

Statistical bulletin

# Low carbon and renewable energy economy, UK: 2024

Estimates of the size of the UK's low carbon and renewable energy economy, including turnover and employment.

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## Notice

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The previous edition of this bulletin contained statistics and analysis for indirect estimates. These will now be published separately in our [Low Carbon and Renewable Energy Economy Survey indirect estimates, UK bulletin](#). The data will continue to be available in our [Low carbon and renewable energy economy indirect estimates dataset](#).

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# 1 . Main points

- Turnover of the UK's low carbon and renewable energy economy (LCREE) was an estimated £77.0 billion in 2024 in current prices, an increase of £8.1 billion (11.8%) since 2023.
- UK LCREE employment in 2024 was estimated at 304,000 full-time equivalents (FTEs), down by 13,000 FTEs (4.1%) since 2023.
- Compared with 2015, the first year of comparable data, UK LCREE turnover increased by 91.3%, while employment increased by 51.6%.
- The LCREE group with the highest turnover in 2024 was low carbon electricity, at £33.6 billion, or 43.7% of the total; the energy efficient products group had the highest employment level, with 130,000 FTEs, or 42.8% of the total.
- Turnover of the low emission vehicles and infrastructure group had the largest percentage increase (33.8%) since 2023, from £8.7 billion to £11.6 billion.
- Employment in the low carbon services group had the largest percentage increase (20.5%) since 2023, from 17,600 to 21,200 FTEs.

LCREE estimates are survey-based and gather information from a sample of businesses rather than the whole population, so are subject to measurable sampling uncertainty. This release focuses on central estimates; for more information, see our [Uncertainty and how we measure it for our surveys methodology](#).

## 2 . The UK's low carbon and renewable energy economy, 2024

This bulletin outlines low carbon and renewable energy economy (LCREE) turnover and employment trends. Our accompanying dataset also gives trade, acquisitions, and disposals statistics.

UK businesses are classified as part of the LCREE if they report activity in one or more of 17 defined sectors, which are bespoke and unique to our LCREE survey. This activity may represent their main business function or just a proportion of their overall operations. Given the uncertainty in estimates for individual LCREE sectors, figures presented in this bulletin combine similar sectors into larger groups. For more information, see [Section 5: Glossary](#).

We collect these data from businesses annually. All financial estimates in this bulletin are given in current prices as provided by the survey respondents; no inflation adjustments have been made.

## Low carbon and renewable energy economy: UK totals

In 2024, LCREE turnover reached an estimated £77.0 billion, up by £8.1 billion (11.8%) when compared with 2023. Over the same period, LCREE employment was estimated at 304,000 full-time equivalents (FTEs), a 13,000 FTE (4.1%) decrease since 2023 (Table 1).

The number of UK businesses reporting LCREE activity has increased by almost a quarter (24.9%), from 94,500 in 2023 to 118,000 in 2024.

Table 1: UK low carbon and renewable energy economy turnover was an estimated £77.0 billion, with 304,000 FTEs in 2024

LCREE turnover and full-time equivalent (FTE) employment estimates (with confidence intervals), UK and constituent countries, 2024

	Turnover (£ billions)			Employment (FTE)		
	Estimate	Lower CI	Upper CI	Estimate	Lower CI	Upper CI
<b>UK</b>	77.0	68.9	85.0	304,000	276,300	331,800
<b>England</b>	58.7	52.1	65.3	247,500	222,900	272,100
<b>Scotland</b>	13.3	11.5	15.1	35,200	29,300	41,100
<b>Wales</b>	3.4	3.1	3.8	14,300	12,600	15,900
<b>Northern Ireland</b>	1.5	1.3	1.7	7,100	5,200	9,000

Source: Low Carbon and Renewable Energy Economy Survey from the Office for National Statistics

### Notes

1. Figures may not sum because of rounding.
2. Confidence intervals (CI) are a standard way of expressing the statistical accuracy of a survey-based estimate. More information can be found in Section 5: Glossary.

