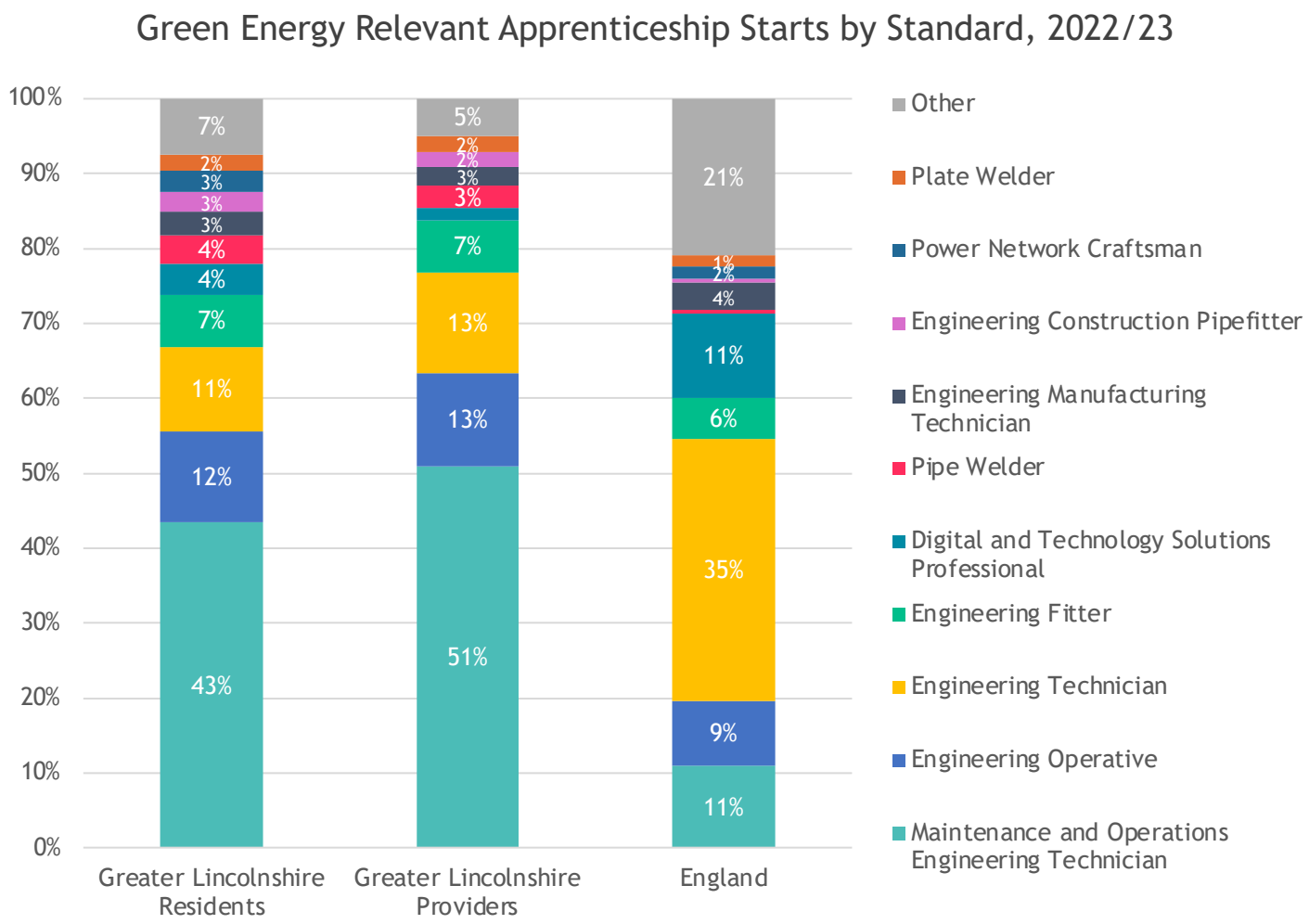


# GREEN ENERGY RELEVANT APPRENTICESHIP STARTS

In 2022/23 resident demand and provider supply was geared much more towards the 'Maintenance and Operations Engineering Technician' (MOET) apprenticeships than nationally. This type of apprenticeship is particularly favoured by the offshore wind sector. 43 per cent of residents (193 starts) on Green Energy relevant apprenticeships started a 'MOET' apprenticeship in 2022/23 compared to just 11 per cent nationally. For Greater Lincolnshire based providers this figure rises to over half (51 per cent or 236 starts) of Green Energy Relevant apprenticeships.

Welders and Pipefitters are regularly cited as being particularly important in terms of both Green Energy infrastructure projects and subsequent ongoing maintenance. Greater Lincolnshire is achieving proportionally more starts in these areas than nationally. This is encouraging, although combined numbers for starts in these areas is still relatively low at 39 compared to the skills shortages described by local employers.

**Source:** Department for Education



# GREEN ENERGY RELEVANT APPRENTICESHIPS BY LOCALITY

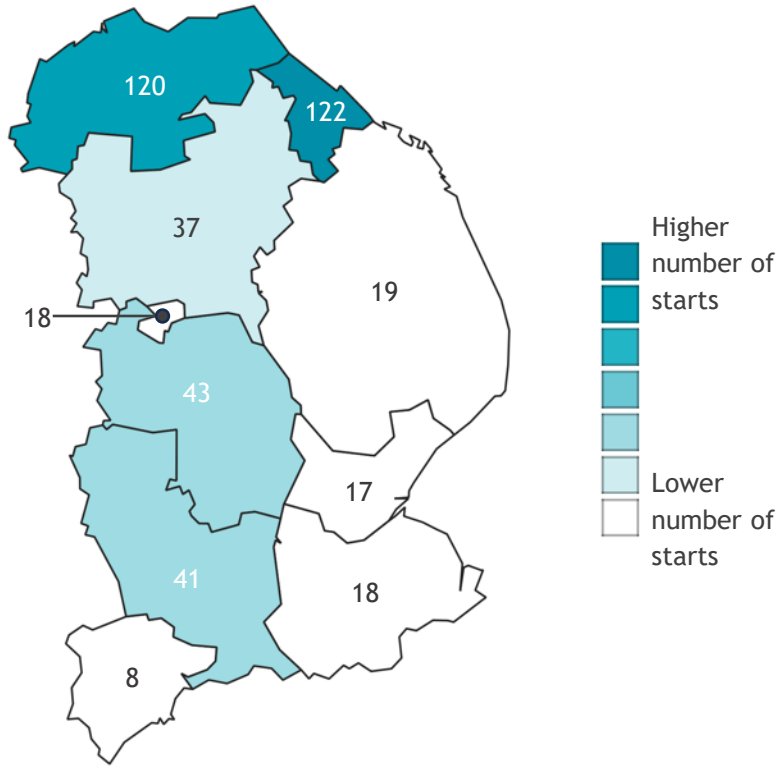
The images on the right show Green Energy Relevant apprenticeship starts in 2022/23 by both Greater Lincolnshire residents and providers, based on lower tier local authority areas.

The resident-based analysis shows that whilst numbers are highest in North East Lincolnshire and North Lincolnshire (54 per cent of all starts were recorded in Northern Lincolnshire), there are still sizeable numbers of residents starting on Green Energy relevant apprenticeships in North Kesteven, South Kesteven and West Lindsey.

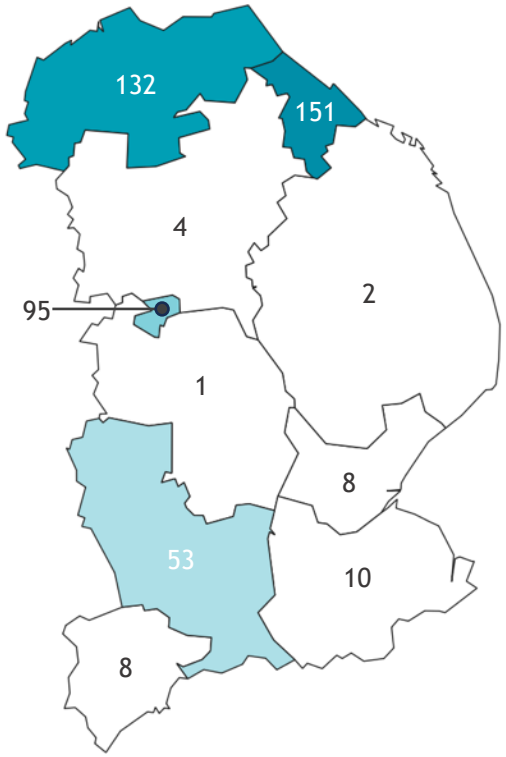
The provider-based analysis shows a much clearer concentration of delivery in North East Lincolnshire and North Lincolnshire with 60 per cent of all Green Energy relevant apprenticeship starts at Greater Lincolnshire based providers in 2022/23 in these two areas. Lincoln and South Kesteven account for a further 31 per cent of starts, many of which will be residents from surrounding local authority areas.

**Source:** Department for Education

Map of Green Energy Relevant Apprenticeship Starts by Greater Lincolnshire Residents, 2022/23




Map of Green Energy Relevant Apprenticeship Delivery (Number of Starts) Across Greater Lincolnshire, 2022/23



# ENGINEERING CONSTRUCTION APPRENTICESHIP STANDARDS

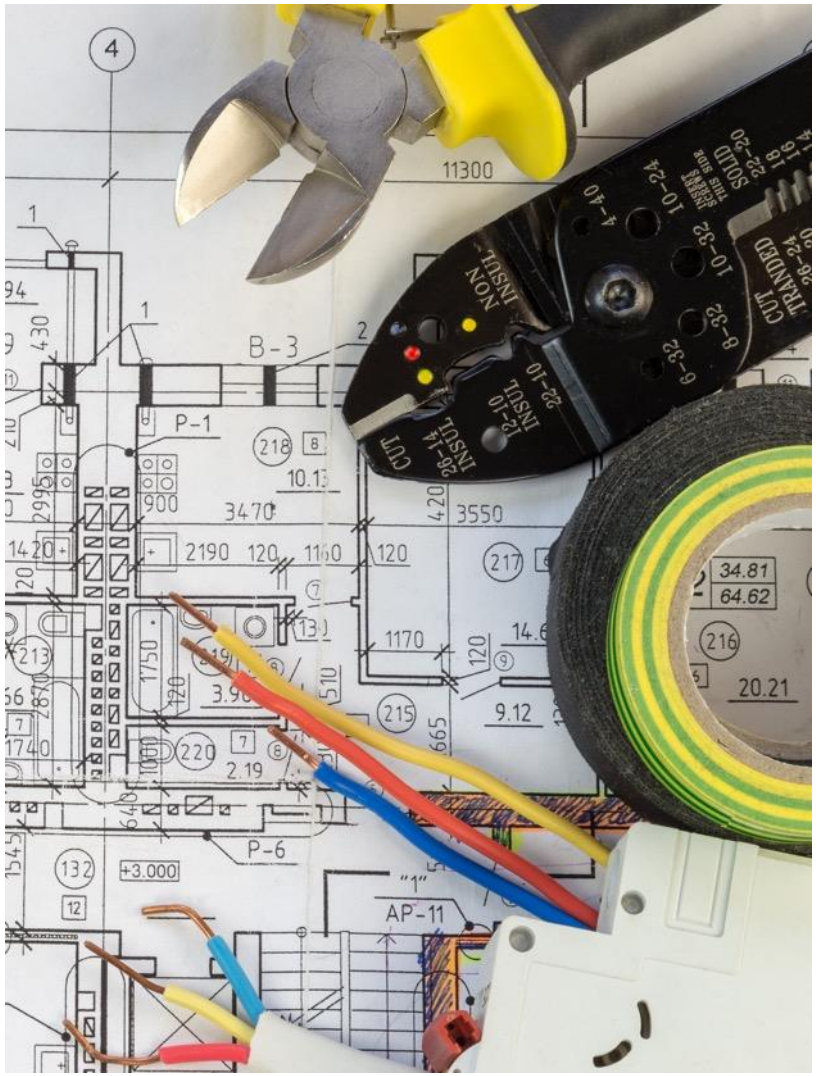
SKILLS
INFRASTRUCTURE

Having identified specific ‘Engineering Construction’ occupations linked to Green Energy infrastructure projects these slides focus upon aligned apprenticeship standards. The Humber HEY Skills Partnership ‘Green Jobs and Skills Analysis Report’ does not highlight any specific ‘Engineering Construction’ apprenticeships so those listed are identified purely from the desk research conducted as part of this project.

We note here that Plate Welder and Pipe Welder apprenticeships which straddle our identified occupation groups of ‘Green Energy Relevant and ’Engineering Construction’, are covered only in the ‘Green Energy relevant’ apprenticeships analysis.

**Apprenticeships identified by the Greater Lincolnshire LEP Energy Council Skills Project:**

- Civil Engineer (Degree)
- Civil Engineering Senior Technician
- Civil Engineering Site Management (Degree)
- Civil Engineering Technician
- Construction Assembly and Installation Operative
- Construction Design and Build Technician
- Construction Equipment Maintenance Mechanic
- Construction Management
- Construction Plant Operative
- Construction Quantity Surveying Technician
- Construction Quantity Surveyor (Degree)
- Construction Site Management (Degree)
- Construction Site Supervisor
- Construction Support Technician
- Engineering Construction
- Engineering Construction Erector Rigger



SKILLS
INFRASTRUCTURE

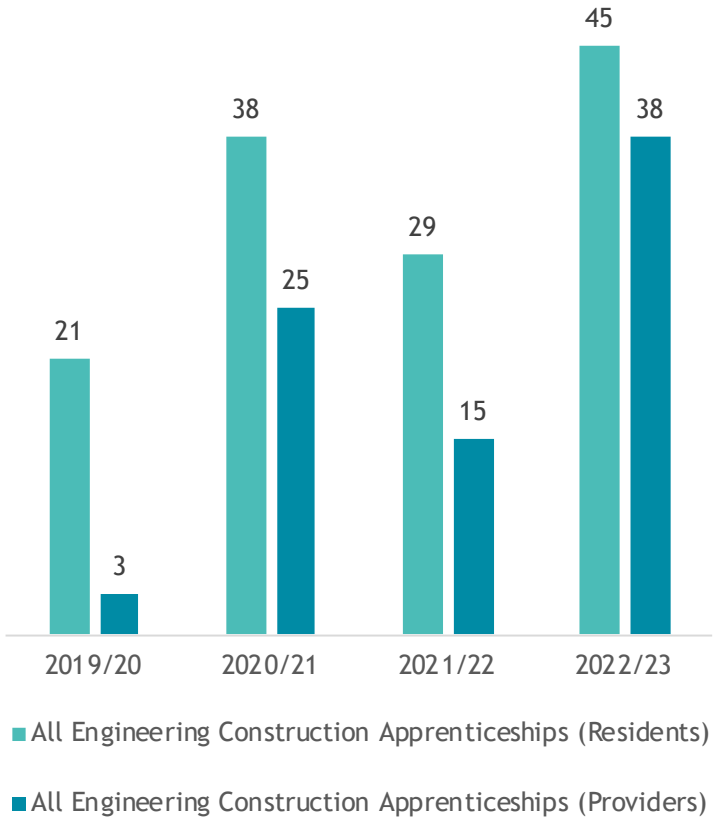
# ENGINEERING CONSTRUCTION APPRENTICESHIP STARTS

This analysis shows firstly that Greater Lincolnshire providers have seemingly been quick to respond to initial higher demand in 'Engineering Construction' apprenticeships from residents, and that this growth in demand from residents has been above the national rate.

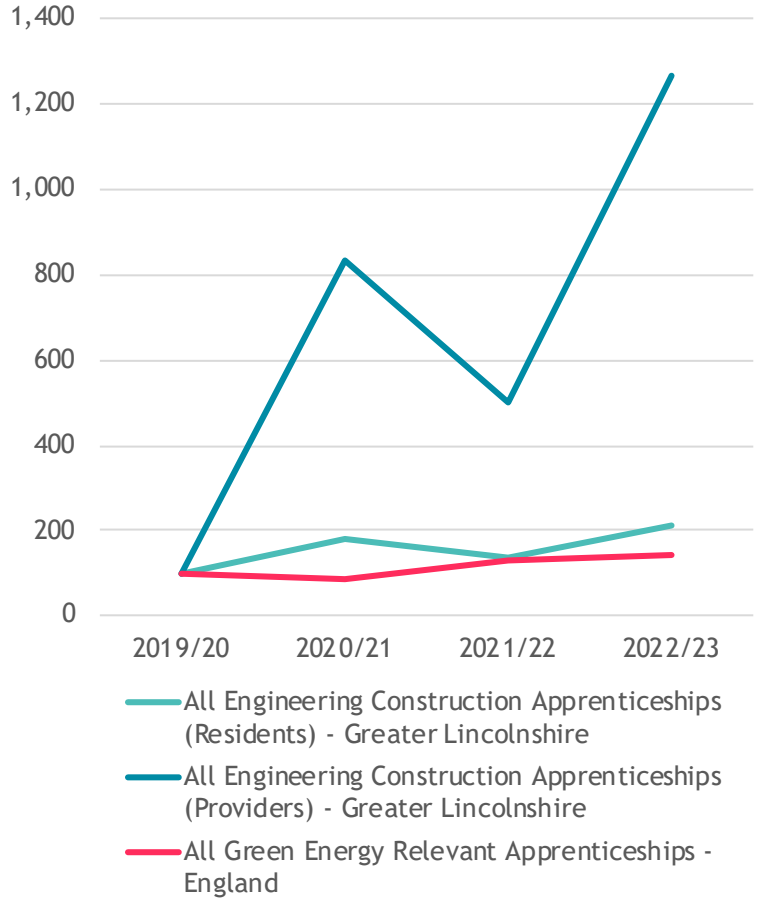
The 45 starts in 'Engineering Construction' apprenticeships by Greater Lincolnshire residents in 2022/23 comprises 1.3 per cent of all 'Engineering Construction' apprenticeships starts nationally (3,557 starts). This is broadly proportional to Greater Lincolnshire's population size but does demonstrate the scale of the task involved in increasing these numbers in line with substantial future Green Energy project requirements, both locally and nationally.

