Office for National Statistics

Statistical bulletin

Estimates of green jobs, UK: July 2025

Estimates of green jobs using the industry, firm and occupation approaches. These are official statistics in development.

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Next release:
To be announced

Notice

10 March 2026

We have identified errors in the Green Jobs estimates released on 14 March 2024 and 18 July 2025. This affects the industry approach estimates in the bulletin and data downloads. We are looking to promptly quantify and resolve this issue. The planned publication on 12 March 2026 has been postponed until 24 March to allow for further quality checks. We apologise for any inconvenience caused.

Table of contents

1 . Main points

- Using our definition's industry approach, UK employment in green jobs was an estimated 690,900 full-time equivalents (FTEs) in 2023.
- Employment in green jobs was an estimated 34.6% higher (177,600 FTEs) in 2023 than in 2015, when it was 513,300 FTEs.
- Three activities within green industries (waste, energy efficient products group, and renewable energy) accounted for just over half (54.3%) of UK FTE employment in green jobs in 2023.
- Using the firm approach, 12.5 million FTEs in the UK (46.0% of all FTEs) worked in the 10 industries with the lowest levels of non-household residence-based greenhouse gas (GHG) emissions in 2023 (4.4% of all such emissions).
- Around 4.3 million FTEs in the UK (15.8% of all FTEs) worked in the five industries with the highest level of non-household residence-based greenhouse gas (GHG) emissions in 2023 (81.6% of all such emissions).
- Approximately one in four East Midlands FTE employees (23.9%) were in the five highest-emission industries, whereas London had the lowest proportion of FTE employees in these industries (7.2%).

These estimates are official statistics in development and may be revised. Some estimates use survey-based sampling, so are subject to sampling uncertainty. This should be considered when looking at change over time. For more information, see Section 8: Data sources and quality.

2 . How we define green jobs

We define green jobs as "employment in an activity that contributes to protecting or restoring the environment, including those that mitigate or adapt to climate change". This definition is also outlined in our "Green jobs" update, current and upcoming work article, which was published in 2023, following substantial stakeholder engagement.

Our definition focuses on activities undertaken, rather than environmental impact. A full breakdown of the activities included in our definition can be found in our Developing estimates of green jobs in the UK methodology.

We provide estimates using three approaches, which are described in our methodology:

- industry-based
- firm-based
- occupation-based

There will be overlaps between these approaches, so each should be considered distinctly and not added together.

3 . Jobs in green industries

The industry-based approach includes all jobs in a green industry or sector, and provides our headline estimate of employment in green jobs.