## Low carbon and renewable energy economy: breakdown by sector group

We combine sectors with similar activity into six groups. More information is available in [Section 5: Glossary](#).

In 2024, the low carbon electricity group had the highest turnover, at £33.6 billion (43.7% of total LCREE turnover), a £4.1 billion (13.9%) increase when compared with 2023. Over the same period, the low emission vehicles group saw the largest percentage increase, rising by 33.8% (£2.9 billion) since 2023.

### Figure 1: The low carbon electricity group had a LCREE turnover of £33.6 billion, the highest in 2024

LCREE group turnover, UK, 2023 and 2024, £ billions

### Notes:

1. Full definitions of each LCREE group can be found in [Section 6 of our quality and methodology information report](#).
2. Given the uncertainty of the estimates, rankings of the smaller groups are indicative only.
3. Confidence intervals (CI) are a standard way of expressing the statistical accuracy of a survey-based estimate. More information can be found in [Section 5: Glossary](#).
4. Some abbreviations are used in the data table; "LCL" refers to "lower confidence limit"; "UCL" refers to "upper confidence limit".

The energy efficient products group accounted for the largest share of LCREE employment, with 130,000 FTEs (42.8% of the total) in 2024. In the same period, the low carbon services group saw the largest percentage increase since 2023, rising from 17,600 to 21,200 FTEs, a 20.5% increase.

## **Figure 2: The energy efficient products group had the largest LCREE employment level in 2024, at 130,000 FTEs**

LCREE group employment, UK, 2023 and 2024, full-time equivalents (FTEs), in thousands

### **Notes:**

1. Full definitions of each LCREE group can be found in [Section 6 of our quality and methodology information report](#).
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## Long-term low carbon and renewable energy economy trends: 2015 to 2024

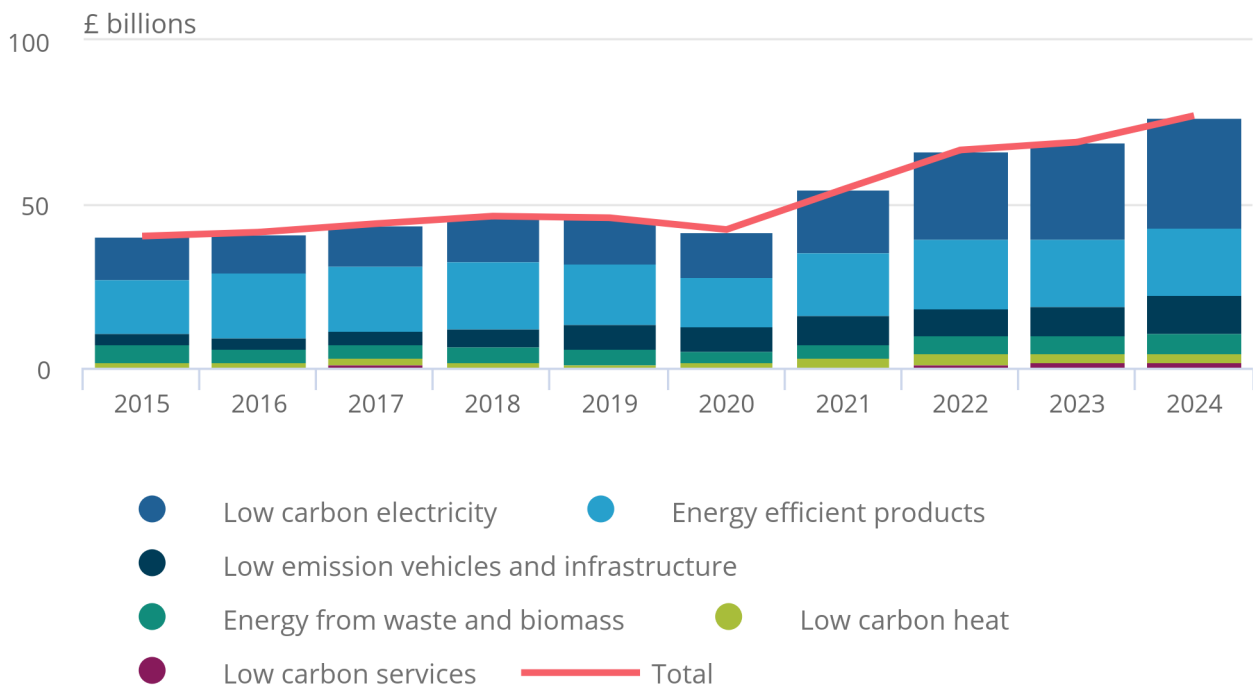
UK LCREE turnover increased by 91.3% between 2015 and 2024, reaching its highest level in 2024, following steady annual increases after 2020 (Figure 3).