**Source:** Department for Education

Number of Engineering Construction Apprenticeship Starts Across Greater Lincolnshire (Resident and Provider based), 2019/20 – 2022/23




Engineering Construction Apprenticeship Starts Index 2019/20 = 100



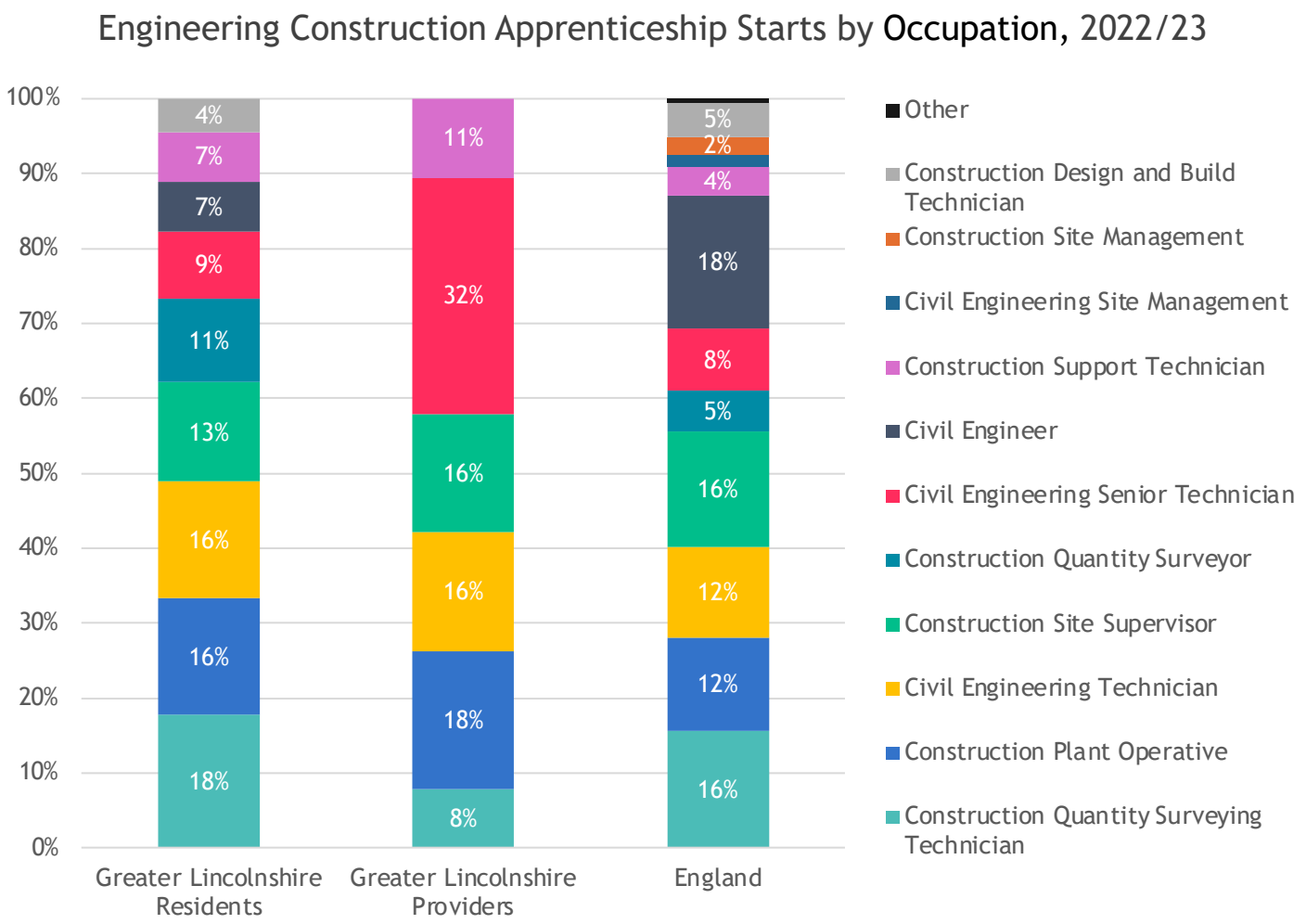
# ENGINEERING CONSTRUCTION APPRENTICESHIP STARTS

SKILLS
INFRASTRUCTURE

Whilst the proportions shown on this slide are based on relatively small numbers, Greater Lincolnshire providers are geared more towards the provision of the Civil Engineering Senior Technician apprenticeship, which is not reflected in demand by local residents or nationally. Greater Lincolnshire residents in 2022/23 were on Quantity Surveying apprenticeships (Construction Quantity Surveyor and Construction Quantity Surveying Technician) in a greater proportion than nationally (29 per cent compared to 21 per cent respectively) and also when compared to local provision (8 per cent) with no local take-up of Construction Quantity Surveyor apprenticeships.

Numbers are again relatively small, and these imbalances could be rectified / adjusted over the course of a couple of academic years.

**Source:** Department for Education

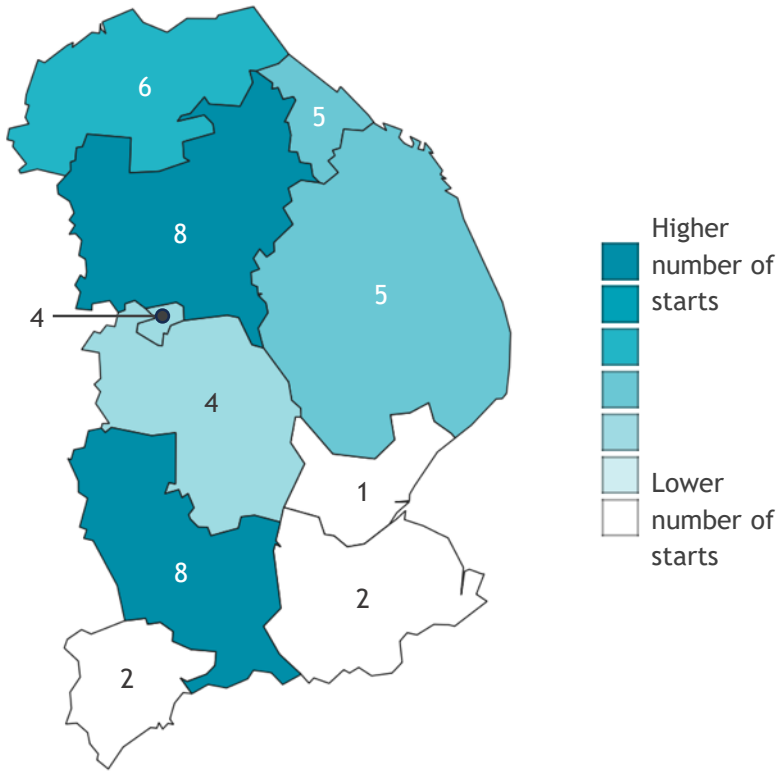


# ENGINEERING CONSTRUCTION APPRENTICESHIPS BY LOCALITY

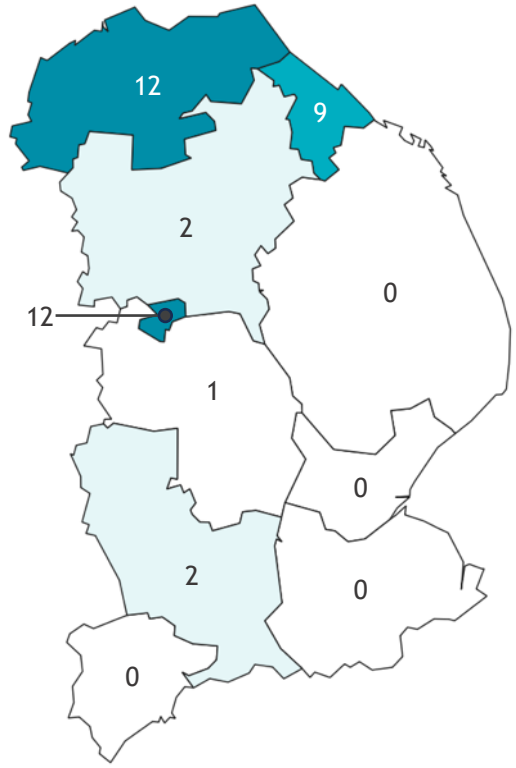
Again, noting the very small numbers, but there is a reasonably wide spread of Engineering Construction apprenticeship starts in 2022/23 by residents across most of Greater Lincolnshire. However, delivery of these apprenticeships by Greater Lincolnshire providers is heavily concentrated in Northern Lincolnshire, and in Lincoln.

**Source:** Department for Education

Map of Engineering Construction Apprenticeship Starts by Greater Lincolnshire Residents, 2022/23




Map of Engineering Construction Apprenticeship Delivery (Number of Starts) Across Greater Lincolnshire, 2022/23



SKILLS INFRASTRUCTURE

# GREEN ENERGY RELEVANT T LEVELS

Despite identifying a number of additional T Level courses relevant to the Green Energy sector in Greater Lincolnshire, both provision, and participation levels are low (although we note that some courses are yet to start). Of the courses identified, then only two had any Greater Lincolnshire residents enrolling on them in 2022/23 - Maintenance, Installation and Repair for Engineering and Manufacturing (three aim enrolments) and Digital Production, Design and Development (two aim enrolments). The T Level in Onsite Construction is being delivered by a Greater Lincolnshire based provider, but did not have any Greater Lincolnshire residents enrol in 2022/23. In total in 2022/23, Greater Lincolnshire providers delivered 10 aim enrolments.

**Source:** Department for Education

***Note:*** *The Humber HEY Skills Partnership 'Green Jobs and Skills Analysis Report' does identify a longer list of T Levels. We have concentrated solely on those that are relevant to this project i.e., 'Offshore Renewable Energy', 'Carbon capture, utilisation and storage', and 'Hydrogen & alternative fuels'.*

**Humber HEY Skills Partnership identified T Levels**

| | Boston College | Engineering UTC Northern Lincolnshire | Franklin College | Grantham College | Grimsby Institute | Career 6 | Lincoln UTC | Lincoln College | John Leggott College |
|---|---|---|---|---|---|---|---|---|---|
| Design and Development for Engineering and Manufacturing | | Y | | | | | | | |
| Maintenance, Installation and Repair for Engineering and Manufacturing | 09_2024 Start Date | | | Y | | Y | | | |
| Engineering, Manufacturing, Processing and Control | | | | Y | | | | | |
| Digital Business Services | | | | | | | | | |
| Digital Production, Design and Development | | | Y | Y | Y | Y | | | 09_2024 Start Date |
| Digital Support Services | | | | | | | | | |
| T Level in Engineering and Manufacturing - Mechanical Engineering Level 3 | | | | | | | | 09_2024 Start Date | |
| Manufacturing Technologies | | | | | Y | Y | | | |
| C&G Technical Certificate Engineering (Full Level 2) | | | | Y | | | | | |
| C&G T-Level Building Services Engineering for Construction - Plumbing (Level 3) | 09_2024 Start Date | | | Y | | | | | |
| Building Service for Construction - Electrical | 09_2024 Start Date | | | | | | | | |
| T Level in Engineering | | | | | | | Y | | |
| Onsite Construction | | | | | Y | | | | |

**Additional T Level courses identified by project desk research**

# GREEN ENERGY RELEVANT SKILLS BOOTCAMPS

A Skills Bootcamp is a relatively new national training pilot developing new skillsets that employers are looking for through an intensive 16-week/60 hours+ course – for either unemployed or employed adults. If not mainstreamed, it is a significant part of the DfE national skills offer, supporting primarily Level 3 and above skills shortage areas; and/or where businesses need to up/reskill their workforces.

We were unable to identify local delivery in 2022/23 of any Skills Bootcamp highlighted by the Humber HEY research. In terms of Green Energy Relevant Bootcamps, we identified only 'Construction Level 2' being delivered at scale, with 36 local enrolments, and 31 learners with local providers. 7 local enrolments were reported for 'Engineering' with non-local providers. Construction Level 3 and Green Engineering recorded 10 and 1 'starts' respectively.

It has proved difficult to gain a detailed picture of local Skills Bootcamp delivery due to data availability, although there is anecdotal evidence of low employer demand so far for trialled 'Green Energy' Bootcamps. The current Greater Lincolnshire LEP launch includes more green energy specific, locally-led Bootcamps (e.g., Offshore Wind led by TEC Partnership/Maersk).

**Humber HEY Skills Partnership identified Skills Bootcamps:**

- Functional Skills for the Green Wind Industry
- Global Wind Organisation (Basic Safety Training) with VT L2 to ISO 9712
- Net Zero & Smart Energy Transition
- Offshore renewables
- Wind Turbine Technician Blade Repair
- Wind Turbine Technician Electrical
- Wind Turbine Technician Entry Level
- Wind Turbine Technician Painter
- Wind Turbine Technician Team Leader
- Principles of Carbon Capture and Storage

**Key:**

**All being delivered in North Tyneside by AIS Survivex / 3t Training Services**

***Note 1**: Numbers of aim enrolments do not necessarily equate directly to numbers of student enrolments due to students enrolling on multiple aims in an academic year; although our working assumption is that one aim enrolment equates to one full Skills Bootcamp start.*

**Source:** Department for Education

**Additional Skills Bootcamps identified by project desk research:**

- Award in Understanding Carbon Awareness and Energy Management
- Construction Level 2
- Construction Level 3
- Engineering Level 3
- Global Wind Organisation Entry Level Wind Framework
- Green Engineering
- Net Zero & Smart Energy Transition
- Net Zero Together

***Note 2**: The Humber HEY Skills Partnership 'Green Jobs and Skills Analysis Report' does identify a longer list of Skills Bootcamps. We have concentrated solely on those that are relevant to this project i.e., 'Offshore Renewable Energy', 'Carbon capture, utilisation and storage', and 'Hydrogen & alternative fuels'.*

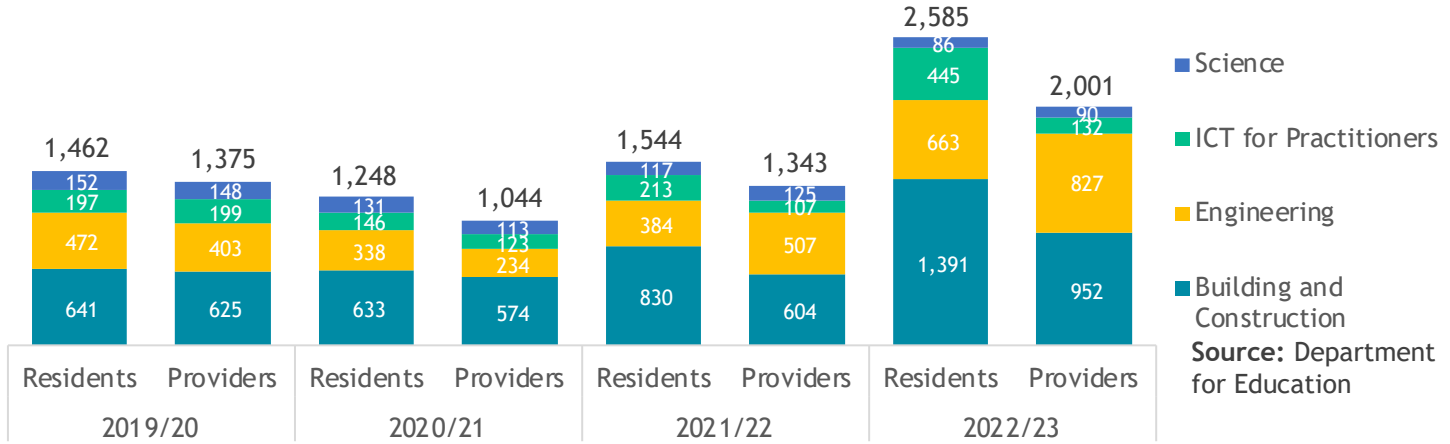
SKILLS INFRASTRUCTURE

# GREEN ENERGY RELEVANT EDUCATION AND TRAINING

'Education and Training' covers the more traditional classroom-based element of Further Education (and college HE provision) undertaken by young people and adults. Having dipped during the pandemic, the total number of aim enrolments on Green Energy relevant courses has surged in the most recent full academic year (2022/23). Locally there have been encouragingly large increases in construction, engineering, and ICT enrolments by both residents and providers. Enrolments on science courses have however declined during the period in question (2019/20 to 2022/23). Larger numbers of aim enrolments on construction and ICT courses when compared to those being delivered by local providers could suggest a level of unmet local demand. Whilst these numbers are positive, when compared nationally we can see that overall growth is these 'technical' courses is below the England average with Greater Lincolnshire simply making up most of the ground lost during the pandemic.