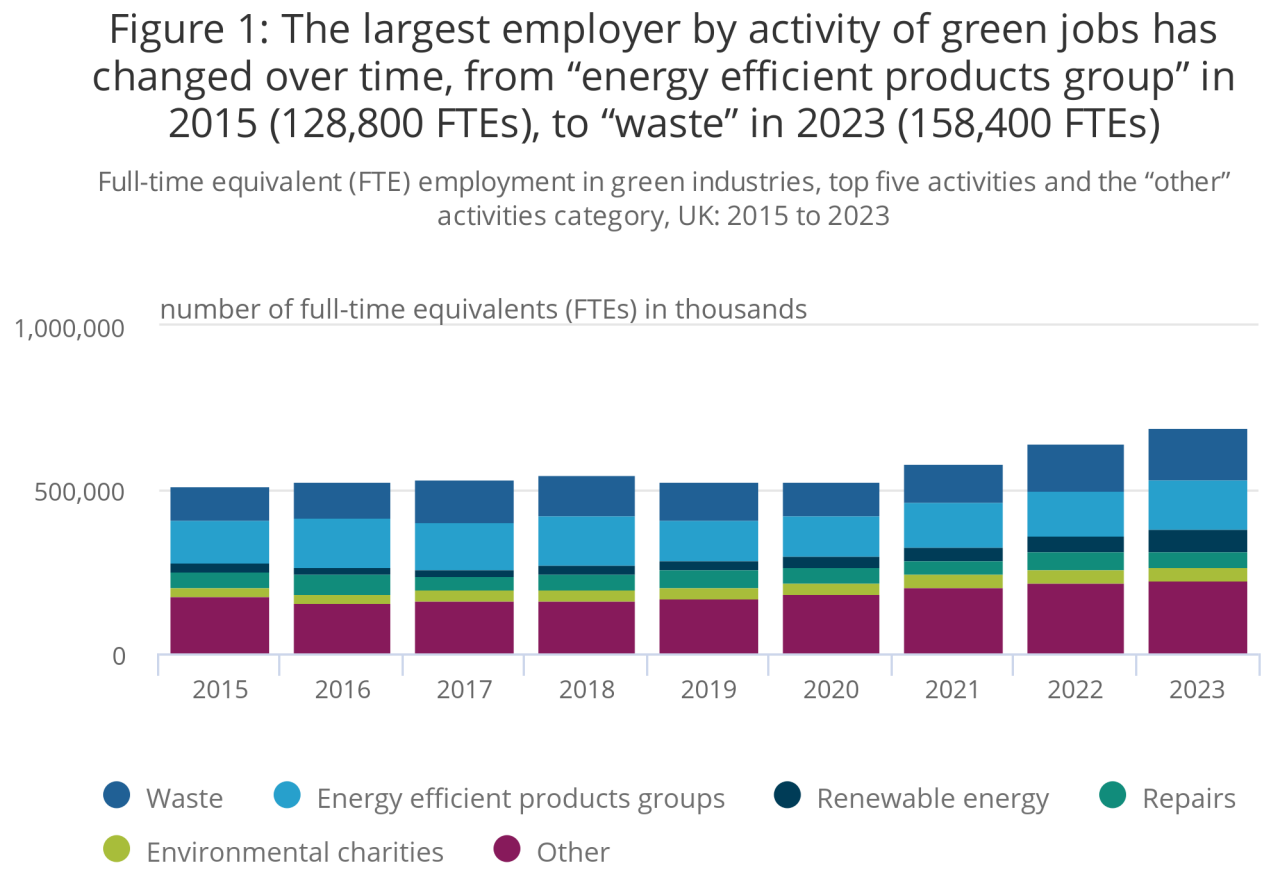
This approach is based on existing estimates, primarily from Low carbon and renewable energy economy, UK: 2023 and UK Environmental Accounts: 2025.

In 2023, there were an estimated 690,900 full-time equivalent (FTE) employees in green jobs in the UK. This represents a 34.6% increase (or 177,600 additional FTEs) compared with 2015 (the first available figures), when there were an estimated 513,300 FTEs in green jobs.

Looking at employment by activity within green industries (as discussed in Section 2: How we define green jobs), "waste" was the largest employer, with 158,400 FTEs, representing 22.9% of all green jobs in 2023. Together with "energy efficient products group" (145,800 FTEs) and "renewable energy" (71,100 FTEs), these three activities accounted for just over half (54.3%) of total green jobs in 2023.

Figure 1: The largest employer by activity of green jobs has changed over time, from "energy efficient products group" in 2015 (128,800 FTEs), to "waste" in 2023 (158,400 FTEs)

Full-time equivalent (FTE) employment in green industries, top five activities and the "other" activities category, UK: 2015 to 2023



Source: Environmental Accounts, Low Carbon and Renewable Energy Economy Survey and Business Register Employment Survey from the Office for National Statistics

Notes:

1. Estimates are subject to revision and to survey-based sampling uncertainty, as definitions, methods and data sources are reviewed. This should be considered when comparing estimates over time.