**Figure 3: UK LCREE turnover increased 91.3% between 2015 and 2024**

LCREE group and total turnover, UK, 2015 to 2024, £ billions

Figure 3: UK LCREE turnover increased 91.3% between 2015 and 2024

LCREE group and total turnover, UK, 2015 to 2024, £ billions



Source: Low Carbon and Renewable Energy Economy (LCREE) Survey from the Office for National Statistics

**Notes:**

1. Full definitions of each LCREE group can be found in Section 6 of our [Quality and Methodology Information report](#).
2. Confidence intervals can be found in our [accompanying dataset](#).
3. Given uncertainty of estimates, rankings of the smaller groups are indicative only.
4. Please be aware that rounding may result in minor turnover percentage discrepancies.

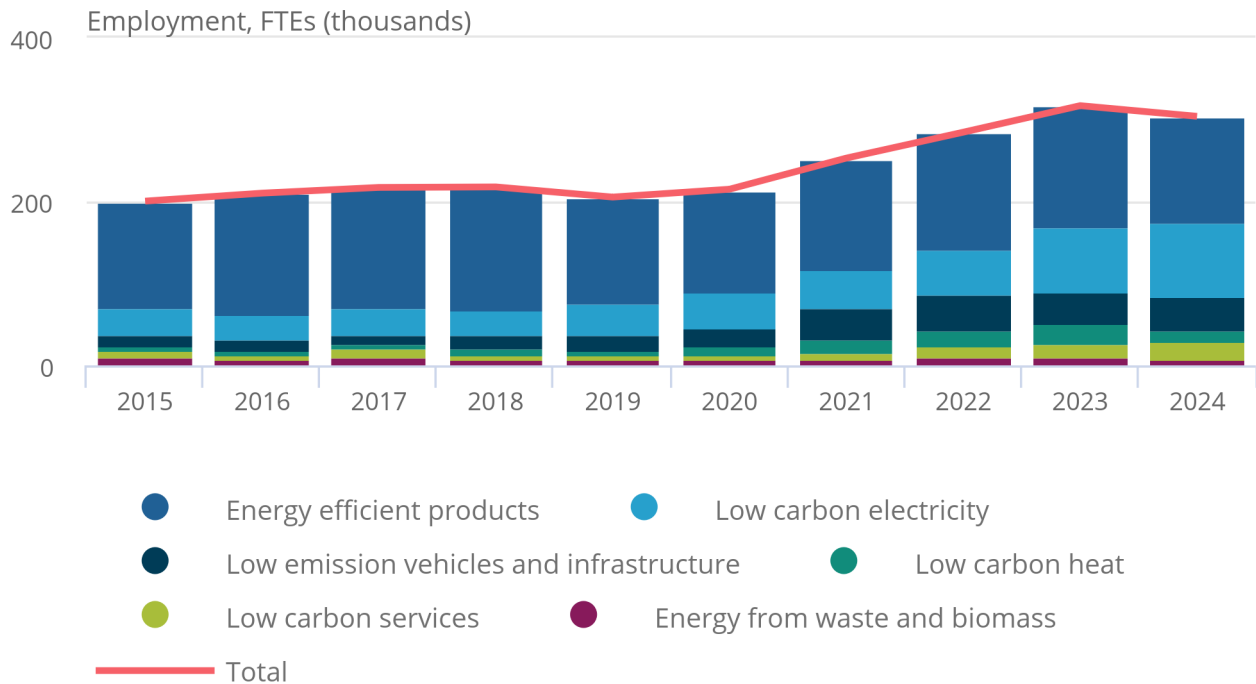
UK LCREE employment increased 51.6% between 2015 and 2024 (Figure 4). The largest annual increase in employment was in 2021 (17.7%), while the only annual decline in employment before 2024 was in 2019, which saw a 5.7% decrease compared with 2018.