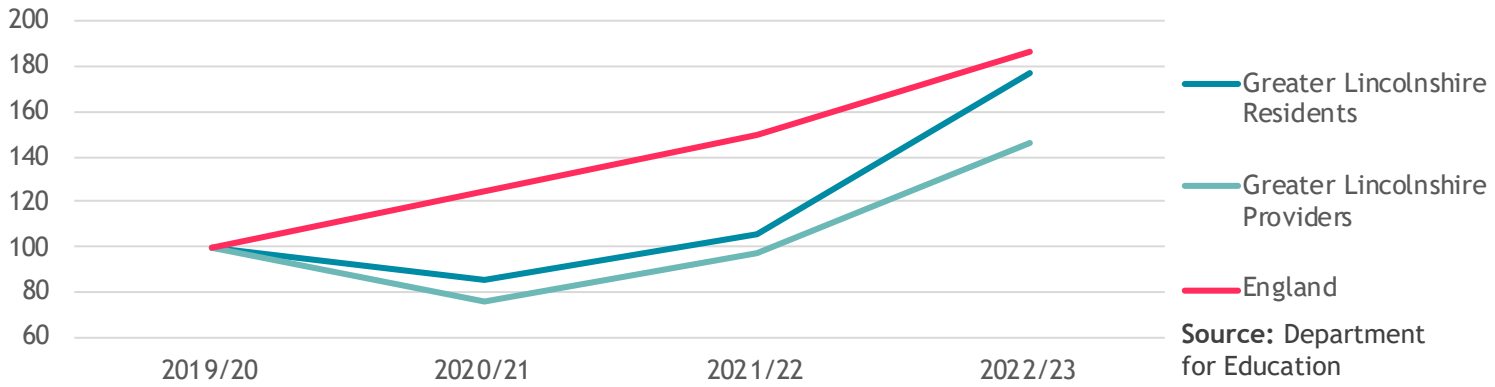
***Note**: 'Numbers of aim enrolments do not equate directly to numbers of student enrolments due to students enrolling on multiple aims in an academic year i.e., one aim enrolment does not equal one student. Previous local analysis of this data has found that on average a student enrolls on four aims.*

Education and Training Aim Enrolments by Greater Lincolnshire Residents and Providers on Green Energy Relevant Courses




**Source:** Department for Education

Change in Education and Training Aim Enrolments by Greater Lincolnshire Residents and Providers on Green Energy Relevant Courses with National Comparator, Index – 2019/20 = 100




**Source:** Department for Education

# GREEN ENERGY RELEVANT EDUCATION AND TRAINING

SKILLS INFRASTRUCTURE

Looking across the four 'Tier 2' sector subject areas that we are considering as part of our green energy relevant education and training courses:

**Building and Construction** –aim enrolments locally for this subject area have risen significantly in the last academic year with overall growth in Greater Lincolnshire residents above the national rate, and Greater Lincolnshire based providers are not far behind.

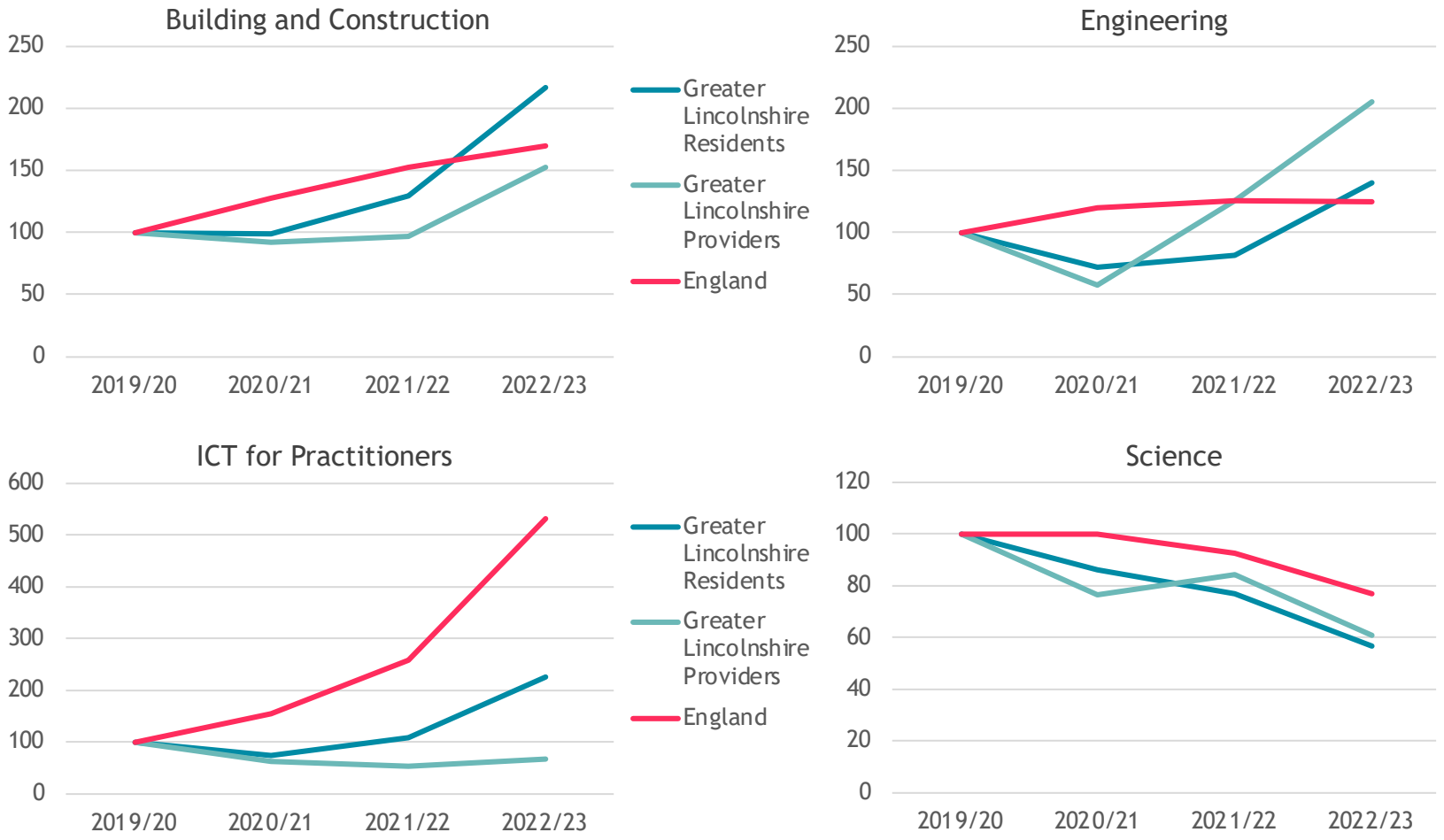
**Engineering** – aim enrolments for this subject area with local providers have risen significantly since the 2020/21 pandemic induced drop. Enrolments by residents has increased strongly between 2021/22 and 2022/23 whereas growth nationally has flatlined since 2020/21.

**ICT for Practitioners** – national growth in aim enrolments in this subject area has far outstripped that of nationally, although Greater Lincolnshire residents are increasingly enrolling on these courses.

**Science** – enrolments in science subjects have been in decline since 2019/20 both locally and nationally.

**Source:** Department for Education

Change in Education and Training Aim Enrolments by Greater Lincolnshire Residents and Providers on Green Energy Related Courses with National Comparator, Index – 2019/20 = 100

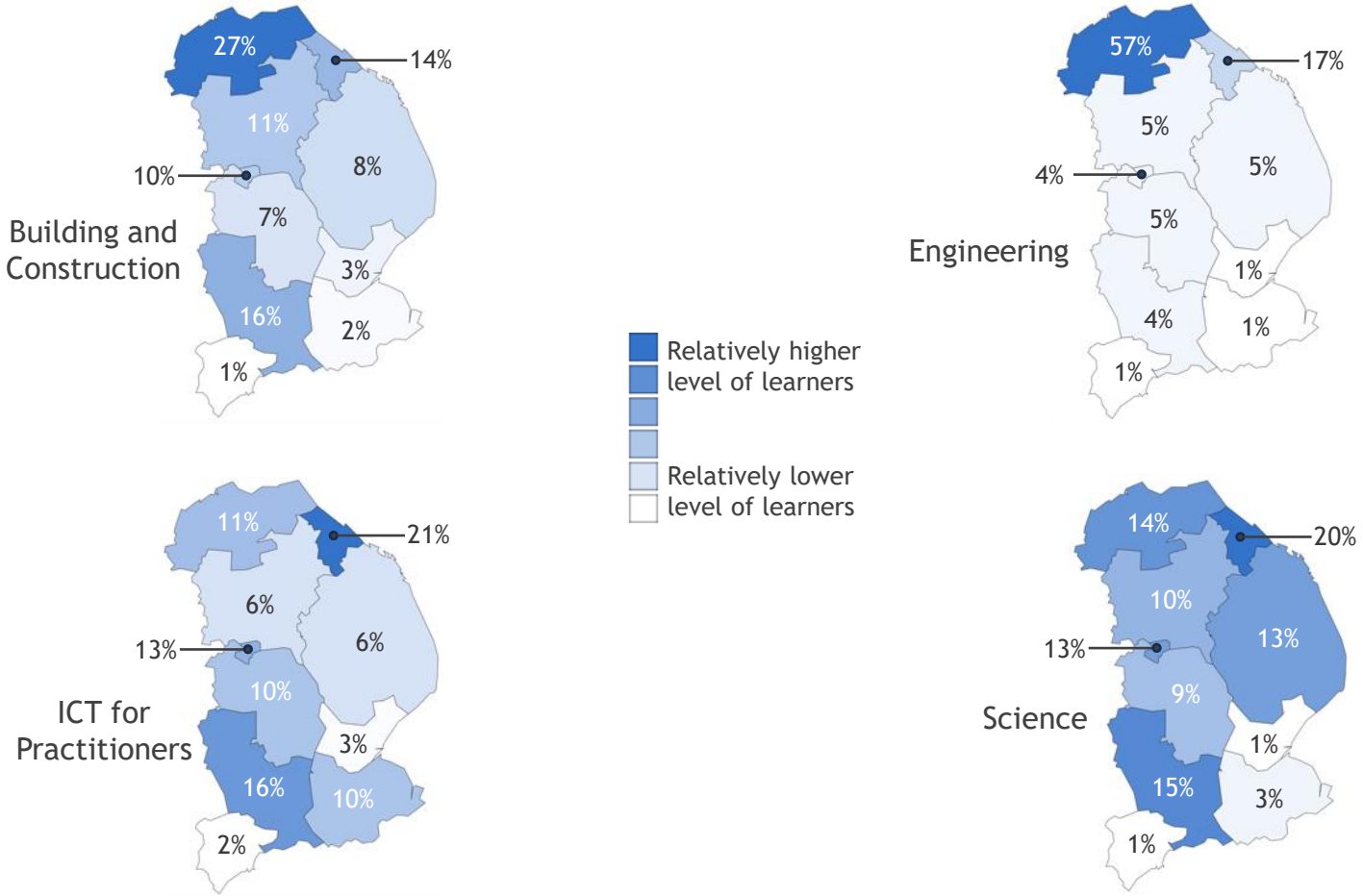


# GREEN ENERGY RELEVANT EDUCATION AND TRAINING BY LOCALITY

For ‘Building and Construction’, ‘ICT for Practitioners’, and ‘Science’, local resident enrolments are spread out (albeit not exactly evenly) across the local unitary and district authority areas that make up Greater Lincolnshire. Only ‘Engineering’ really stands out in terms of a major concentration of learners in Northern Lincolnshire. North Lincolnshire (57 per cent) and North East Lincolnshire (17 per cent) combined account for nearly three quarters (74 per cent) of all Greater Lincolnshire residents enrolling on an ‘Engineering’ course.

**Source:** Department for Education

Learner Enrolments on Green Energy Relevant Education and Training Aims Across Greater Lincolnshire, 2022/23

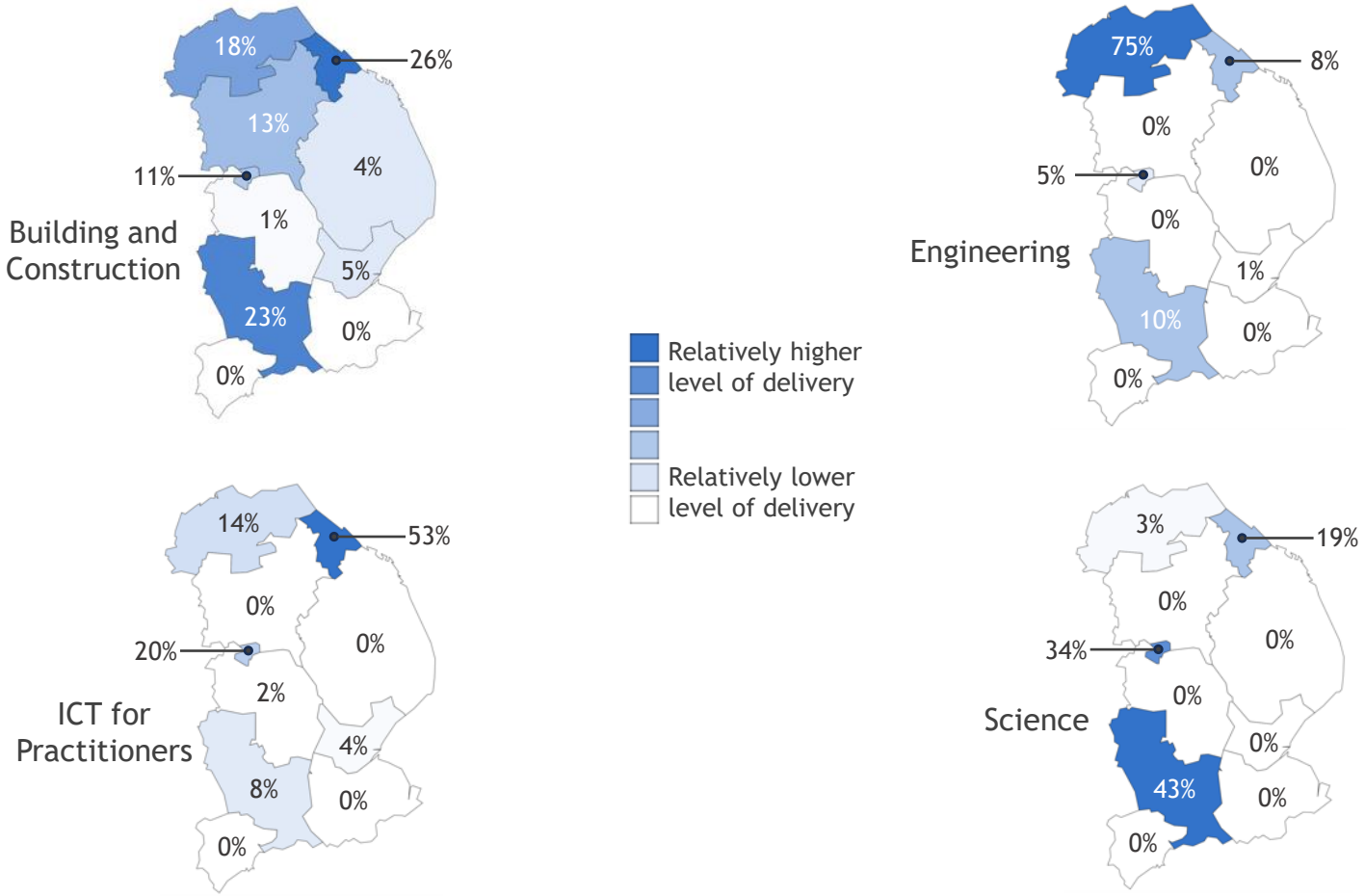


# GREEN ENERGY RELEVANT EDUCATION AND TRAINING BY LOCALITY

In respect of providers, Building and Construction is the most evenly spread across Greater Lincolnshire when it comes to local provision. Provision in the north features strongly with North East Lincolnshire, North Lincolnshire and West Lindsey combined delivering 47% of total learning aims in this subject area. However, South Kesteven based providers deliver the second highest proportion of learning aims (23%) of any Greater Lincolnshire local authority area. Engineering and ICT for Practitioners learning aims are very focused in North Lincolnshire (Engineering) and North East Lincolnshire (ICT for Practitioners). In terms of Science learning aims then the focus shifts to South Kesteven (43%) and Lincoln (34%), where providers in these local authority areas delivered over three quarters of the total Greater Lincolnshire based provider learning aims in 2022/23.

