# Low Carbon Environmental Goods and Services Sector Study 2024: Short Report for Stoke-on-Trent & Staffordshire

Commissioned by the Midlands Net Zero Hub, this report provides 2024 data of the LCEGS sector, updating the 2021 study.

## 1. Introduction

This document has been prepared to provide an overview summary of the LCEGS sector within Stoke-on-Trent & Staffordshire. Reports on the wider picture of the MNZH region and Local Authorities (with example companies), including datasets are available here. Additional detailed data is available from kMatrix; and further recommendations and details on areas of focus are available through the Climate Action Benchmarking study.

Local Authorities with separate reports within the Stoke-on-Trent & Staffordshire are:

- Cannock Chase District Council
- East Staffordshire Borough Council
- Lichfield District Council
- Newcastle-under-Lyme District Council
- South Staffordshire Council
- Stafford Borough Council
- Staffordshire Moorlands District Council
- Stoke-on-Trent City Council
- Tamworth Borough Council

## 2. Current Activity Supporting the Growth of the Sector

Activity at the Stoke-on-Trent & Staffordshire level relevant to the wider geographical region:

- The Staffordshire County Council Green Solutions programme in affiliation with the Business Energy Advice Service (BEAS) offers support and funding to businesses across the region to reduce their greenhouse gas emissions. This includes free energy assessments, free carbon literacy training and a 50% Low Carbon Grant of up to £100,000 to implement recommended actions, such as the installation of solar panels, thereby helping to drive demand in the LCEGS sector.

- Staffordshire Business Environment Network is one of the biggest environmental networks in the country, with over 750 members. It offers training and support to its members and has been growing the LCEGS sector in Staffordshire for over 30 years.
- Staffordshire Green Skills for Growth is a programme funded by Innovate UK and is run in partnership with Staffordshire County Council and Keele University. It aims to model the pipeline of net zero skills needed in the region through to 2050 and establish a skills development and investment plan in collaboration with the region's major education providers.
- Stoke-on-Trent is a major center of energy innovation and low carbon adoption, and the Stoke District Heat Network and Smart Energy Network Demonstrator are national assets that allow businesses and academic researchers to collaborate, share expertise to innovate and grow.

## 3. Recommendations

Recommendations for the Stoke-on-Trent & Staffordshire are:

- Reduce barriers for businesses accessing funding for energy efficiency improvements. Expand on Staffordshire County Council's work to offer full grants to cover these costs, or interest-free loans for costs which grants do not cover, rolling out this service across the region.
- Engage with manufacturing and construction clusters in nearby regions such as the Black Country Industrial Cluster, to assess feasibility of expansion into Stoke-on-Trent and Staffordshire, or creation of a similar cluster to help decarbonise one of the most energy intensive industries in the region.
- Build upon and promote the SBEN Green Suppliers Directory, encouraging local businesses to apply to be listed. This can act as a centralised hub for businesses to find local suppliers and raise the profile of local low carbon businesses.
- Ensure business support provided offers a tiered approach. Low level interventions should be available to increase awareness and gap analysis for companies getting started in their low carbon journey, and higher-level knowledge support should also be available, helping companies create sustainability roadmaps and determine net zero targets.

- Facilitate collaboration between local skill providers, educational institutions, local authorities and LCEGS businesses to ensure training courses and apprenticeships are available that address specific skills gaps identified in the sector.

## 4. Headline Figures for Stoke-on-Trent & Staffordshire

Headline figures for the Stoke-on-Trent & Staffordshire area are:

- The LCEGS sector in Stoke-on-Trent & Staffordshire was worth £3.3bn in 2023/24 and is forecast to grow to £5.3bn over the next 5 years
- The LCEGS sector accounts for 7.1% of GVA, 3.7% of employment, and sales accounts for 7.9% of GDP in Stoke-on-Trent & Staffordshire
- Stoke-on-Trent & Staffordshire's LCEGS Sales generates 10.2% of the LCEGS Sales in the MNZH region, slightly lower than the 10.7% of total GDP contribution
- Stoke-on-Trent & Staffordshire's LCEGS GVA generated 10.1% of the MNZH's LCEGS GVA, slightly lower than its10.6% total GVA contribution
- Stoke-on-Trent & Staffordshire's LCEGs employment accounts for 9.7% of MNZH's LCEGS employment, lower than its 11.2% of economically active people in the MNZH
- Net Zero 2030 targets are expected to require between 2,549 and 14,807 FTE employees in addition to those employed now in Stoke-on-Trent & Staffordshire
- Net Zero 2050 targets are expected to require between 31,955 and 76,017 FTE employees in addition to those employed now in Stoke-on-Trent & Staffordshire
- Stoke-on-Trent & Staffordshire's LCEGS sector could generate up to 76,017 jobs between 2023/24 and 2050*
- Between 2019/20 and 2023/24, Investment in R&D for the LCEGS sector has grown from £129m to £209m for Private Equity Investment; £267m to £376m for Venture Capital Investment; and £404m to £537m for Other Investment.