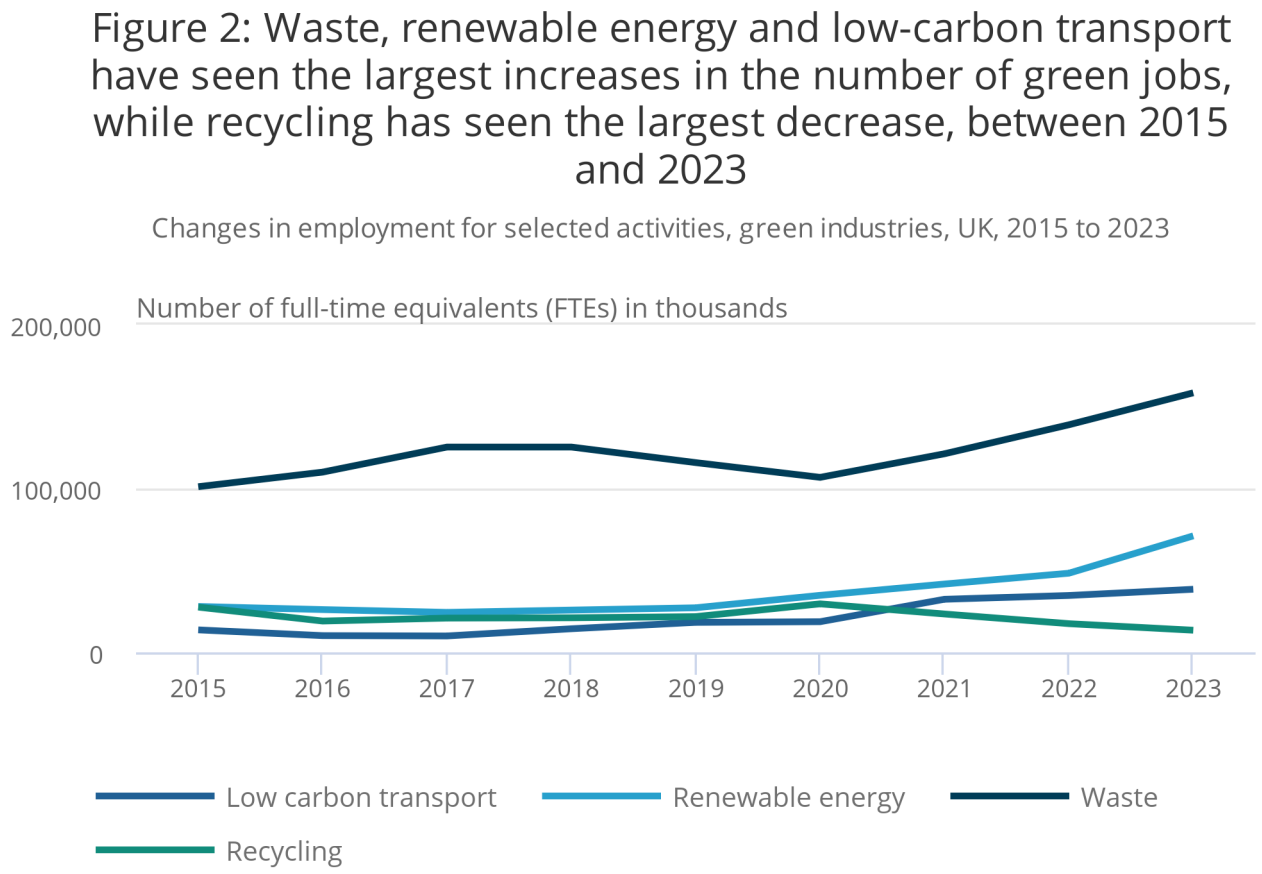
2. The "other" category is obtained by combining the remaining 16 activities, data for which can be found in our accompanying datasets.