**Source:** Department for Education

Delivery of Green Energy Relevant Education and Training Aims by Greater Lincolnshire Providers, 2022/23



# GREEN ENERGY RELEVANT HIGHER EDUCATION ENROLMENTS AT GREATER LINCOLNSHIRE BASED UNIVERSITIES

SKILLS INFRASTRUCTURE

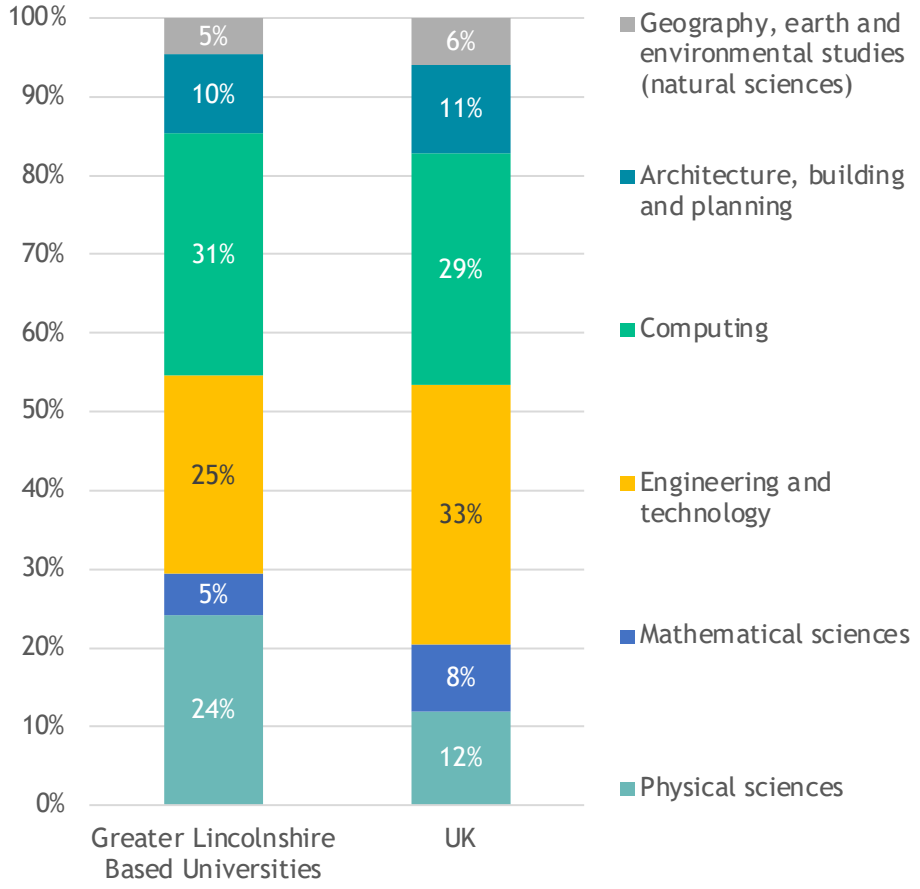
The Humber HEY Skills Partnership 'Green Jobs and Skills Analysis Report' identified six Higher Education courses as relevant to future employment in green jobs, and this analysis is replicated here based on delivery by Greater Lincolnshire based universities (University of Lincoln and Bishop Grosseteste University).

In 2021/22 local universities have higher proportions of Physical Sciences courses than nationally, and less in relation to Engineering and Technology. This is despite the University of Lincoln quite recently established a purpose-built Engineering Hub which is still expanding.

In terms of overall student enrolments over the last three years in Greater Lincolnshire institutions growth has been highest in Engineering and Technology, with an impressive 180 more student enrolments. Physical Science courses have seen numbers increase by 125 over the same period with Natural Sciences experiencing an increase of 65 student enrolments. The three remaining courses all saw student enrolment numbers remain at a similar level.

**Source:** Higher Education Statistics Agency

## Higher Education Student Enrolments on Green Energy Related Courses, 2021/22




## Higher Education Student Enrolments on Green Energy Related Courses at Greater Lincolnshire Based Universities

# A (NEAR) FUTURE VIEW OF GREEN ENERGY RELEVANT SKILLS PROVISION - APPRENTICESHIPS

SKILLS INFRASTRUCTURE

Using latest quarterly data up to Q3 of the 2023/24 academic year (so covering August 2023 to April 2024) we can start to see how performance across starts on Green Energy Relevant apprenticeships will look once the full year of data is released.

In terms of Greater Lincolnshire based provider starts, numbers as at end of Q3 2023/24 are at 454 compared to 443 in Q3 2022/23 (102 per cent), so we can expect a slight improvement in total numbers by the end of year, but perhaps nothing significant.

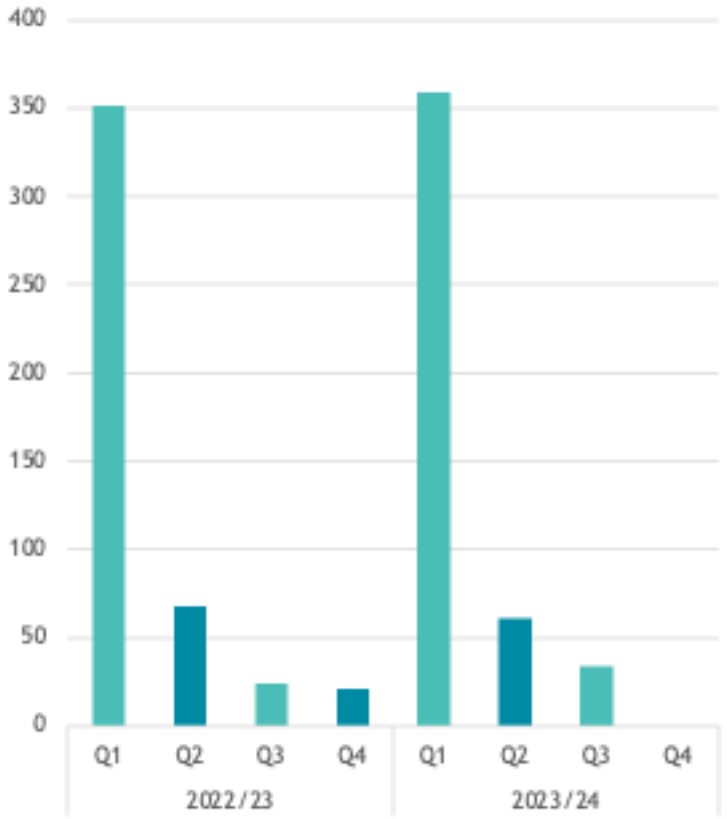
In terms of Green Energy Relevant apprenticeship starts by Greater Lincolnshire residents then the positive difference is going to be much bigger. Numbers as at Q3 2023/24 already stand at 472 compared to 431 in Q3 2022/23 (110 per cent).

Nationally, total Green Energy Relevant apprenticeship starts in Q1 to Q3 2023/24 are at 101 per cent compared to starts in the same period in 2022/23.

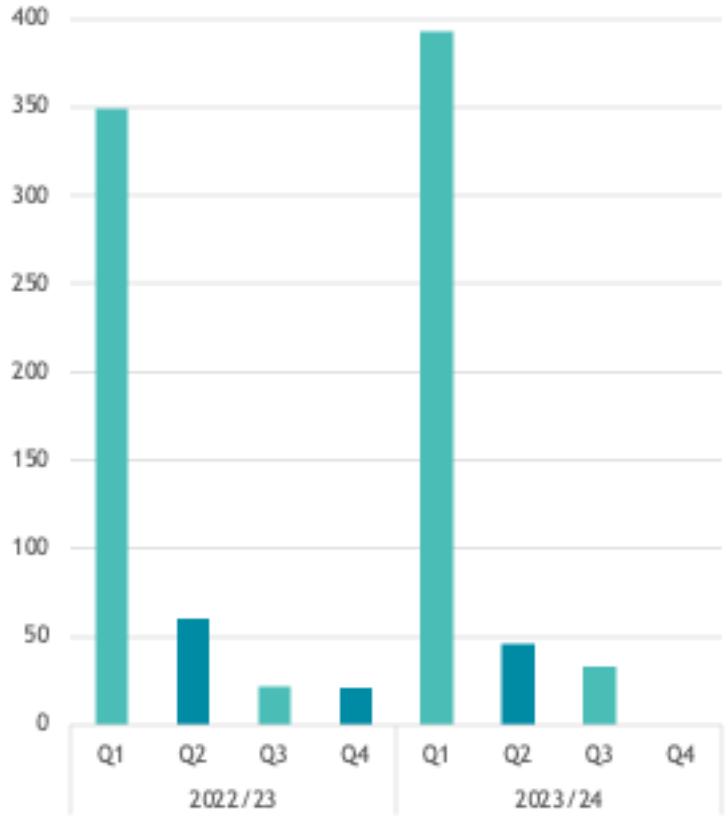
These charts also demonstrate that the vast amount of intake on these apprenticeships is at the start of the academic year.

**Source:** Department for Education

Starts on Green Energy Relevant Apprenticeships at Greater Lincolnshire based providers by quarter




Starts on Green Energy Relevant Apprenticeships by Greater Lincolnshire residents by quarter



# A (NEAR) FUTURE VIEW OF GREEN ENERGY RELEVANT SKILLS PROVISION - APPRENTICESHIPS

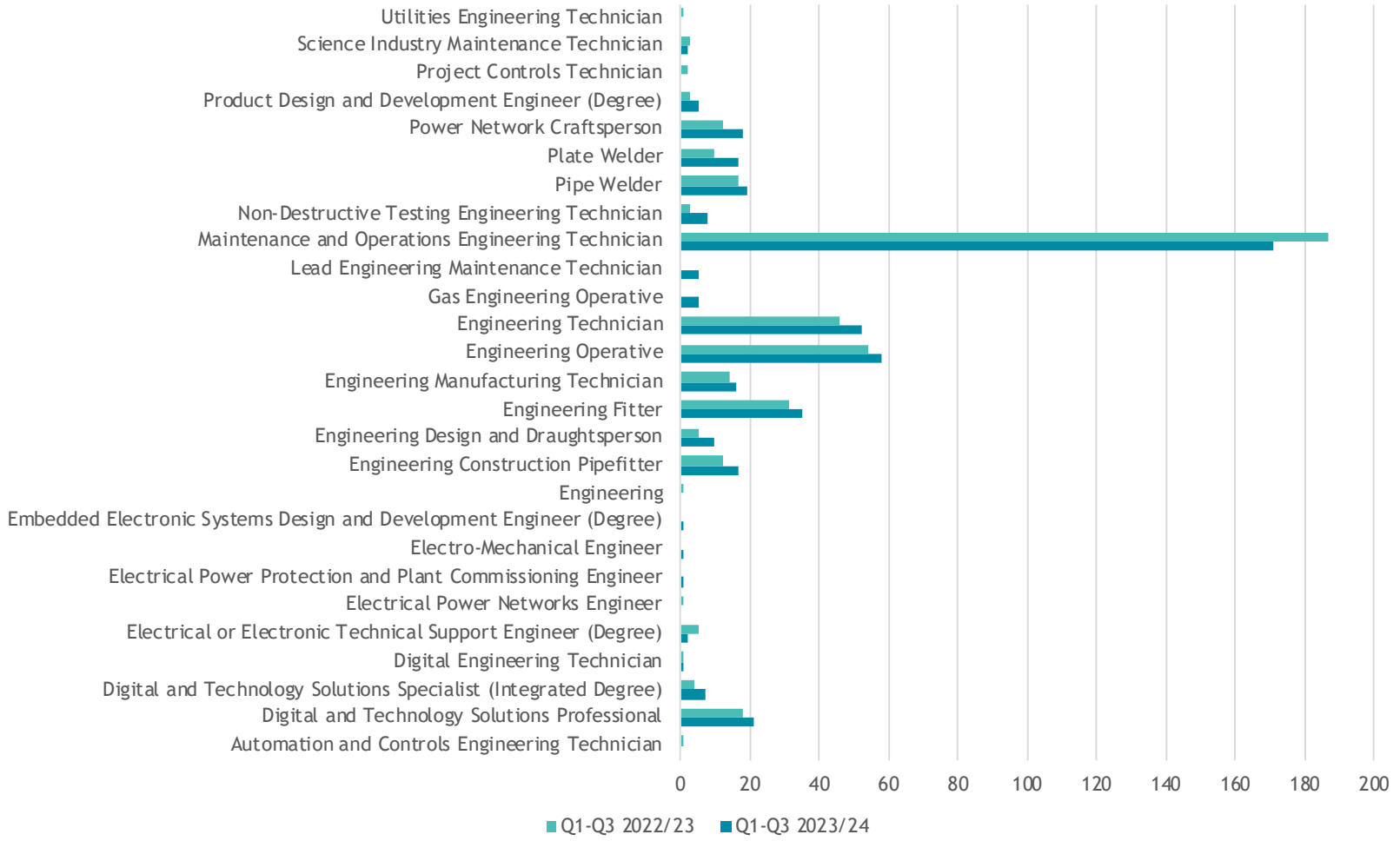
SKILLS INFRASTRUCTURE

Concentrating on the resident-based Green Energy Relevant apprenticeship starts and drilling down to the specific apprenticeship standards that residents have started over the last two years, perhaps the most obvious change at this Q3 point is that Maintenance and Operations Engineering Technician starts have declined* in 2023/24. However, across the great majority of Green Energy Relevant apprenticeship standards, numbers have increased (compared to 2022/23) at this point in the academic year. Green Energy Relevant apprenticeship standards on the increase include Power Network Craftsperson, Plate Welders, Engineering Technicians and Fitters, and Pipefitters.

* This aligns with specific feedback on the latest apprenticeship trends shared by local employers in our Skills Conversations.

**Source:** Department for Education

Starts on Green Energy Relevant Apprenticeship Standards by Greater Lincolnshire residents



# A (NEAR) FUTURE VIEW OF GREEN ENERGY RELEVANT SKILLS PROVISION - APPRENTICESHIPS

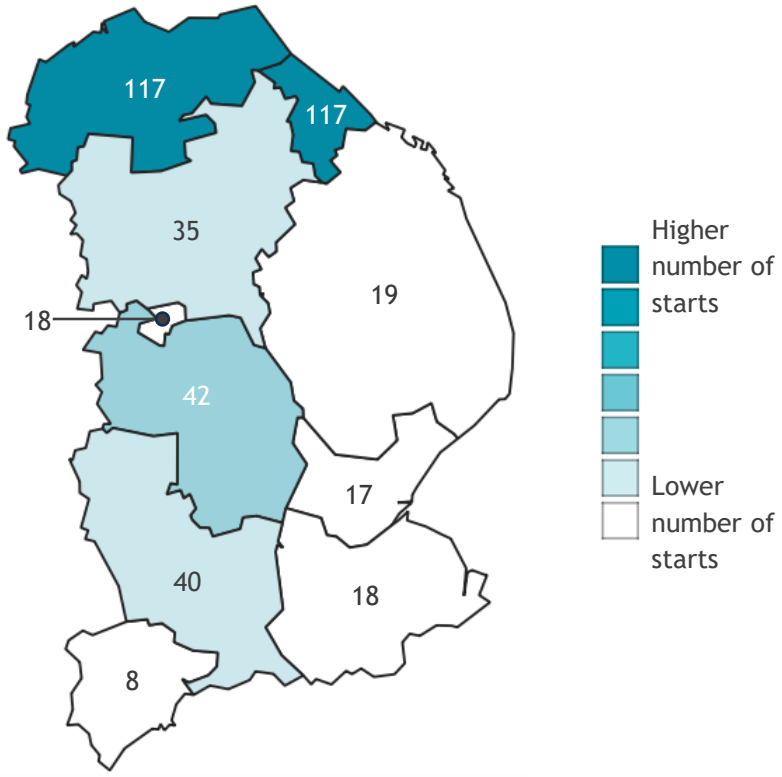
SKILLS INFRASTRUCTURE

Looking across Greater Lincolnshire, some of the biggest increases in Green Energy Relevant apprenticeship starts (comparing Q1-Q3 in 2022/23 and 2023/24) have been in those localities nearest to future Norther Lincolnshire developments. Lincoln (an additional 22 starts), East Lindsey (an additional 14 starts) and West Lindsey (an additional 7 starts) all show year-on-year growth over this period. North East Lincolnshire will also finish 2023/24 with an increased number of starts.

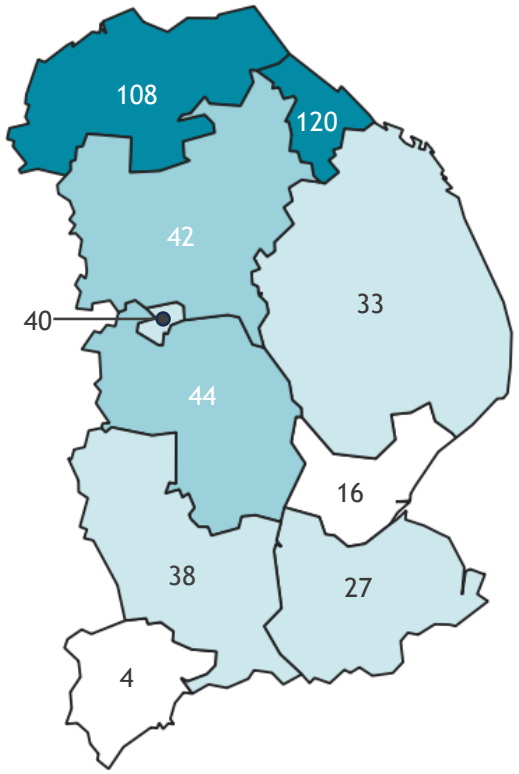
In terms of delivery across Greater Lincolnshire then our analysis shows only small differences are expected in the overall proportions of delivery when compared with the geographic spread in 2022/23 (slide 66) apart from in Northern Lincolnshire. North East Lincolnshire looks likely to report a decline with only 111 starts recorded by Q3 in 2023/24 compared to 146 by Q3 in 2022/23. Conversely, North Lincolnshire has already exceeded the previous full year with 155 starts by Q3 compared to 118 in 2022/23.