- Exports in the LCEGS sector for Stoke-on-Trent & Staffordshire have increased from £298m in 2019/20 to £338m in 2023/24.

*The majority of increase from 2030 targets due to additional 20 years of wider economic growth

## 5. Stoke-on-Trent & Staffordshire's LCEGS Sector Key Metrics

Key metrics in Stoke-on-Trent & Staffordshire for each financial year from 2019/20 to 2023/24, with growth between years:

| Stoke-on-Trent & Staffordshire | 2019/20 | % growth | 2020/21 | % growth | 2021/22 | % growth | 2022/23 | % growth | 2023/24 |
|---|---|---|---|---|---|---|---|---|---|
| Sales | £2.73bn | -10.5% | £2.45bn | 8.2% | £2.65bn | 9.6% | £2.90bn | 14.1% | £3.31bn |
| GVA | £2.16bn | -10.1% | £1.94bn | 7.7% | £2.09bn | 9.6% | £2.29bn | 14.0% | £2.61bn |
| # FTE Employees | 19,567 | -6.8% | 18,238 | 11.3% | 20,293 | 10.6% | 22,444 | 14.1% | 25,615 |
| # Companies | 935 | -10.1% | 840 | 7.4% | 902 | 9.5% | 988 | 13.8% | 1,124 |

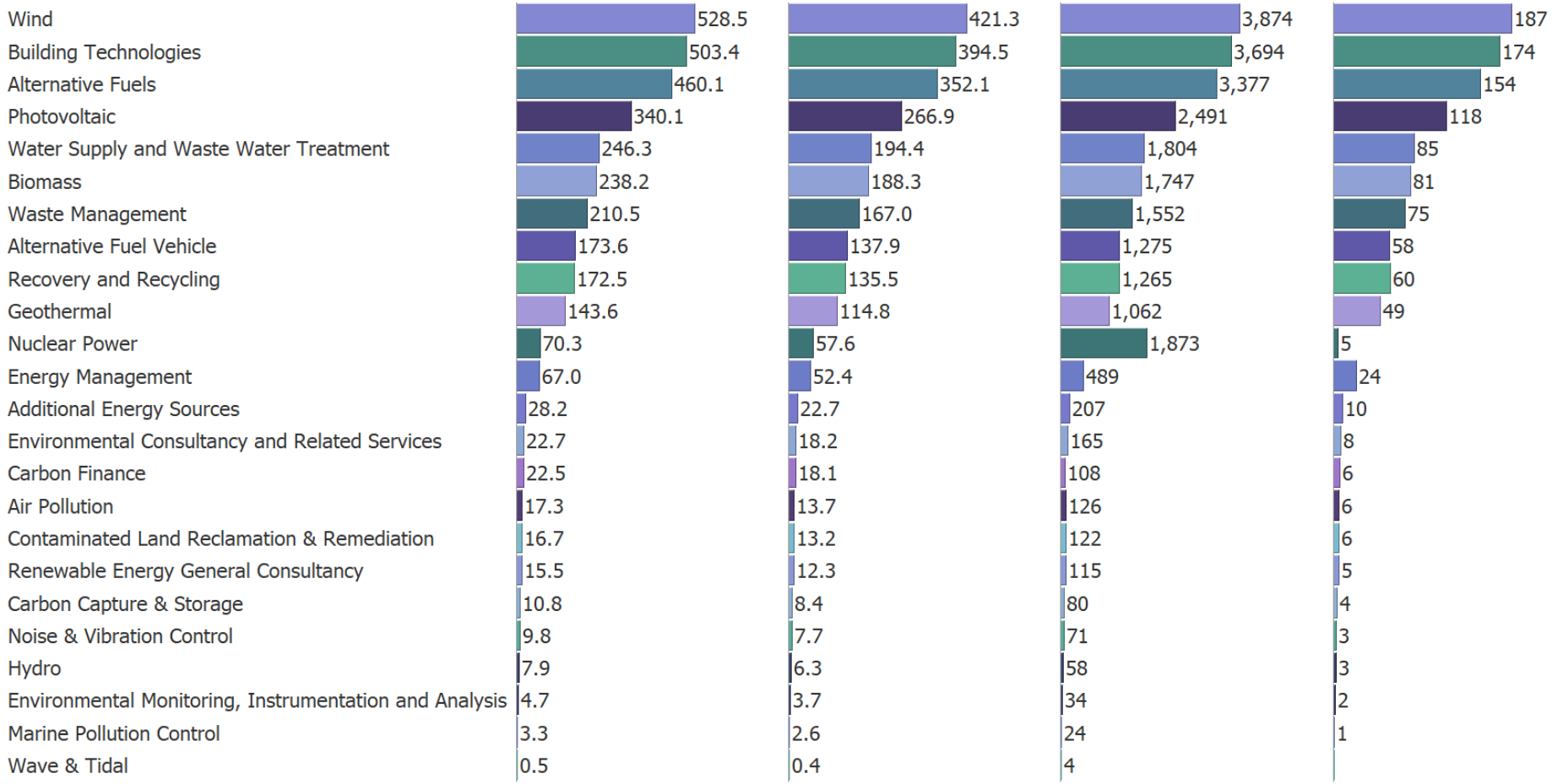
Note: the total numbers for 2019/20 are higher than those reported in 2021 due to an adjustment made in the Nuclear Power sub-sector in the Stoke-on-Trent City Council area.