## Figure 4: UK LCREE employment has increased by 51.6% between 2015 and 2024

LCREE group and total employment, UK, 2015 to 2024, full-time equivalents (FTEs) in thousands

### Figure 4: UK LCREE employment has increased by 51.6% between 2015 and 2024

LCREE group and total employment, UK, 2015 to 2024, full-time equivalents (FTEs) in thousands



Source: Low Carbon and Renewable Energy Economy (LCREE) Survey from the Office for National Statistics

#### Notes:

1. Full definitions of each LCREE group can be found in [Section 6 of our quality and methodology information report](#).
2. Confidence intervals can be found in our [accompanying dataset](#).
3. Given the uncertainty of the estimates, rankings of the smaller groups are indicative only.

## 3 . Further insights on the UK's low carbon and renewable energy economy

## Long-term trends by group: 2015 to 2024

All six low carbon and renewable energy economy (LCREE) groups have seen turnover increase since 2015. The low emission vehicles and infrastructure group saw the largest percentage turnover increase, from £3.7 billion in 2015 to £11.6 billion in 2024.

In 2015, the energy efficient products group was the largest LCREE contributor by turnover for several years, before being overtaken by the low carbon electricity group in 2022, which represented 40.0% of turnover in that year. This group's turnover has since increased further, reaching 43.7% of total LCREE turnover in 2024.

While the low carbon services group's turnover is still the smallest in UK LCREE, it did increase from £0.7 billion in 2015 to £2.0 billion in 2024.

Despite limited growth since 2015 (0.9%), the energy efficient products group has consistently dominated LCREE employment, accounting for 42.8% of the total in 2024. While low carbon heat had the smallest share of LCREE employment in 2015, 3,300 full-time equivalents (FTEs), it saw the largest percentage increase in employment, reaching 14,800 FTEs in 2024.

## Long-term trends by group and country: 2015 to 2024

All UK countries (England, Wales, Scotland and Northern Ireland) saw LCREE turnover and employment increase between 2015 and 2024. Scotland had the largest percentage increase in turnover, rising from £5.5 billion to £13.3 billion. Northern Ireland recorded the largest percentage employment increase over the same period, from 4,400 to 7,100 FTEs.

By group turnover, energy efficient products was the largest contributor in England until being overtaken by low carbon electricity in 2023, which accounted for 36.4% in 2024. Low carbon electricity has consistently been the biggest group in Scotland, accounting for 76.4% in 2024. In Wales, energy efficient products have been the largest group, except in 2021 when low carbon electricity was marginally higher. In 2024, energy efficient products accounted for 46.9% of turnover in Wales. Northern Ireland showed more variation, with low carbon electricity as the largest group in every year except from 2016, 2017, and 2019, when energy efficient products was the largest.

For employment, energy efficient products has been the largest group in England, Wales and Northern Ireland since 2015. In Scotland, low carbon electricity overtook energy efficient products between 2020 and 2022, and regained the leading position in 2024, when it accounted for 53.7% of total employment in Scotland.

## 4 . Low carbon and renewable energy economy data

[Low carbon and renewable energy economy estimates](#) Dataset | Released 25 February 2026 This release includes annual estimates of low carbon and renewable energy economy activity in the UK and constituent countries: turnover, employment, exports, imports, acquisitions, disposals, and number of businesses.