**Source:** Department for Education

Map of Green Energy Relevant Apprenticeship Starts by Greater Lincolnshire Residents, Q1-Q3 2022/23




Map of Green Energy Relevant Apprenticeship Starts by Greater Lincolnshire Residents, Q1-Q3 2023/24



# A (NEAR) FUTURE VIEW OF ENGINEERING CONSTRUCTION SKILLS PROVISION - APPRENTICESHIPS

SKILLS INFRASTRUCTURE

Using latest quarterly data up to Q3 of the 2023/24 academic year, we can start to see how performance across starts on Engineering Construction apprenticeships could look once the final full year of data is released.

In terms of Greater Lincolnshire based providers, total starts as at Q3 2023/24 are at 35 compared to 31 in 2022/23 (113 per cent), so we can probably expect a slight improvement in total numbers by the end of year.

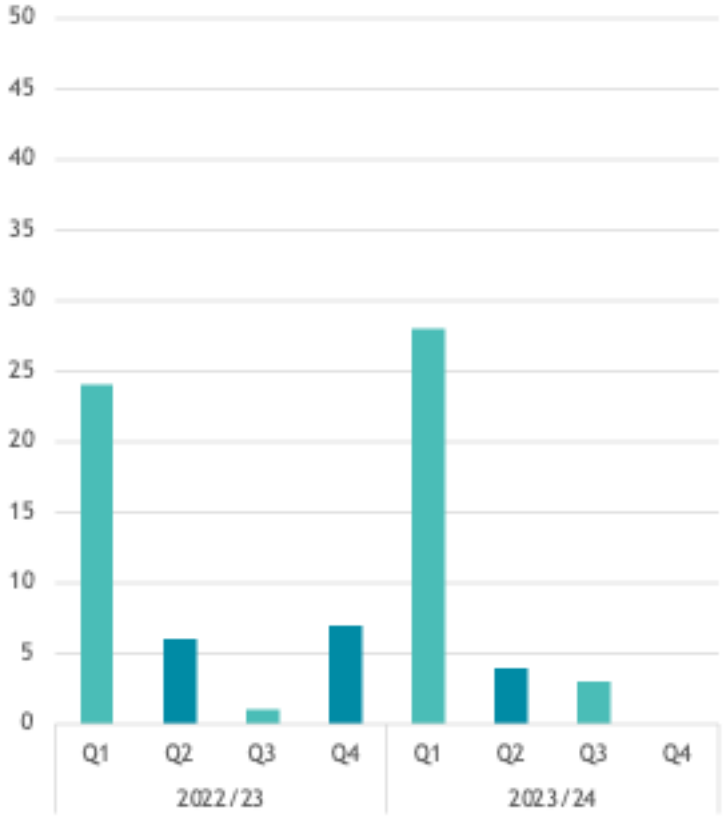
In terms of Engineering Construction apprenticeship starts by Greater Lincolnshire residents, increases in starts are likely to be much bigger. Total numbers at Q3 2023/24 already stand at 56 compared to 39 in 2022/23 (144 per cent).

At a national level, total Engineering Construction apprenticeship starts to Q3 2023/24 are at 104 per cent when compared to starts in 2022/23.

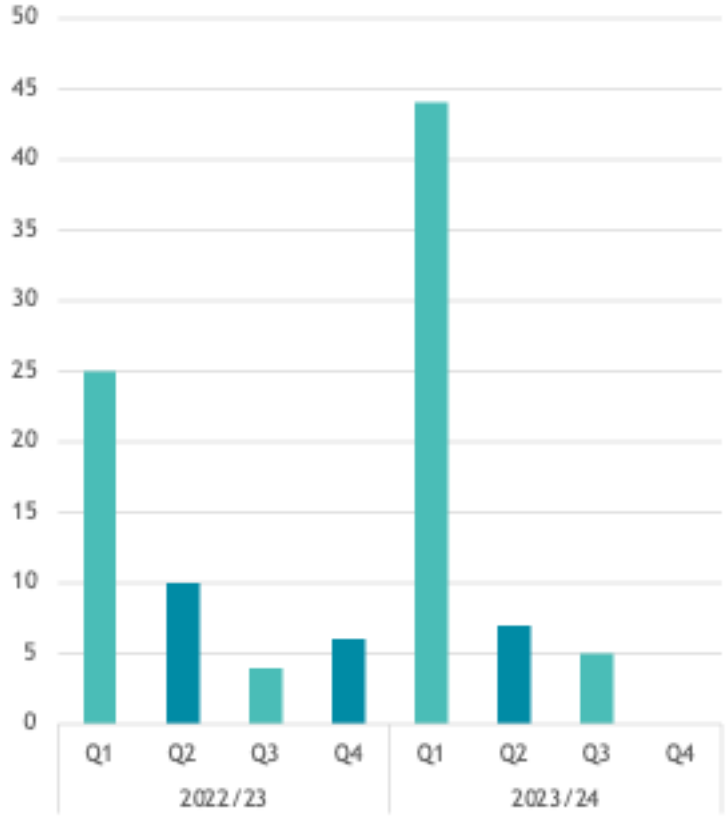
Again, these charts demonstrate that the vast amount of intake on these apprenticeships is at the start of the academic year.

**Source:** Department for Education

Starts on Engineering Construction Apprenticeships at Greater Lincolnshire based providers by quarter




Starts on Engineering Construction Apprenticeships by Greater Lincolnshire residents by quarter

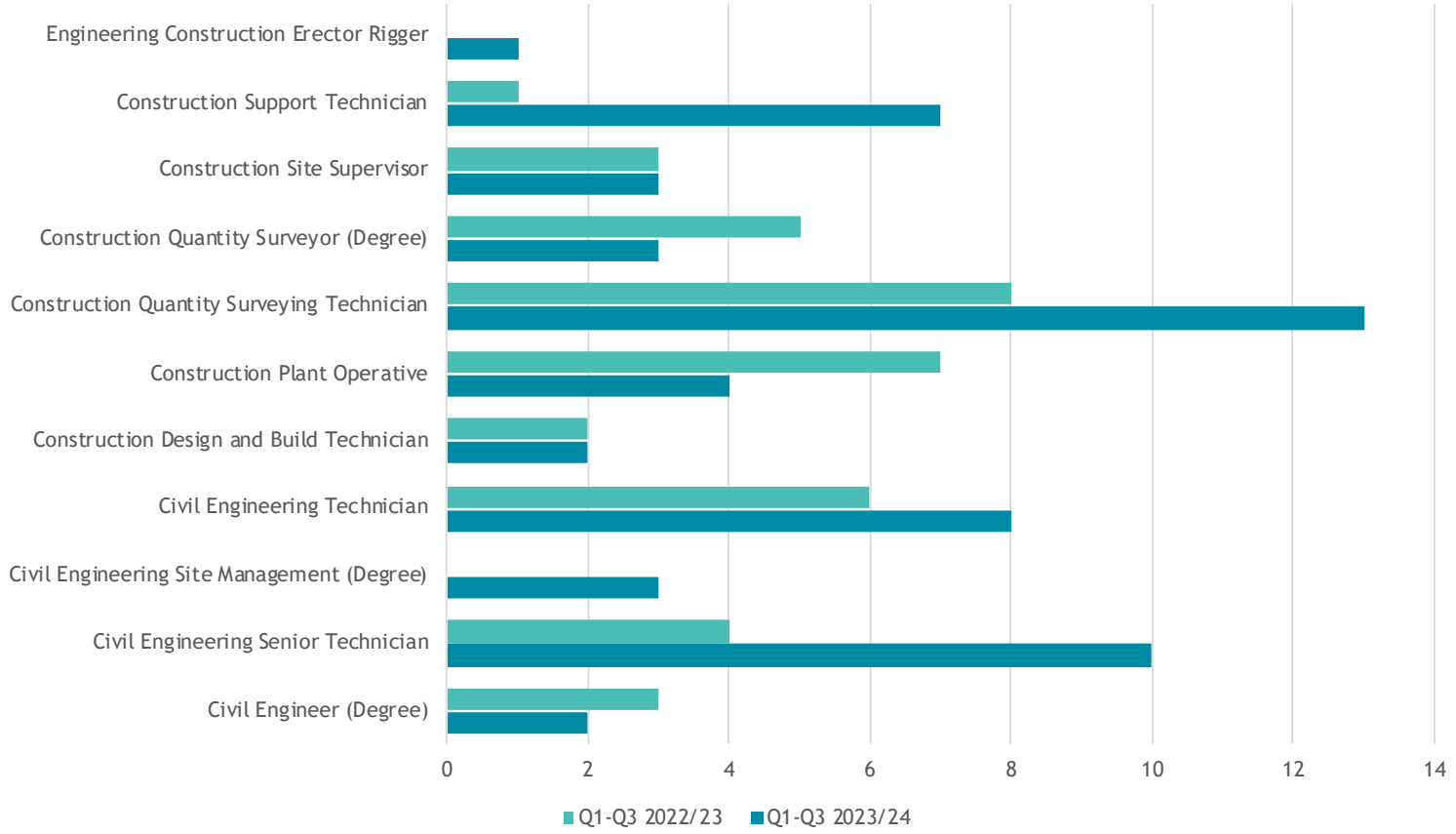


# A (NEAR) FUTURE VIEW OF ENGINEERING CONSTRUCTION SKILLS PROVISION - APPRENTICESHIPS

SKILLS INFRASTRUCTURE

Concentrating on local resident-based Engineering Construction apprenticeship starts, and drilling down to the specific apprenticeship standards that residents have started over the last two years, we can see large increases (although based on small numbers) when compared year to year in the following: Construction Support Technicians, Construction Quantity Surveying Technicians, and Civil Engineering Senior Technicians.

**Source:** Department for Education



# A (NEAR) FUTURE VIEW OF GREEN ENERGY RELEVANT SKILLS PROVISION – SKILLS BOOTCAMPS AND T LEVELS

SKILLS INFRASTRUCTURE

Analysis of aim enrolments by Greater Lincolnshire residents on national Green Energy Relevant and Engineering Construction Skills Bootcamps by Q3 2023/24 shows very little difference to total 2022/23 numbers (54 and 53 respectively). Unlike the apprenticeship data, we are unable to break this down by quarter, but we would expect minimal additional enrolments in the last quarter of the academic year. Similarly, delivery of aim enrolments by Greater Lincolnshire providers is largely unchanged from 2022/23.

We previously reported (Slide 71) that only 10 different T levels were being taken by Greater Lincolnshire residents, and delivered by Greater Lincolnshire based providers in very small numbers in 2022/23. The table demonstrates a massive increase in participation in Green Energy Relevant T levels. Enrolments on these Green Energy and currently make up a third of all T level enrolments (both resident and local provider) in Greater Lincolnshire. If this is the start of a longer-term growth trend in participation, T Levels will become a much more significant contributor as a Green Energy sector skills pathway.

| | T Level Subject | Aim enrolments by Greater Lincolnshire residents | Aim enrolments at Greater Lincolnshire based providers |
|---|---|---|---|
| T Level Occupational Specialism | Digital Production, Design and Development | 49 | 55 |
| | Electrotechnical engineering | 10 | 10 |
| | Fitting and assembly technologies | 11 | 11 |
| | Electrical and Electronic | 18 | 18 |
| | Maintenance engineering technologies: Mechanical | 40 | 44 |
| | Maintenance engineering technologies: Mechatronic | 51 | 52 |
| | Surveying and design for construction and the built environment | 10 | 7 |
| T level Technical Qualification | Building Services Engineering for Construction | 9 | 9 |
| | Design, Surveying and Planning for Construction | 16 | 12 |
| | Digital Production, Design and Development | 48 | 54 |
| | Engineering, Manufacturing, Processing and Control | 14 | 11 |
| | Maintenance, Installation and Repair for Engineering and Manufacturing | 111 | 119 |
| | Science | 2 | |
| T Level transition programme | T Level transition programme - Construction | 44 | 60 |
| | T Level transition programme - Engineering and Manufacturing | 48 | 48 |
| | **Total Green Energy relevant T Level aim enrolments** | **481** | **510** |

**Source:** Department for Education

# ALTERNATIVE FUEL DEVELOPMENTS IN HEAVY TRANSPORT - SKILLS AND LABOUR MARKET IMPLICATIONS

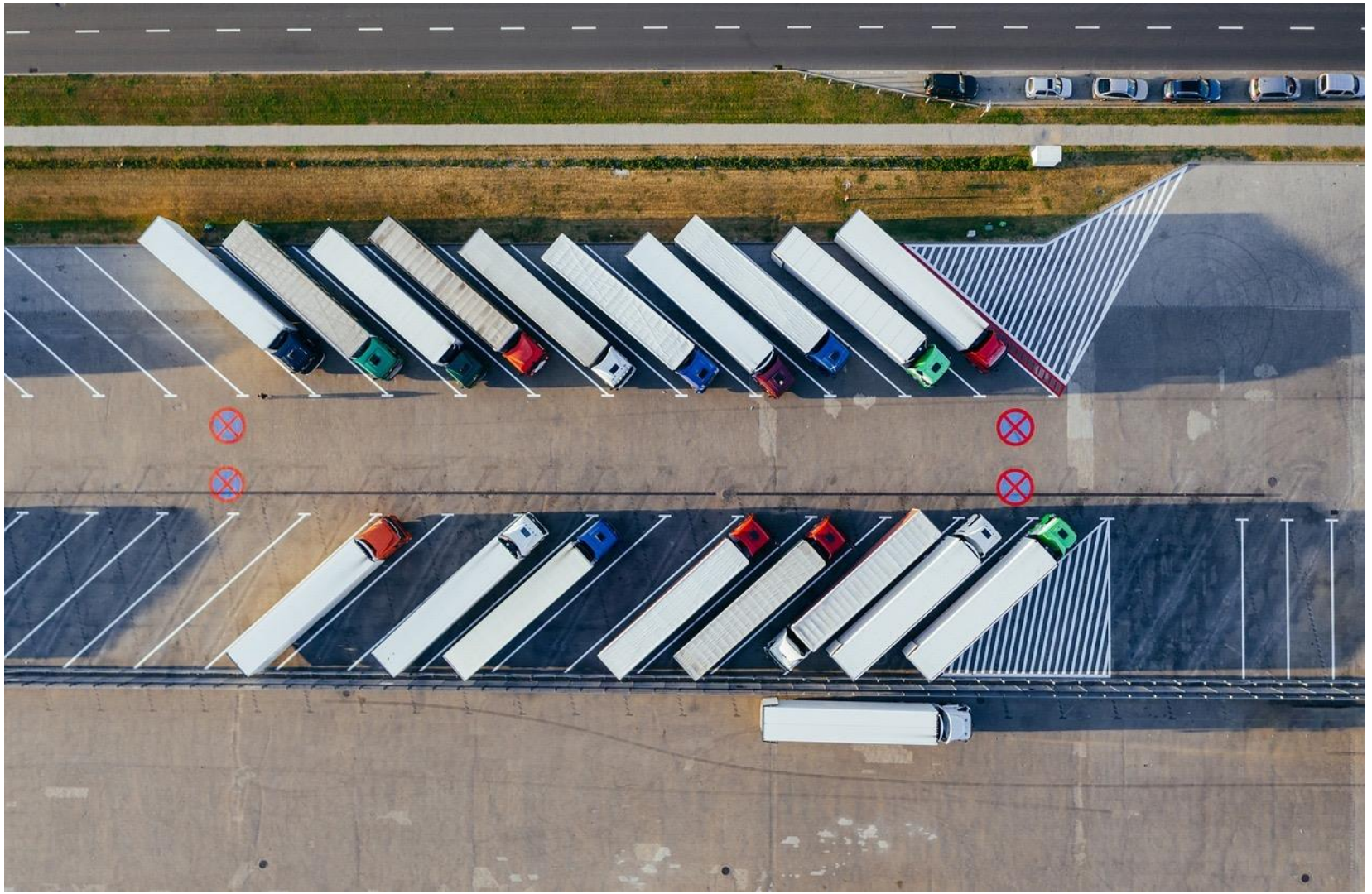
**PURPOSE**

To review the current 'state of play' relating to identified jobs and skills implications for heavy transport connected to potential alternative-fuelling (including hydrogen) developments.