Increases in the number of FTE employees were seen across several activities between 2015 and 2023. These included:

- waste, which increased by 57,300 FTEs (56.7%)
- renewable energy, which increased by 43,100 FTEs (153.9%)
- low carbon transport, which increased by 24,800 FTEs (181.0%)

Figure 2: Waste, renewable energy and low-carbon transport have seen the largest increases in the number of green jobs, while recycling has seen the largest decrease, between 2015 and 2023

Changes in employment for selected activities, green industries, UK, 2015 to 2023



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

Notes:

1. Estimates are subject to revision and to survey-based sampling uncertainty, as definitions, methods and data sources are reviewed. This should be considered when comparing estimates over time.

The recycling activity saw the largest decrease of 14,100 FTEs (51.1%), from 27,600 FTEs in 2015 to 13,500 FTEs in 2023. This could reflect a shift by employers towards more integrated waste management systems, rather than a reduction in recycling.

4 . Jobs in green firms

Our firm-based approach measures all jobs in firms that can be considered "green".

We have initially focused on total greenhouse gas (GHG) emissions and employment at an industry level, as a measure of one aspect of firms' greenness.

We use residence-based emissions data, which are directly comparable with economic output, from our latest UK Environmental Accounts bulletin (excluding emissions from households, which these accounts consider as an industry). We also use employment data from our latest Business Register and Employment Survey (BRES) on Nomis. These data help us understand the number of FTE employees who worked in firms within the lowest-emission and highest-emission industries.

In 2023, 12.5 million full-time equivalent (FTE) employees, or nearly half (46.0%) of all UK FTEs, worked in firms in the 10 industries with the lowest residence-based emissions levels, which collectively accounted for 4.4% of total emissions. These 10 industries have not changed since 2020.

Firms in the 10 lowest-emission industries had an average of around 1.4 tonnes of greenhouse gas emissions (carbon dioxide equivalent) per FTE employee in 2023, compared with an average of 77.6 tonnes of greenhouse gas emissions (carbon dioxide equivalent) per FTE employee in firms across all industries.

In contrast, firms in five industries accounted for 81.6% of total UK residence-based emissions in 2023, and 15.8% of total employees (4.3 million FTEs).

Figure 3: Nearly half (46.0%) of all UK FTEs across the economy worked in the 10 industries collectively responsible for 4.4% of all UK residence-based emissions

Percentage of total residence-based greenhouse gas emissions (excluding emissions from households) and total employees, full-time equivalent (FTE), by industry, UK, 2023

Notes:

1. Number of FTE employees for industry; activities of households as employers; undifferentiated goods and services-producing activities of households for own use (industry "T"), is not available.

2. The percentage of greenhouse gases has been calculated by excluding emissions from households from the total UK economy, to give an estimate of industry emissions.

Downloac

Some FTE employees in these highest-emission industries may have what would be considered a green job occupationally, such as a clean-tech production engineer in a firm in the manufacturing industry. However, looking at highest-emission industries is one way of identifying the level of employment in firms that are more likely to experience changes as the UK transitions towards net zero.

At a regional level, nearly one in four FTE employees (23.9%) living in the East Midlands were employed by firms in the UK's five highest-emission industries in 2023. London had the lowest proportion of FTEs in these industries (7.2%).

Figure 4: London had the lowest proportion of FTEs in the five highest-emission industries (7.2%) and the highest proportion of FTEs in the 10 lowest-emission industries (62.8%), in 2023

Percentage of employees, full-time equivalent (FTE), in the five highest-emission and 10 lowest-emission industries, excluding emissions from households, by UK country and region, 2023

Notes:

1. Number of FTE employees for industry; activities of households as employers; undifferentiated goods and services-producing activities of households for own use (industry "T"), is not available.

2. The percentage of greenhouse gases has been calculated by excluding emissions from households from the total UK economy, to give an estimate of industry emissions.

At local-authority level, North Lincolnshire had the highest percentage of FTEs employed in high-emission industries, at 41.6%. These FTE employees were mostly in the manufacturing industry, and the transportation and storage industry.

8 of the 10 local authority areas with the lowest proportion of FTEs (all below 5%) in the highest-emission industries, were in the London region, with the remaining two being Cambridge, and Epsom and Ewell.