## 5 . Glossary

### Confidence Interval

Confidence intervals (CIs) are a standard way of expressing the statistical accuracy of survey-based estimates. A 95% CI is the range within which the true population value would fall for 95% of the time, if the survey was repeated. If an estimate has a high error level, the corresponding confidence interval will be very large.

### Employment

Employment is measured in terms of full-time equivalent (FTE) employees, where one FTE employee may be thought of as one person working full-time for one year.

## Industry

Businesses are classified into an industry using the current [Standard Industrial Classification 2007](#) by the type of economic activity in which they are engaged. The low carbon and renewable energy economy (LCREE) survey samples UK businesses in these 14 industries, though not all sub-groups within these industries are sampled:

- A - agriculture, forestry and fishing
- B - mining and quarrying
- C - manufacturing
- D - electricity, gas, steam and air conditioning supply
- E - water supply; sewerage, waste management and remediation activities
- F - construction
- G - wholesale and retail trade; repair of motor vehicles and motorcycles
- H - transportation and storage
- J - information and communication
- L - real estate activities
- M - professional, scientific and technical activities
- N - administrative and support service activities
- P - education
- S - other activities

## Low carbon and renewable energy economy

Economic activities that deliver goods and services that are likely to help the UK generate lower emissions of greenhouse gases.

## Low carbon and renewable energy sectors

The LCREE survey asks UK businesses to self-classify themselves into 17 bespoke low carbon and renewable energy sectors:

1. Offshore wind
2. Onshore wind
3. Solar
4. Hydropower
5. Other renewable electricity
6. Bioenergy
7. Alternative fuels
8. Renewable heat
9. Renewable combined heat and power
10. Energy efficient lighting
11. Energy efficient products
12. Energy monitoring, saving or control systems
13. Low carbon consultancy, advisory and offsetting services
14. Low emission vehicles and infrastructure
15. Carbon capture and storage
16. Nuclear power
17. Fuel cells and energy storage systems

A business can also be recorded as active in more than one, or not active in any LCREE sector.

## **Low carbon and renewable energy groups**

The LCREE sectors can be combined into groups of activities that are considered similar.

### **Low carbon electricity group**

Offshore wind, onshore wind, solar, hydropower, other renewable electricity, carbon capture and storage, and nuclear power.

### **Low carbon heat group**

Renewable heat, and renewable combined heat and power.

### **Energy from waste and biomass group**

Bioenergy, and alternative fuels.

### **Energy efficient products group**

Energy efficient lighting, energy efficient products and energy monitoring, saving or control systems.

### **Low carbon services group**

Low carbon consultancy, advisory and offsetting services.

## Low emission vehicles group

Low emission vehicles and infrastructure, and fuel cells and energy storage systems.

## Turnover

The amount received in sales from goods and services in a defined time period. It is a useful measure of the health of a business or an economy.

# 6 . Data Sources and quality

## Data sources and collection

The survey collects information on turnover, imports, exports, employment, and acquisitions and disposals of capital assets, for 17 low carbon and renewable energy economy (LCREE) sectors, see our [Low carbon sector codes and descriptions \(DOC, 26KB\)](#). Data are collected annually from businesses.

## Coverage

Includes only the portion of a business' economic activity directly related to a defined LCREE sector in the UK.

## Revisions

This release contains revisions to data for the years 2022 to 2023. Revisions can result from a variety of factors, including:

- businesses adding data for previous years
- businesses revising their previous submissions
- developments in methodology

## Quality

Details on strengths, limitations, appropriate uses, and how the data were created is available in our [LCREE Survey quality and methodology information \(QMI\)](#).

## Strengths

The LCREE survey has a 74.9% response rate and directly collects information on LCREE activity by sector.

## Limitations

Activity in LCREE sectors span a range of industries. While many LCREE sectors have grown, they remain small, and for many businesses LCREE activity is secondary rather than primary. Therefore, estimates are subject to volatility.