**INCLUDES:**

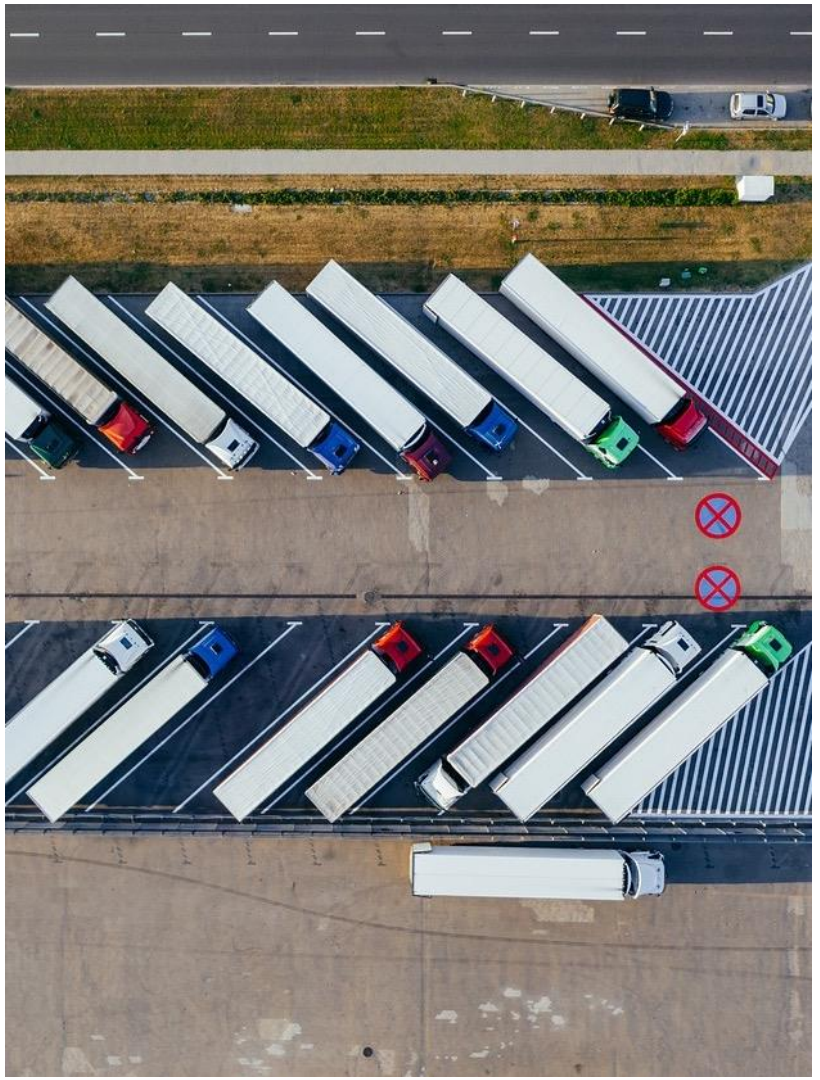
- Data, Desk and Primary Research Summary
- Local perspectives on the context and skills implications
- Estimates of current employment levels in heavy transport
- Trends in demand for alternative fuel skills and experience in heavy transport
- Future employment forecasts in heavy transport related occupations
- Hydrogen infrastructure developments

**Note:** data availability for the heavy transport implications of alternative fuels has been limited with continuing uncertainty of the type and impacts of alternative fuels and a 10-year plus development timeframe.



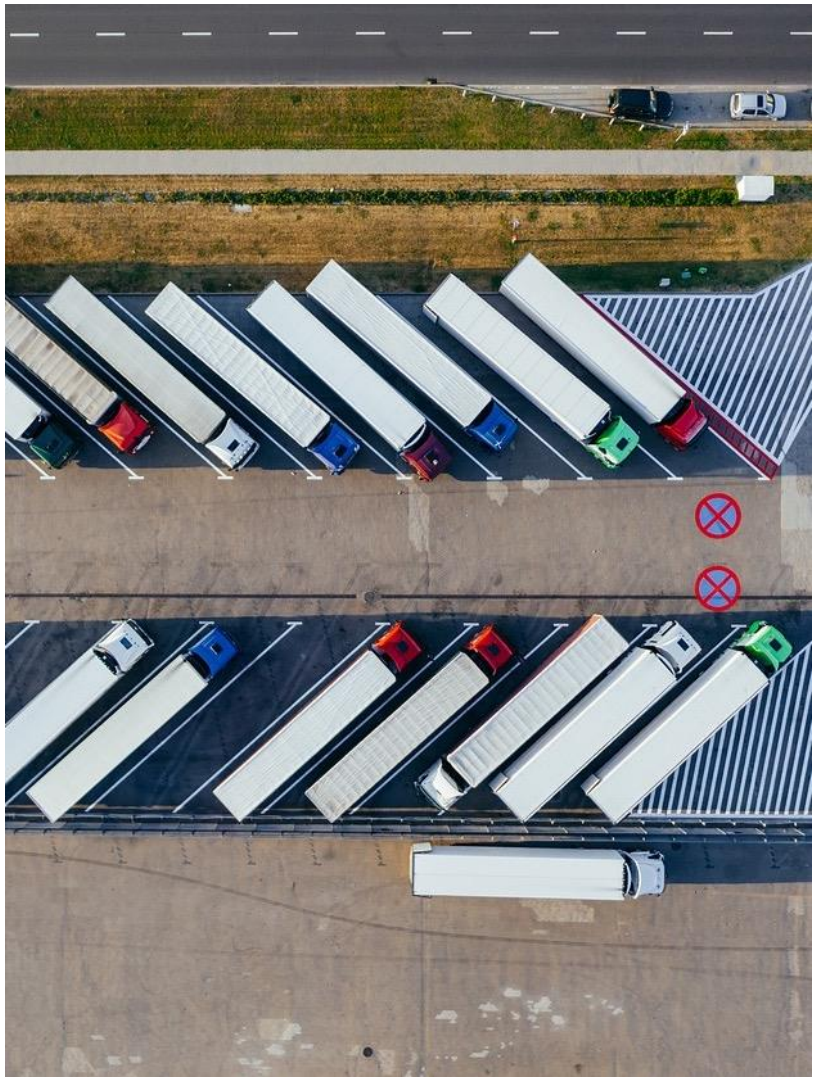
# ALTERNATIVE FUEL DEVELOPMENTS IN HEAVY TRANSPORT – DATA, DESK AND PRIMARY RESEARCH SUMMARY

- We conclude that the shift to alternative fuelled (and especially hydrogen) fleets will have very limited foreseeable impact on the local labour market (certainly in the timescales of this project up to 2030). This is both in terms of numbers employed and the skills required by those in the sector.
- There may be a small element of incremental up and re-skilling across some occupations e.g., Large Goods Vehicle Drivers - when it comes to fuelling, and Vehicle Technicians, Mechanics and Electricians.
- Analysis of vacancy data across heavy transport occupation type, focused on the need for alternative fuel skills/experience, shows that demand has been focused in North East Lincolnshire and is very minimal.
- Given that planned large-scale production of hydrogen is all set to take place in Northern Lincolnshire this is where early uptake and the resulting (minimal) skills and labour market impacts will be. We note trials of hydrogen fuelled vehicles to haul shipping containers (funded as part of a government project) have already taken place at Immingham Docks. This geographical focus on Northern Lincolnshire will be further compounded by the lack of current plans for the proposed hydrogen pipe network (ECH2) to reach down into southern Lincolnshire.
- From a labour market perspective, the pressing concern for the heavy transport sector is the training and recruitment of local people to current 'non-green' occupations. This is in light of current skills shortages, and also the projected levels of people leaving the workforce - especially Large Goods Vehicle Drivers. It is noted that skills shortages are reported as easing slightly, with less vacancies reported, and an increase in Driver recruitment through recent Apprenticeship and Skills Bootcamp talent pipelines. As for new job growth, demand is likely to centre on Vehicle Technicians, Mechanics and Electricians – again already in great demand.



# ALTERNATIVE FUEL DEVELOPMENTS IN HEAVY TRANSPORT – CONTEXT FROM STAKEHOLDERS

- Until recently, low carbon developments were seen as ‘for the future’, although they are now ‘front and centre’ due to the combination of increased energy costs and 2050 net zero policy imperatives. This has resulted in a ‘a complete sea change in business attitudes’ with a changing balance between profit/growth and environmental/social sustainability.
- Another driver of change has been the evident ‘Scope 3’ supply chain pressures on logistics firms to decarbonise. For example, diesel usage in Lincolnshire, mainly due to its prominence as the UK Food Valley, has been estimated at 220 million litres a year.
- The largest road trucks need to be on the road for 18.5 hours per day, meaning that EV is not currently a viable solution; hence the exploration of hydrogen fuelling options.
- There are highly diverse views across stakeholders about the role and potential for hydrogen developments, with it being viewed as a short-term diversionary “red herring” by some, with alternative views that ‘Lincolnshire is well placed to become the centre of hydrogen economy’, whilst recognising that other regions are also putting forward strong cases.
- There is definite low-carbon progression being made locally through EV batteries for smaller vehicles / vans (including a local seafood sector pilot) plus the wider international context of high-profile global manufacturer EV and hydrogen HGV technology development investments including Volvo, Mercedes, JCB and Hilux.
- Stakeholders noted a very small-scale EV pilot being conducted locally by a Lincolnshire food producer involving a single lorry, although it is too early to feedback on this. There is also early-stage pilot activity in South Lincolnshire researching the potential for local site-based hydrogen ‘by-product’ production as well as exploring other alternative energy sources, although this does not necessarily connect with hydrogen fuelling.



# LOCAL EMPLOYER INSIGHT CONCERNING ALTERNATIVE FUEL DEVELOPMENTS

In our Skills Conversations, local employers shared that:

- Sector alternative fuelling plans are only 'on the foot-slopes' in terms of emerging business plans.
- Fixed plant energy sources such as PV, Wind Turbines and Natural Gas are at a more advanced stage, with active pilots being developed; and being viewed by the sector as more controllable in risk terms at an individual business level.
- Mobile fleet alternative fuelling is seen as a far more complex, high risk and unpredictable issue that is very difficult for individual businesses to take forward due to a lack of: clear, scheduled infrastructure plans; a strong evidence base on fuelling options; sector-wide collaboration including customers; clear government policy and investment.
- The high costs of reinvesting in still 'unproven' LGV alternative fuelling technologies is a major deterrent to progress in an environment where increased costs to retailers (therefore impacting consumer prices) are not tenable.
- The slow progress with government-led infrastructure plans remains a major barrier to local innovation and investment.
- The proposed hydrogen pipeline for Lincolnshire does not cover the whole of the county, leaving some areas remote from access points.
- A view that any early hydrogen initiative will take place close to fuel-sources i.e. near the hydrogen supply being developed in Northern Lincolnshire – rather than, for example, within the South Lincolnshire food production cluster.

# LOCAL EMPLOYER INSIGHT CONCERNING JOB AND SKILLS IMPLICATIONS OF ALTERNATIVE FUEL DEVELOPMENTS

In our Skills Conversations, local employers shared that:

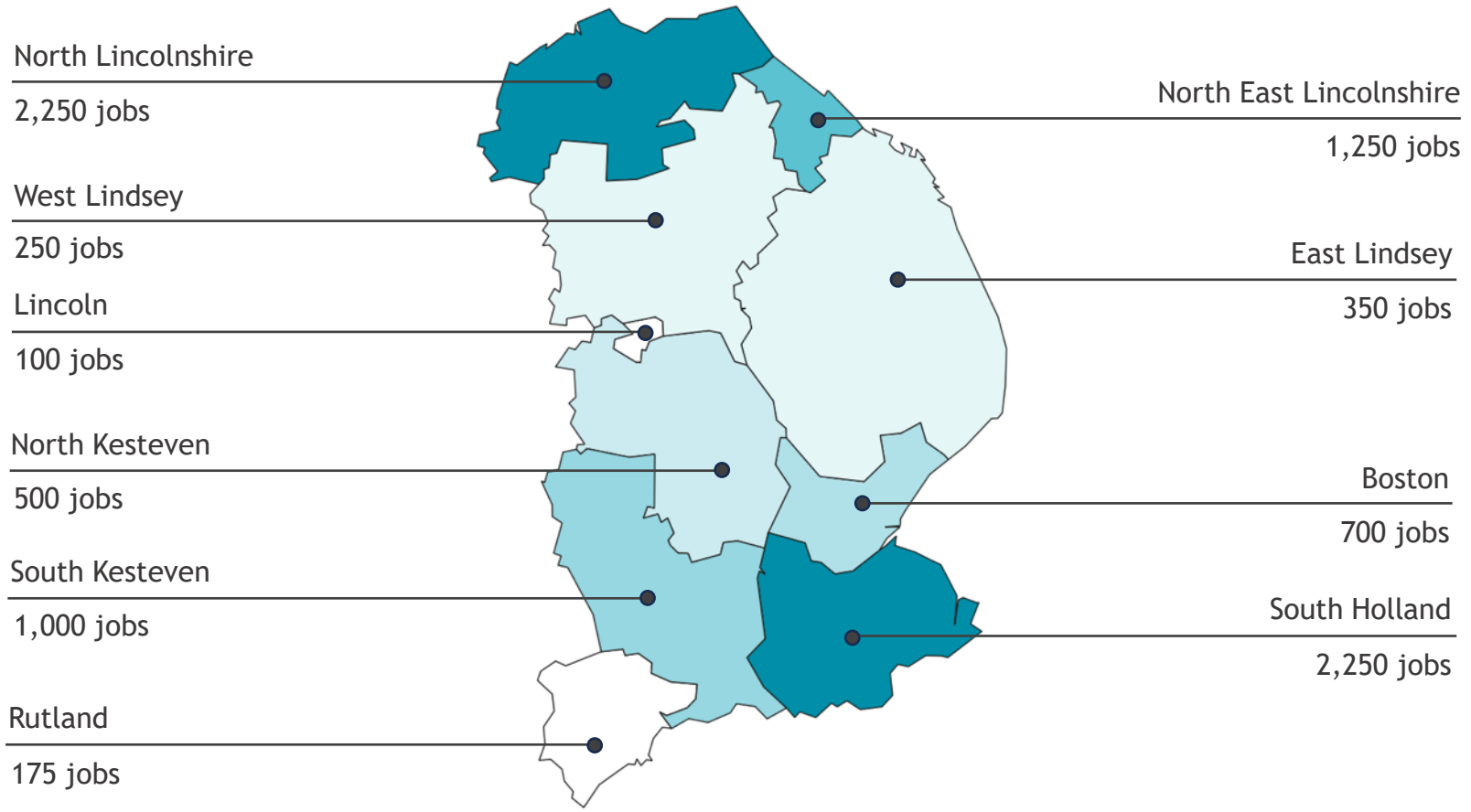
- There is still a long-term and continuing shortage of LGV Drivers exacerbated by Brexit and Covid, although locally skills shortages are seen as becoming less acute.
- Workforce diversity remains a challenge with only 2% of Drivers female, although apprenticeships, and other creative skills approaches, are starting to make a (modest) difference to this.
- New fuelling systems are not seen as a barrier in terms of LGV Driver skills, with the transition to any new fuelling approaches seen as little more than the need to contextualise existing skills to the new fuel source.
- Drivers are increasingly 'tech-savvy'. For example, utilising smartphone telematics. Any new systems required by alternative fuels, therefore, should not be a barrier.
- In-house apprenticeship schemes (often funded through Levy) plus specialist LGV Driver Skills Bootcamps are increasing the supply of qualified Drivers available locally.
- A view that the Driver role will not fundamentally change in terms of its day-to-day activities, or its appeal to potential applicants should it become a 'greener, less carbon-emitting' occupation with most aspects of the role unchanged.

# EMPLOYMENT IN HEAVY TRANSPORT ACROSS GREATER LINCOLNSHIRE

Whilst heavy transport is an important local sector in terms of its national strategic importance connected to food security, it is also a significant creator of employment opportunities for local people. In total the heavy transport sector (defined here using the Standard Industrial Classification code of 49140: Freight transport by road) employed 9,000 people across Greater Lincolnshire in 2022. 47 per cent (4,125 people) of employment in the sector is concentrated in the south (Boston, South Holland, South Kesteven, and Rutland), with a further 40 per cent (3,500 people) in the north (North Lincolnshire and North East Lincolnshire. These latest figures from the Business Register and Employment Survey show that job numbers have dropped quite significantly in the last year, from 11,000 in 2021 to 9,000 in 2022. This represents an 18 per cent drop locally, whilst nationally job numbers in the sector have dropped by 15 per cent over the same period.