All metrics have recovered from the pandemic in 2020 and saw growth across the reporting period from 2021/22 to 2023/24.

## 6. Stoke-on-Trent & Staffordshire's Sub-sectors Key Metrics

All twenty-four sub-sectors of the LCEGS sector have activity in Stoke-on-Trent & Staffordshire, with the 2023/24 values for Sales, GVA, FTE Employees and number of companies in figure 1.

Figure 1: Sales, GVA, FTE Employees and number of companies in Stoke-on-Trent & Staffordshire in 2023/24 by sub-sector



The largest twelve sub-sectors account for 95% of sales, 95% of GVA, 96% of employment and 95% of companies in the LCEGS sector. These twelve sub-sectors are Wind; Building Technologies; Alternative Fuels; Photovoltaic; Water Supply & Waste Water Treatment; Biomass; Waste Management; Alternative Fuel Vehicle; Recovery & Recycling; Geothermal; Nuclear Power and Energy Management.

## 7. Stoke-on-Trent & Staffordshire's Sub-sector Growth Compared with the UK

Sub-sectors that saw stronger growth in sales than the UK average between 2021/22 and 2023/24 for Stoke-on-Trent & Staffordshire include:

| Sub-sector | Stoke-on-Trent & Staffordshire Sales 2023/24 | Stoke-on-Trent & Staffordshire Growth 2021/22 to 2023/34 | UK Growth 2021/22 to 2023/34 |
|---|---|---|---|
| Air Pollution | £17.3m | 25% | 7% |
| Contaminated Land Reclamation & Remediation | £16.7m | 25% | 9% |
| Environmental Consultancy and Related Services | £22.7m | 24% | 11% |
| Recovery and Recycling | £172.5m | 23% | 11% |
| Waste Management | £210.5m | 24% | 8% |
| Water Supply and Waste Water Treatment | £246.3m | 27% | 5% |
| Additional Energy Sources | £28.2m | 25% | 10% |
| Alternative Fuel Vehicle | £173.6m | 24% | 12% |
| Alternative Fuels | £460.1m | 25% | 14% |
| Building Technologies | £503.4m | 26% | 16% |
| Energy Management | £67.0m | 26% | 10% |
| Nuclear Power | £70.3m | 27% | 8% |
| Biomass | £238.2m | 25% | 24% |
| Geothermal | £143.6m | 26% | 18% |
| Photovoltaic | £340.1m | 25% | 21% |
| Wind | £528.5m | 26% | 23% |

Only sub-sectors contributing more than 1% of the total Sales in Stoke-on-Trent & Staffordshire have been included in this table.

Of the 16 sub-sectors that grew stronger than the UK, Recovery & Recycling; Waste Management; Water Supply & Waste Water Treatment; Alternative Fuel Vehicle; Alternative Fuels; Building Technologies; Energy Management; Nuclear Power; Biomass; Geothermal; Photovoltaic; and Wind are also large sub-sectors and should be considered a strength of Stoke-on-Trent & Staffordshire.