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Figure 5: 8 of the 10 local authority areas with the fewest employed in the highest-emission industries were in London

Percentage of employees, full-time equivalent (FTE), in the five highest-emission and 10 lowest-emission industries, excluding emissions from households, by UK region and nation, 2023

Notes:

1. Number of FTE employees for industry; activities of households as employers; undifferentiated goods and services-producing activities of households for own use (industry "T"), is not available.

2. The percentage of greenhouse gases has been calculated by excluding emissions from households from the total UK economy, to give an estimate of industry emissions.

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Emissions do not reflect all environmental impacts of industries' activity. In the longer term, we plan to explore alternative methods to identify "green" firms that look at other aspects of our green jobs definition.

We also provide quarterly insights on the actions that businesses report taking to protect the environment, reduce emissions and adapt to the effects of climate change. More information is available in our Business insights and impact on the UK economy dataset.

5 . Green occupations

The occupation-based approach measures all jobs that are "green", regardless of the industry or firm that they are in, based on the specific activities undertaken by those workers or the objectives of their work.

We published our Research into "green jobs": time spent doing green tasks, UK: 1997 to 2019 article in 2022. The article included experimental estimates of the time spent doing green tasks over time, by country and by industry. It used a new method, based on task-level data from a US database, O*NET. This found that between 7% and 8% of hours worked in the UK in 2019 were estimated to have been spent on green tasks, an increase of around 2 percentage points since 1997. All UK countries saw a similar trend in hours spent working on green tasks.

In our Experimental estimates of green jobs, UK: 2023 bulletin and our Experimental estimates of green jobs, UK: 2024 bulletin, we explored whether our Opinions and Lifestyle Survey (OPN) could help us understand the proportion of people who report having a green job, based on our definition. An estimated 12% of adults said they would describe any part of their job as a "green job", when asked between 4 to 14 January and 17 to 29 January 2024. In 2024, we introduced an additional validation stage to check if respondents felt they were employed within our defined green activities. We therefore do not recommend comparing with the results shared in 2023, which lacked this validation.

We are exploring the potential to undertake further work on this occupational approach, including opportunities for better-quality and timelier data.

6 . Green jobs data

Estimates of green jobs, UK
Dataset | Released 18 July 2025
Estimates of employment in green industries, using data from the Environmental goods and services sector, the Low Carbon and Renewable Energy Economy Survey and the Business Register Employment Survey.

Emissions per employee by industry, UK
Dataset | Released 18 July 2025
Greenhouse gas emissions (residence basis) per employee by industry.

7 . Glossary

Employees

An employee is anyone aged 16 years and over who is directly paid by an organisation from its payroll or payrolls, in return for carrying out a full-time or part-time job, or being on a training scheme. It excludes those who are self-employed, voluntary workers and working owners who are not paid through Pay As You Earn (PAYE).

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.

Environmental goods and services sector

The environmental goods and services sector accounts, which follow the UN System of Environmental-Economic Accounting (SEEA), measure areas of the economy engaged in producing goods and services for environmental protection purposes. It also includes areas of the economy engaged in conserving and maintaining natural resources.

Green Job

Employment in an activity that contributes to protecting or restoring the environment, including those that mitigate or adapt to climate change.

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, predominantly carbon dioxide.

Residence-based Greenhouse Gas emissions

The following greenhouse gases (GHG) included in the atmospheric emissions accounts are those covered by the Kyoto Protocol:

- carbon dioxide (CO2)
- methane (CH4)
- nitrous oxide (N2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulphur hexafluoride (SF6)
- nitrogen trifluoride (NF3)

These gases contribute directly to global warming and climate change because of their positive radiative forcing effect. The potential of each GHG to cause global warming is assessed in relation to a given weight of CO2, so all GHG emissions are measured as carbon dioxide equivalents (CO2e).