More information is available in [Section 4 of our LCREE survey QMI](#).

## Uncertainty

LCREE estimates are survey-based and gather information from a sample rather than the whole population. This means that they are subject to measurable sampling uncertainty, which affects how changes in the estimates across periods should be interpreted.

To support interpretation, confidence intervals and coefficients of variation are presented as estimates of the level of uncertainty associated with figures in the datasets. These uncertainty measures consider both the variability in the estimate of the proportion of businesses active in the LCREE and the variability of the estimate of those businesses.

The variability in the estimate of the proportion of businesses active in the LCREE can be particularly variable because of sampling. This can be seen in the fluctuation in the estimates of the number of businesses in our [accompanying dataset](#), and their higher level of uncertainty.

We advise users to make sure that uncertainty is appropriately considered when interpreting results. Where year on year figures do not offer sufficient clarity on overall trends (for example, because of overlapping confidence intervals), it may be more appropriate to examine data over a longer period, such as three to five years.

As a more concrete example, our central estimates for overall UK LCREE employment range from 284,600 FTEs in 2022 to 317,000 in 2023, then fall to 304,000 in 2024. While this could be interpreted as a spike in 2023 that was largely reversed in 2024, it does not account for uncertainty in survey results. This uncertainty includes a difference of more than 50,000 FTEs between the upper and lower confidence intervals, and confidence intervals that overlap for all three years. Given these factors, a longer-term assessment is potentially more meaningful.

More information is available in our [Uncertainty and how we measure it for our surveys methodology](#).

## Sample size

The LCREE Survey was undertaken for the eleventh time in 2025, for the reporting year 2024, using a sample of around 25,000 businesses. The response rate was 74.9%, with more than 3,300 businesses reporting LCREE activity.

Response rates were 79.5% for 2022 and 76.5% for 2023. Following our revision policy, late returns for the previous two years submitted within the current data collection period are included for those years, meaning 2022 is final, while 2023 and 2024 remain provisional. More information can be found in our LCREE Survey [QMI](#).

## 7 . Related links

[Low Carbon and Renewable Energy Economy Survey indirect estimates, UK: 2015 to 2024](#) Headline bulletin | Released 25 February 2026 Indirect and total estimates of turnover and employment in the low carbon and renewable energy economy. These are official statistics in development.

[Low Carbon and Renewable Energy Economy \(LCREE\) Survey QMI](#) Methodology | Released 25 February 2026 Quality and methodology information for the Low Carbon and Renewable Energy Economy (LCREE) Survey, detailing methods used, data it provides, and strengths and limitations.

[Environmental Protection Expenditure Survey, UK: 2022](#) Bulletin | Released 23 August 2024 Estimates of environmental protection expenditure by UK industry and activity, based on the Environmental Protection Expenditure (EPE) Survey.

[UK Environmental Accounts: 2025](#) Bulletin | Released 5 June 2025 Measuring the contribution of the environment to the economy, the impact of economic activity on the environment, and responses to environmental issues.

[Estimates of green jobs, UK: July 2025](#) Bulletin | Released 18 July 2025 Estimates of green jobs using the industry, firm and occupation approaches. These are official statistics in development. The next green jobs estimates, using our latest set of LCREE survey results, will be released on 12 March 2026.

[Environmental goods and services sector \(EGSS\) estimates](#) Dataset | Released 5 June 2025 First estimates of the UK environmental goods and services sector (EGSS) for 2022 and revised estimates for 2010 to 2021. Included are estimates of output, gross value added, employment and exports.

[UK inputoutput analytical tables: industry by industry](#) Dataset | Released 11 December 2025 Includes industry by industry and further analysis tables derived from the annual Supply and Use Tables (SUTs).

[Employment multipliers and effects in the UK](#) Dataset | Released 19 December 2025 Estimates of full-time equivalent (FTE) employment per £ million, type 1 FTE employment effects, and type 1 FTE employment multipliers. These are official statistics in development.

## 8 . Cite this statistical bulletin

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