## 8. Stoke-on-Trent & Staffordshire's Skills Forecast to Net Zero 2030 and 2050

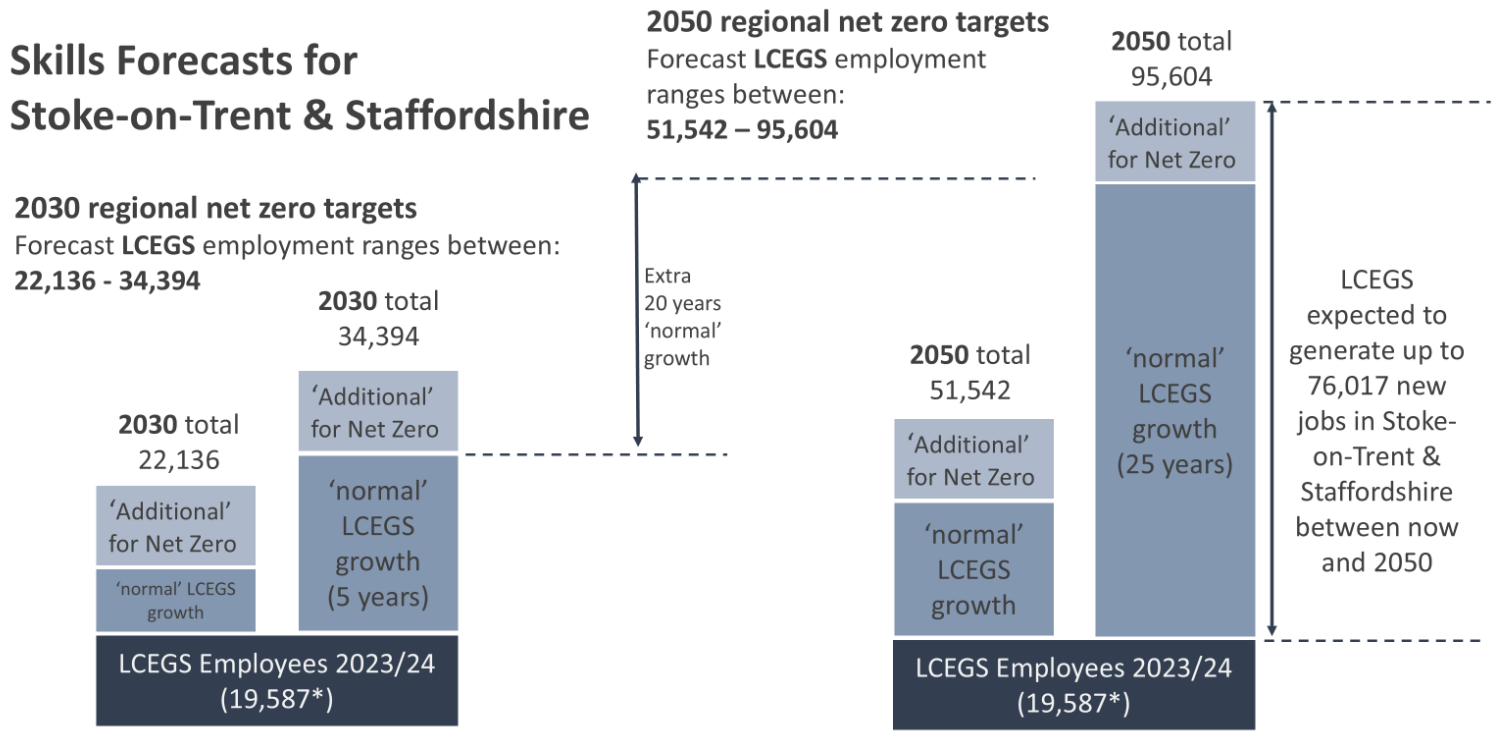
This section provides highlights of the skills analysis. Skills forecast tables are available from the Midlands Net Zero Hub.

The LCEGS sector is expected to generate up to 76,017 jobs in Stoke-on-Trent & Staffordshire between 2023/24 and 2050. The majority of growth is determined by usual growth in the sector as the LCEGS sector services the wider economy, forecasts are therefore provided as a range, determined by the potential growth of the sector before the requirement to reach net zero targets is overlaid. Regional net zero targets place an additional skills requirement for the sector above usual growth. They are influenced by changes in practice, new technologies and technology compression.

Key points from the skills analysis:

- Stoke-on-Trent & Staffordshire has increased the number of people working in the sector and reduced the overall skills gap from 6.7% to 6.4% since 2019/20.
- The economic challenges of the last four years have resulted in less time to achieve targets, and despite the increase in total employment in the sector, the forecast number of employees required to reach net zero targets are higher than forecasts made in 2020.
- The 2021 report forecast a need for a 10% increase in 2019/20 employment numbers in LCEGS to reach net zero 2030 targets, this is now reduced to 6% increase in 2023/24 employment numbers, although strong economic growth could increase this need to 65% to reach net zero targets.