Unlike the emissions measure used to monitor net zero, estimates compiled on a residence basis include data relating to UK residents and UK-registered businesses, regardless of whether they are in the UK or overseas. Data relating to foreign visitors and foreign businesses in the UK are excluded. See our Environmental accounts on air emissions quality and methodology information (QMI) and our Measuring UK greenhouse gas emissions explainer article for further information.

8 . Data sources and quality

These are official statistics in development and are therefore subject to revision as we review methods and data sources. This release updates our Estimates of green jobs, UK: 2024 bulletin and accompanying dataset.

We will continue to engage with stakeholders on the activities within our green jobs definition, and we welcome feedback. We will also be reviewing data sources to identify potential improvements to our methods, and whether alternative data sources are available. This work will focus on improving the timeliness of our estimates. More information on the quality of these estimates can be found in our Developing estimates of green jobs in the UK methodology.

Revisions

This release contains revisions to previous years of estimates. Revisions can result from a variety of factors, including from our survey-based estimates, where businesses add or revise previous years' data.

Quality

More quality and methodology information can be found in our Developing estimates of green jobs in the UK methodology.

Strengths and limitations

Our Low Carbon and Renewable Energy Economy (LCREE) Survey dataset and our Employees in Great Britain by industry bulletin and accompanying datasets, used in the estimation for a number of activities, 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 time should be interpreted. Estimates of the level of uncertainty associated with all figures (confidence intervals and coefficients of variation) can be found in our LCREE and our BRES datasets on Nomis to support interpretation.

More information can be found in our Uncertainty and how we measure it for our surveys methodology.

Industry estimates of green jobs

To provide an initial estimate of jobs in green industries, we have used publicly available data from:

- our LCREE dataset
- our Environmental goods and services sector (EGSS) dataset
- our Employees in Great Britain by industry bulletin and accompanying datasets.

Our total estimates also exclude some activities for which we do not have a data source, most notably those working on decarbonising grid networks and in low-carbon travel other than low- and zero-emission vehicles. We will continue to explore whether more appropriate data sources are available.

We have also sought to minimise double counting when combining data sources. Some double counting may remain because of the complexity of underlying sources; work will continue to reduce the potential for double counting in any future releases.

Where data are not yet available for activities for 2023, these have been forecasted using average growth rates. See the notes in our accompanying dataset for more information.

Firm estimates of green jobs

To provide an initial estimate of jobs in green industries, we have used publicly available data from our UK Environmental Accounts bulletin and our latest Business Register and Employment Survey (BRES) on Nomis.

In our calculations, greenhouse gas (GHG) emissions on a residence basis have been used, excluding emissions from households. This measure covers only direct emissions, and so excludes emissions related to supply chains.

Employment data are taken from the 2023 BRES and converted to full-time equivalents (FTEs). The BRES collects comprehensive employment information from businesses in England, Scotland and Wales, representing the majority of the economy in Great Britain.The Northern Ireland Statistics and Research Agency (NISRA) collects the same information independently in Northern Ireland. Both data sources are then combined to produce estimates on a UK basis.

Because of the unavailability of NISRA data for 2023, the figures for Northern Ireland have been modelled and should be interpreted with caution.

The BRES is a sample survey and produces estimated employment figures. These estimates are of a better quality at higher levels of geography (for example, country). The quality of the estimates deteriorates at lower geographical levels and this should be considered when using our subnational estimates.

9 . Related links

Experimental estimates of green jobs, UK: 2024
Bulletin | Released 14 March 2024
Exploring estimates of green jobs using the industry, occupation and firm approaches.

"Green jobs" update, current and upcoming work: March 2023
Article | Released 13 March 2023
An update to our work on green jobs, including a summary of user engagement, our definition, and future work.

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.

Low carbon and renewable energy economy, UK: 2023
Bulletin | Released 9 July 2025
Estimates of the size of the UK's Low carbon and renewable energy economy (LCREE), including turnover and employment.

10 . Cite this statistical bulletin

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