**Source:** Business Register and Employment Survey 2022, Office for National Statistics

Employment in Freight Transport by Road Sector Across Greater Lincolnshire, 2022



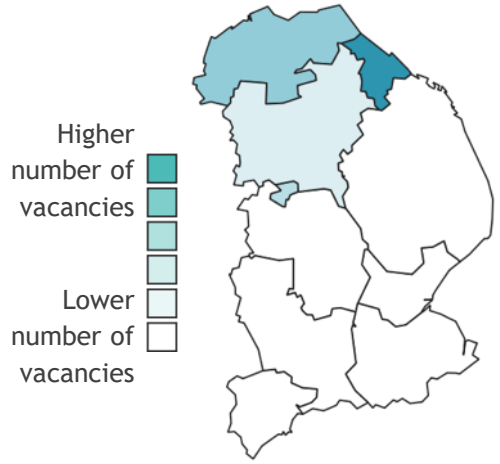
# DEMAND IN HEAVY TRANSPORT FOR ALTERNATIVE FUEL / BIOFUEL / HYDROGEN SKILLS

Total vacancies posted in Greater Lincolnshire during the period August 2019 –July 2024 for heavy transport jobs* that mention alternative fuel/biofuel/hydrogen totalled 25, which was 0.9% of the UK total (2,718). The majority of recruitment during this period has been in North East Lincolnshire. Over the last five years, and both locally and nationally, we can see vacancy activity peaking in late 2023, but numbers have dropped since then.

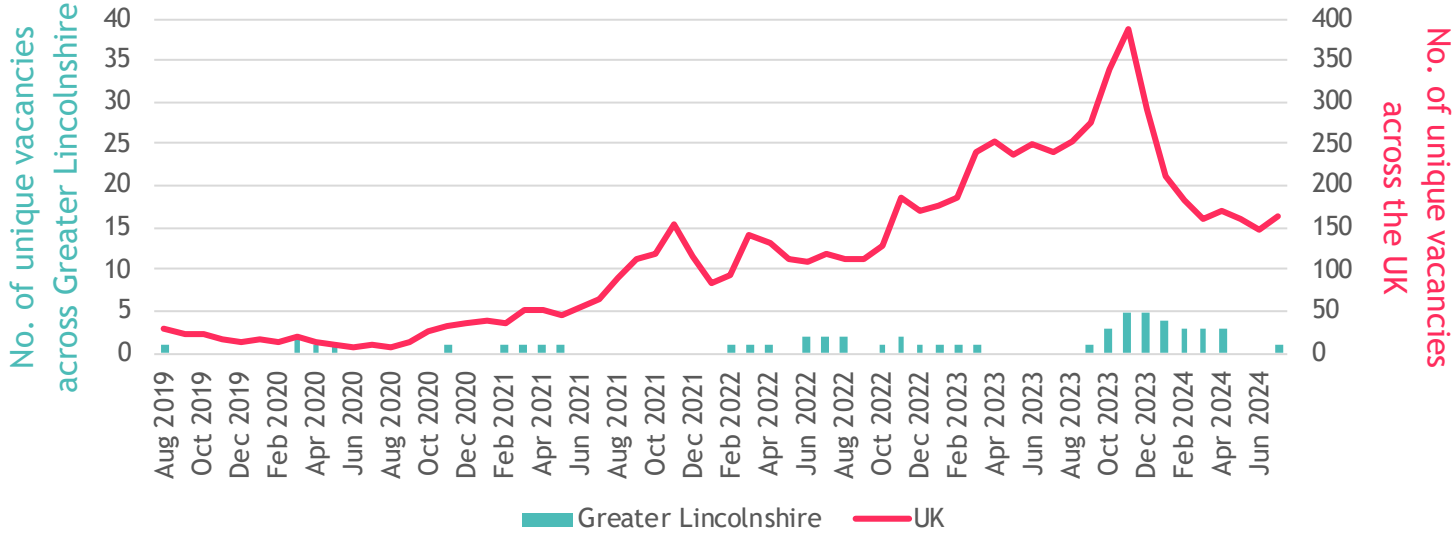
Referring to the next slide, occupational recruitment has been focussed on Transport and Distribution Clerks and Assistants, and Vehicle Technicians. As for specialist skills requirements, 'vehicle maintenance' is high up the list as are 'oil and gas' and 'refinery experience'.

***Note:** Large Goods Vehicle Drivers, Vehicle Technicians, Mechanics and Electricians, Transport and Distribution Clerks and Assistants, Managers in Transport and Distribution, Managers in Logistics, Managers in Storage and Warehousing, Directors in Logistics, Warehousing and Transport.

**Source:** Lightcast

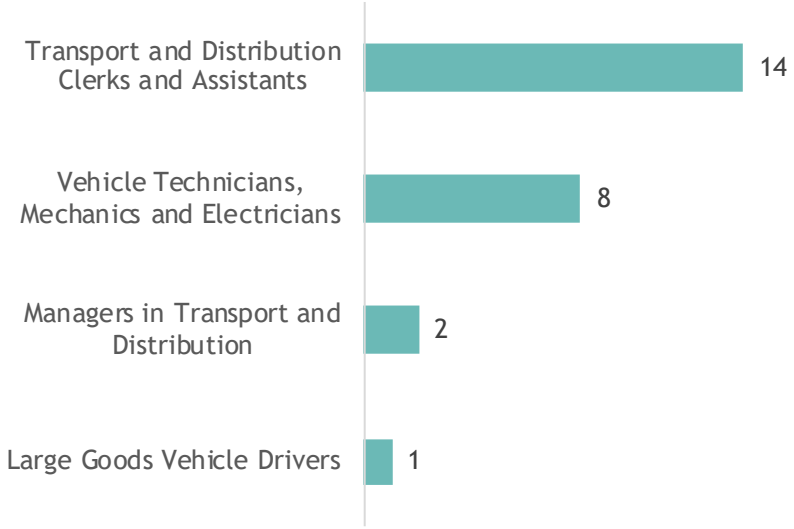



| Unique Postings from Aug 2019 - Jul 2024 | |
|---|---|
| North East Lincolnshire | 13 |
| North Lincolnshire | 4 |
| Lincoln | 3 |
| West Lindsey | 2 |
| Boston | 1 |
| East Lindsey | 0 |
| South Kesteven | 0 |
| South Holland | 0 |
| Rutland | 0 |
| North Kesteven | 0 |

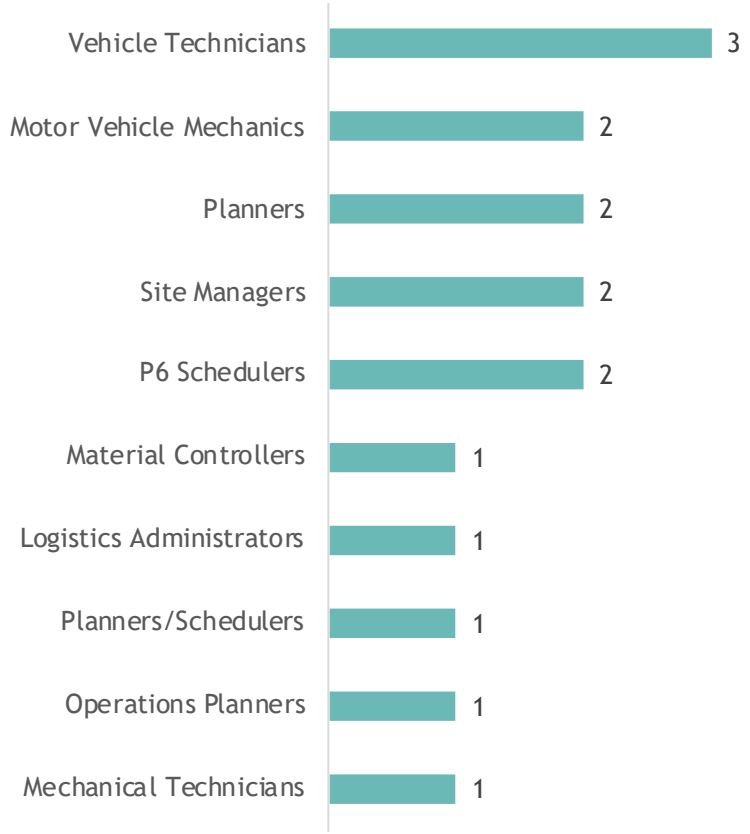


# DEMAND IN HEAVY TRANSPORT FOR ALTERNATIVE FUEL / BIOFUEL / HYDROGEN SKILLS

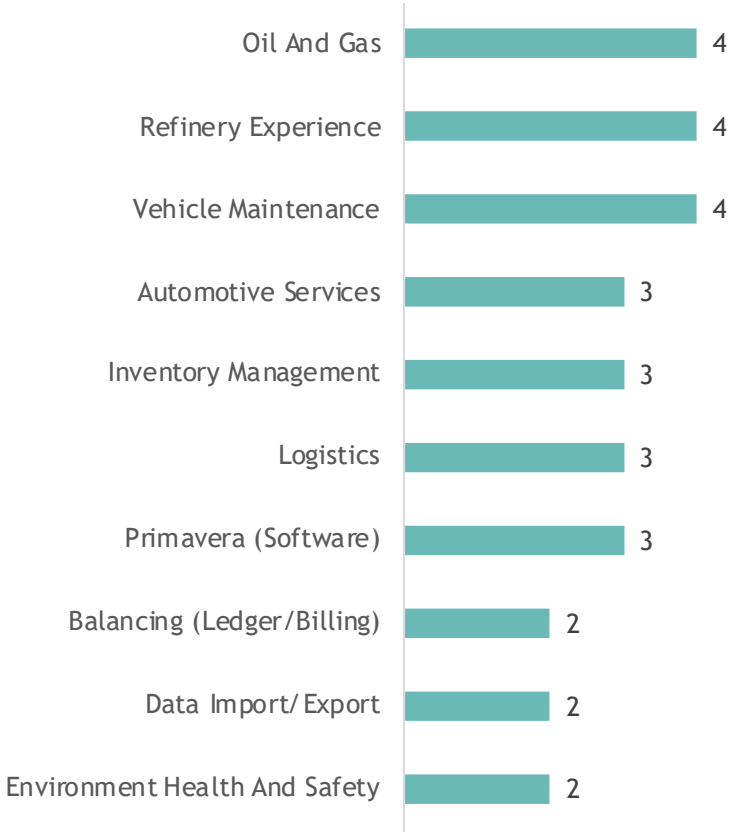
Top occupations of vacancies posted in Greater Lincolnshire in the period Aug19-Jul24 for heavy transport jobs that mention either “alternative fuel”, “biofuels”, or “hydrogen”




Top 10 job titles of vacancies posted in Greater Lincolnshire in the period Aug19-Jul24 for heavy transport jobs that mention either “alternative fuel”, “biofuels”, or “hydrogen”




Top 10 specialist skills requested in vacancies posted in Greater Lincolnshire in the period Aug19-Jul24 for heavy transport jobs that mention either “alternative fuel”, “biofuels”, or “hydrogen”

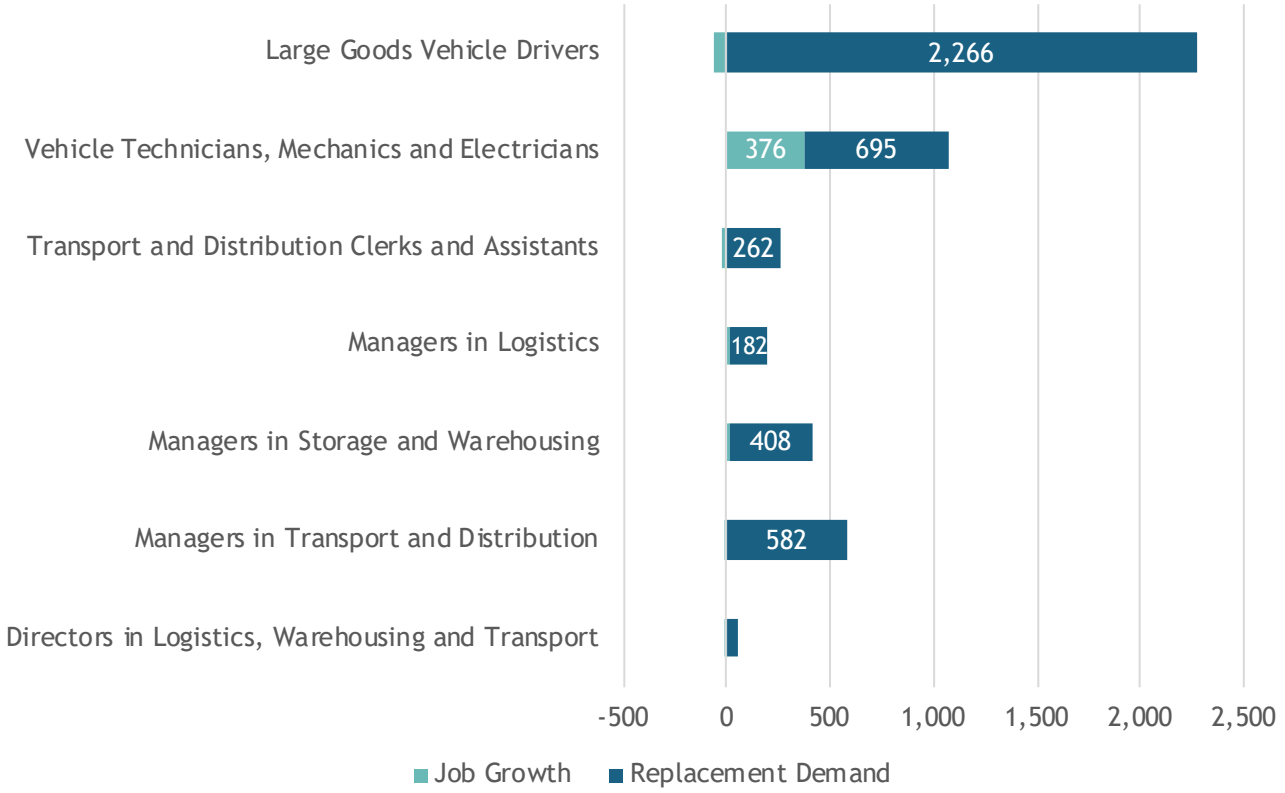


# SKILLS AND LABOUR MARKET IMPLICATIONS FOR HEAVY TRANSPORT

Our analysis of the data available shows that currently, the demand for skills and experience around alternative fuels/biofuels/hydrogen within the heavy transport sector is minimal. Perhaps the more pressing issue for the heavy transport sector is that of an ageing demographic and, as a result, the number of people that will leave the sector (mainly through retirement) before the end of the decade. We have considered occupations most closely aligned with the heavy transport sector (noting that not all people working in these occupations will necessarily be working in the sector barring large goods vehicle drivers) and, as the chart on the right shows, there is very limited jobs growth projected over the remainder of this decade (although we note high growth in Vehicle Technicians, Mechanics and Electricians – roles likely to be the most impacted by alternative fuel developments and resulting skills requirements). The vast majority of demand is replacement demand, particularly in terms of LGV Drivers.

**Source:** Lightcast

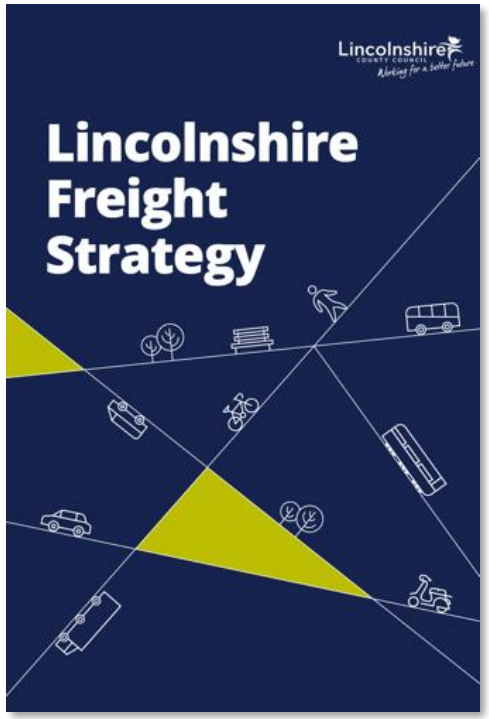
Heavy Transport Relevant Occupations by Projected Total Job Openings (Job Growth Plus Replacement Demand), Greater Lincolnshire 2023 - 2030

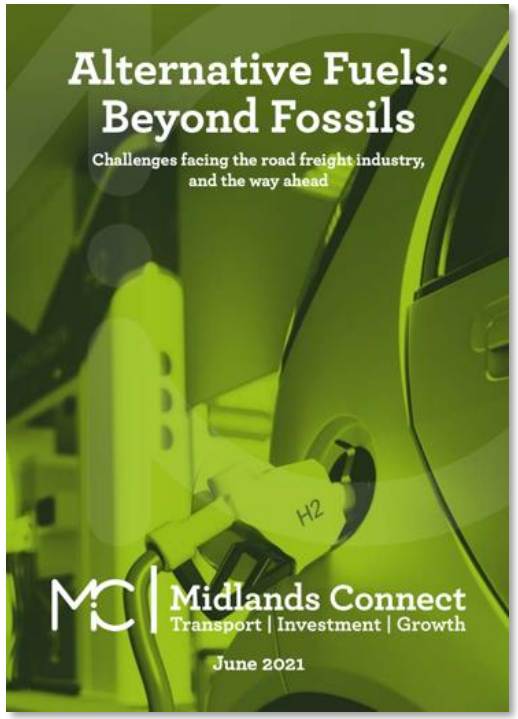


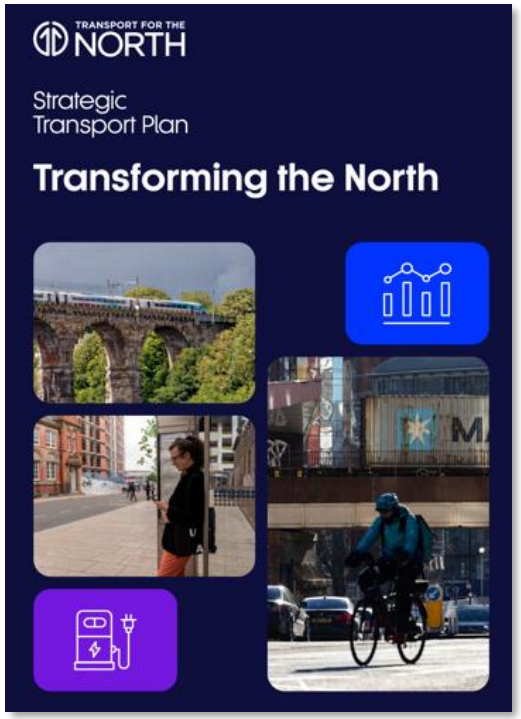
# DESK RESEARCH - STRATEGIES FOR ALTERNATIVE FUEL USE IN HEAVY TRANSPORT

As part of our desk research, we reviewed a number of local and regional transport strategies to obtain a view on the direction of travel of the 'heavy transport' sector when it comes to switching from fossil to alternative fuels and particularly to hydrogen. The evidence base at this stage is limited, which in part could be down to a lack of certainty of government policy, but also ongoing technological innovation and development.