- To reach net zero targets by 2030, Stoke-on-Trent & Staffordshire is expected to require between 22,136 and 34,394 employees, i.e., between 2,549 and 14,807 employees in addition to those employed now, representing an increase of between 6% and 65% in employment compared with 2023/24.
- To reach net zero targets by 2050, Stoke-on-Trent & Staffordshire is expected to require between 51,542 and 95,604 employees, i.e., between 31,955 and 76,017 employees in addition to those employed now, representing an increase of between 147% and 359% in employment compared with 2023/24.




*Lower value than sector total due to some employees in Micro and SMEs being difficult to allocate to SOC codes. LCEGS sector = high proportion of Micro and SMEs.

## 9. Stoke-on-Trent & Staffordshire Sector Strengths

Sub-sectors with strong historic growth which are strengths of Stoke-on-Trent & Staffordshire:

| Sub-sector | Sales 2023/24 | Forecast Sales 2028/29 | $CO_2$ Reduction Potential | Sector Scalability | Current Training Provision | Potential Upskilling of Workforce | Skills Shortage |
|---|---|---|---|---|---|---|---|
| Wind | £528.5m | £844.5m | High | Low | Medium | Medium | Low: **4.4%** (MNZH: 4.5%) |
| Building Technologies | £503.4m | £805.0m | High | Low | Medium | Medium | Low: **4.0%** (MNZH: 4.4%) |
| Alternative Fuels | £460.1m | £730.5m | Medium | Medium | Medium | High | High: **12.6%** (MNZH: 13.2%) |
| Photovoltaic | £340.1m | £540.6m | Low | Low | Medium | Medium | Low: **2.8%** (MNZH: 3.0%) |
| Water Supply & Waste Water Treatment | £246.3m | £396.8m | Medium | Medium | Low | Medium | Low: **3.3%** (MNZH: 3.6%) |
| Biomass | £238.2m | £375.1m | Medium | Medium | Medium | High | Med: **7.1%** (MNZH: 7.5%) |
| Waste Management | £210.5m | £327.0m | Medium | High | Medium | Low | Low: **4.7%** (MNZH: 5.1%) |
| Alternative Fuel Vehicles | £173.6m | £269.7m | Medium | Medium | Medium | Medium | High: **12.9%** (MNZH: 14.2%) |
| Recovery & Recycling | £172.5m | £262.4m | Medium | Medium | High | High | High: **13.1%** (MNZH: 14.2%) |
| Geothermal | £143.6m | £227.8m | Medium | Medium | High | Medium | High: **13.1%** (MNZH: 14.4%) |
| Nuclear Power | £70.3m | £111.7m | Medium | Medium | Medium | Low | Low: **1.0%** (MNZH: 1.6%) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Energy Management | £67.0m | £108.7m | Medium | Medium | Medium | Medium | High: **14.2%** (MNZH: 15.5%) |

## 10. MNZH Regional summary

Headline figures for the MNZH area are:

- The LCEGS sector in MNZH Region was worth £31.0bn in 2023/24 and is forecast to grow to £46.6bn over the next 5 years
- The LCEGS sector accounts for 7.4% of GVA, 4.2% of employment, and sales accounts for 8.3% of GDP in MNZH Region
- MNZH Region's LCEGS Sales generates 11.9% of the LCEGS Sales in the UK, slightly lower than the 12.4% of total GDP contribution
- MNZH Region's LCEGs employment accounts for 15.5% of the UK's LCEGS employment, lower than its 16.8% of economically active people in the UK
- Net Zero 2030 targets are expected to require between 30,192 and 146,162 FTE employees in addition to those employed now in the MNZH region
- Net Zero 2050 targets are expected to require between 263,907 and 727,184 FTE employees in addition to those employed now in the MNZH region
- The MNZH region's LCEGS sector could generate up to 727,184 jobs between 2023/24 and 2050*
- Between 2019/20 and 2023/24, Investment in R&D for the LCEGS sector has varied, but is now similar, shrinking slightly from £2.2bn to £2.1bn for Private Equity Investment; being £3.6bn for Venture Capital Investment for both years; and increasing slightly from £4.9bn to £5.2bn for Other Investment.
- Exports in the LCEGS sector for MNZH Region have increased from £2.8bn in 2019/20 to £3.2bn in 2023/24.

*The majority of increase from 2030 targets due to additional 20 years of wider economic growth