The Lincolnshire Freight Strategy reports of "uncertainty over the role that alternative fuels will play in relation to freight sector vehicles. Operators were unclear as to which technology they should invest in and were concerned about the implications of refuelling vehicles". As a result, there is the opportunity to "provide a good coverage of charging and refuelling points" which in turn "will provide confidence and encourage take-up". At present this means working with DfT and Midlands Connect in the "support (of) initiatives to encourage uptake of alternatives fuels, such as charging infrastructure".



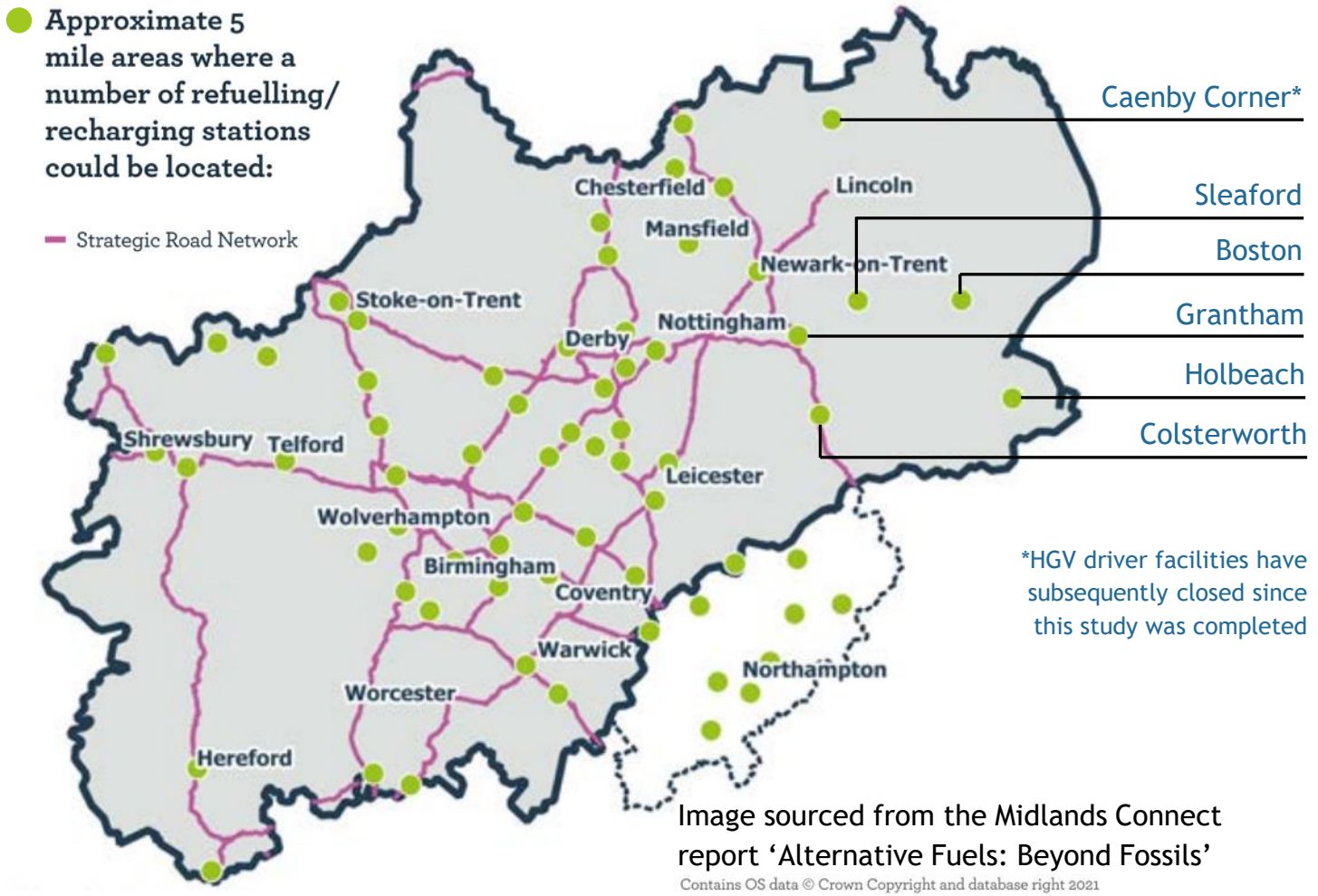



# DESK RESEARCH - STRATEGIES FOR ALTERNATIVE FUEL USE IN HEAVY TRANSPORT

Midlands Connect carried out a high-level assessment focusing on identifying key logistics sites and freight service stations in the Midlands, and those locations suitable for LGVs. 66 locations were identified across the Midlands, with six of these situated in Lincolnshire. Whilst the map is for illustration purposes only, it would appear that some of these sites are based on existing LGV driver facilities (e.g., Colsterworth, and Caenby Corner – although the latter is currently closed). By 2040, it is estimated that the LGV fleet in the Midlands will require a maximum of 65 hydrogen refuelling stations. The costs to install the recharging/refuelling infrastructure required for the freight industry in the Midlands by 2040 are estimated at £800 million.

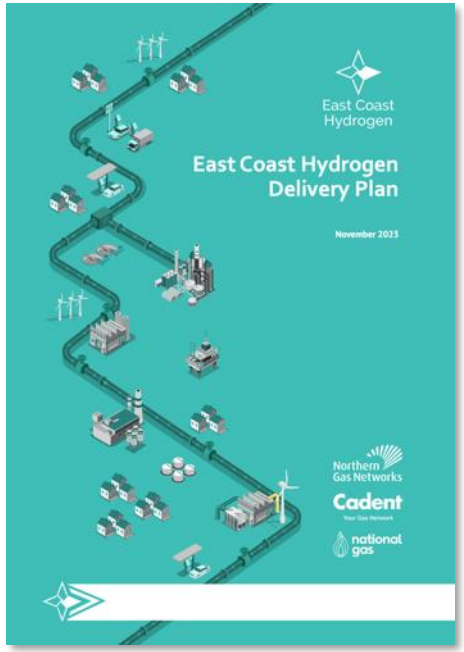
The Transport for the North Strategic Transport Plan (2024) states that they are working in collaboration with gas distribution network operators to understand potential hydrogen refuelling demand in the North from heavy duty transport, merging with the energy sector's plans for early hydrogen supply and gas grid conversion. The outputs of this work will be available at some point in the future.



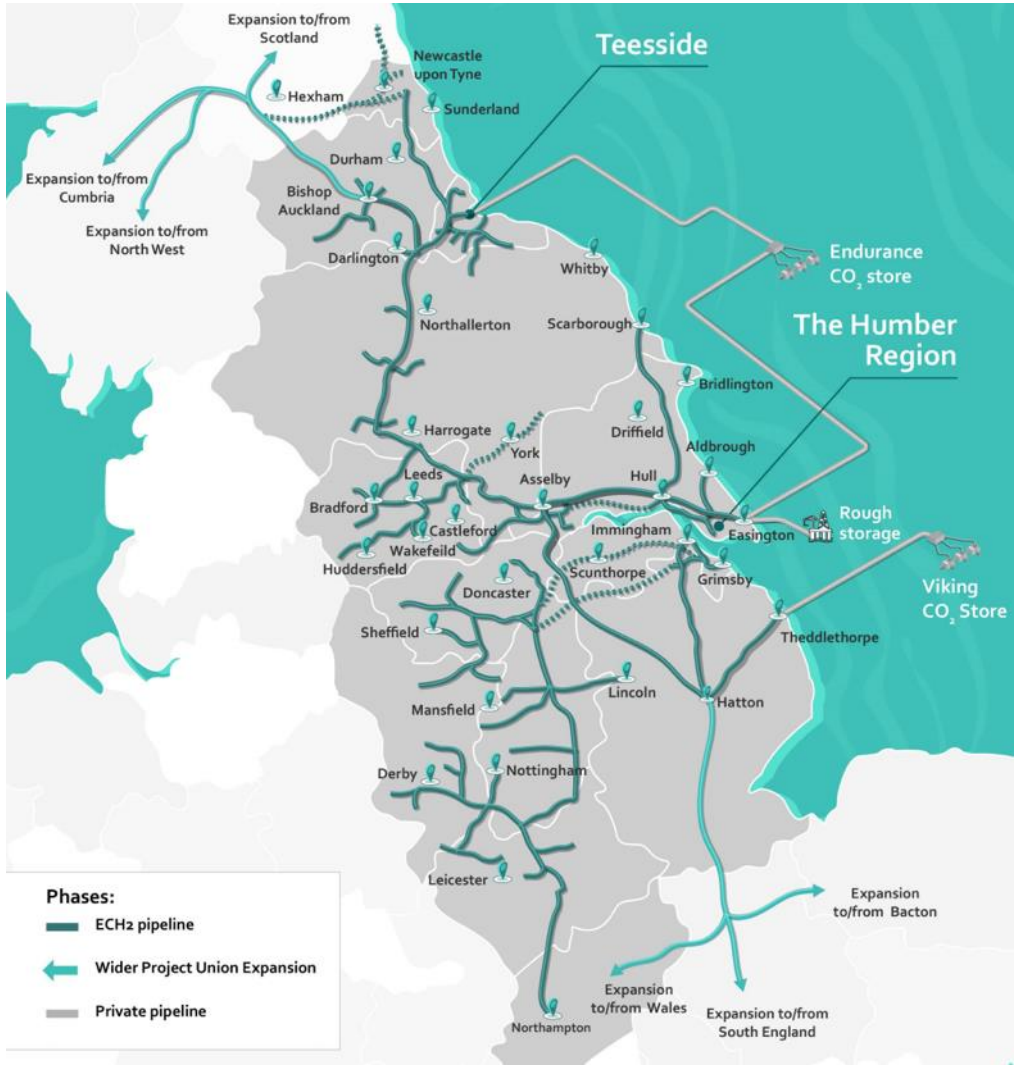
# DESK RESEARCH - LOCAL HYRDROGEN INFRASTRUCTURE DEVELOPMENT PLANS

Focusing on hydrogen infrastructure plans, we have reviewed the East Coast Hydrogen Delivery Plan. Referring to the map image on the right (which is a direct lift from the plan), it demonstrates that there are no current plans for the ECH2 pipeline to reach down into southern Lincolnshire, with expansion beyond the Hatton ‘compressor station’ being described as a “wider project” which if it does take place, would happen post 2037. We also note here that Hatton is actually further to the north of Lincolnshire than it is shown in the map image.

**Note:** The network configuration shown in the image includes new build and repurposed pipelines and is indicative and subject to change.




2037:ECH2 Routing – Initial options for routing of ECH2 hydrogen infrastructure



# APPENDIX

## Green Energy Relevant Occupations

| SOC Code | SOC Description |
|---|---|
| 1121 | Production Managers and Directors in Manufacturing |
| 1123 | Production managers and directors in mining and energy |
| 2111 | Chemical scientists |
| 2112 | Biological scientists |
| 2114 | Physical scientists |
| 2119 | Natural and social science professionals n.e.c. |
| 2122 | Mechanical engineers |
| 2123 | Electrical engineers |
| 2125 | Production and process engineers |
| 2126 | Aerospace engineers* |
| 2127 | Engineering project managers and project engineers |
| 2129 | Engineering professionals n.e.c. |
| 2131 | IT Project Managers |
| 2132 | IT Managers |
| 2133 | IT Business Analysts, Architects and Systems Designers |
| 2134 | Programmers and Software Development Professionals |
| 2137 | IT Network Professionals |
| 2152 | Environment professionals |
| 2161 | Research and development (R&D) managers |
| 2162 | Other researchers, unspecified discipline |
| 2311 | Higher education teaching professionals |
| 2422 | Finance and investment analysts and advisers |

| SOC Code | SOC Description |
|---|---|
| 2431 | Management consultants and business analysts |
| 2481 | Quality control and planning engineers |
| 2482 | Quality Assurance and Regulatory Professionals |
| 2483 | Environmental health professionals |
| 3111 | Laboratory technicians |
| 3113 | Engineering technicians |
| 3116 | Planning, process and production technicians |
| 3119 | Science, engineering and production technicians n.e.c. |
| 3131 | IT Operations Technicians |
| 3544 | Data analysts |
| 3581 | Inspectors of standards and regulations |
| 3582 | Health and safety managers and officers |
| 5234 | Aircraft maintenance and related trades* |
| 5242 | Telecoms and Related Network Installers and Repairers |
| 5246 | Electrical service and maintenance mechanics and repairers |
| 8119 | Process operatives n.e.c. |
| 8133 | Energy Plant Operatives |
| 8139 | Plant and Machine Operatives n.e.c. |
| 8149 | Assemblers and Routine Operatives n.e.c. |
| 8232 | Marine and Waterways Transport Operatives |
| 9139 | Elementary Process Plant Occupations n.e.c. |

# APPENDIX

## Green Energy Relevant / Engineering Construction Occupations

| SOC Code | SOC Description |
|---|---|
| 5212 | Metal plate workers and riveters |
| 5213 | Welding trades |
| 5214 | Pipe fitters |
| 5223 | Metal working production and maintenance fitters |
| 5225 | Air-conditioning and refrigeration installers and repairers |
| 5241 | Electricians and electrical fitters |
| 5250 | Skilled Metal, Electrical and Electronic Trades Supervisors |
| 5315 | Plumbers and heating and ventilating installers and repairers |

# APPENDIX

## Engineering Construction Occupations

| SOC Code | SOC Description |
|---|---|
| 1122 | Production Managers and Directors in Construction |
| 2121 | Civil engineers |
| 2451 | Architects |
| 2452 | Chartered architectural technologists, planning officers and consultants |
| 2453 | Quantity Surveyors |
| 2454 | Chartered Surveyors |
| 2455 | Construction Project Managers and Related Professionals |
| 3120 | CAD, Drawing and Architectural Technicians |
| 5319 | Construction and Building Trades n.e.c. |
| 5330 | Construction and Building Trades Supervisors |
| 8151 | Scaffolders, stagers and riggers |
| 9129 | Elementary construction occupations n.e.c. |

# APPENDIX

## Professional Support Jobs

| SOC Code | SOC Description |
|---|---|
| 1111 | Chief executives and senior officials |
| 1131 | Financial Managers and Directors |
| 1132 | Marketing, sales and advertising directors |
| 1133 | Public Relations and Communications Directors |
| 1134 | Purchasing Managers and Directors |
| 1136 | Human Resource Managers and Directors |
| 1150 | Managers and Directors in Retail and Wholesale |
| 1259 | Managers and Proprietors in Other Services n.e.c. |
| 2141 | Web design professionals |
| 2142 | Graphic and multimedia designers |
| 2412 | Solicitors and Lawyers |
| 2421 | Chartered and Certified Accountants |
| 2423 | Taxation experts |
| 2432 | Marketing and Commercial Managers |
| 2434 | Business and related research professionals |
| 2435 | Professional/Chartered Company Secretaries |
| 2439 | Business, research and administrative professionals n.e.c. |
| 2440 | Business and financial project management professionals |
| 2493 | Public Relations Professionals |
| 3520 | Legal Associate Professionals |
| 3533 | Financial and Accounting Technicians |

| SOC Code | SOC Description |
|---|---|
| 3534 | Financial Accounts Managers |
| 3543 | Project support officers |
| 3551 | Buyers and Procurement Officers |
| 3554 | Marketing associate professionals |
| 3556 | Sales accounts and business development managers |
| 3571 | Human Resources and Industrial Relations Officers |
| 4122 | Book-keepers, Payroll Managers and Wages Clerks |
| 4124 | Finance Officers |
| 4136 | Human Resources Administrative Occupations |
| 4159 | Other administrative occupations n.e.c. |