

Statistical bulletin

UK environmental goods and services sector (EGSS): 2019

First estimates of the UK environmental goods and services sector (EGSS) for 2019 and revised estimates for 2010 to 2018. Included are estimates of output, gross value added, employment and exports.

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Correction

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We have identified an error with the Environmental goods and services sector dataset. This impacts several activities across the output, employment and exports estimates. We are working to quantify and resolve the error and will aim to publish an update by June 2023. We are urging caution in the interpretation of these existing data as we resolve the error.

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1 . Main points

- Output in the UK environmental goods and services sector (EGSS) was estimated to be £89.0 billion in 2019, up 4.4% from 2018.
- Gross value added (GVA) in the UK EGSS was estimated to be £45.2 billion in 2019, up 5.4% from 2018.
- Employment in the UK EGSS was estimated to be 394,900 full-time equivalent (FTE) employees in 2019, down 4.7% from 2018.
- The production of renewable energy was the activity in 2019 with the largest share of total EGSS output (22.5%) and GVA (26.4%).
- The activity waste had the largest share of total EGSS employment (29.3%) and the second-largest share of total EGSS output (17.8%) in 2019.

2 . Environmental goods and services sector

The environmental goods and services sector (EGSS) framework follows the [UN System of Environmental-Economic Accounting \(SEEA\)](#). It measures 17 activities across the economy that produce goods and services for environmental protection and resource management purposes.

Between 2010 and 2019, output and gross value added (GVA) in EGSS increased by 44.2% and 48.6% respectively. Output increased each year and GVA increased in most years. Employment increased by 12.7% between 2010 and 2019.

For more detail on the EGSS framework see the [Quality and Methodology Information report](#).

3 . Output

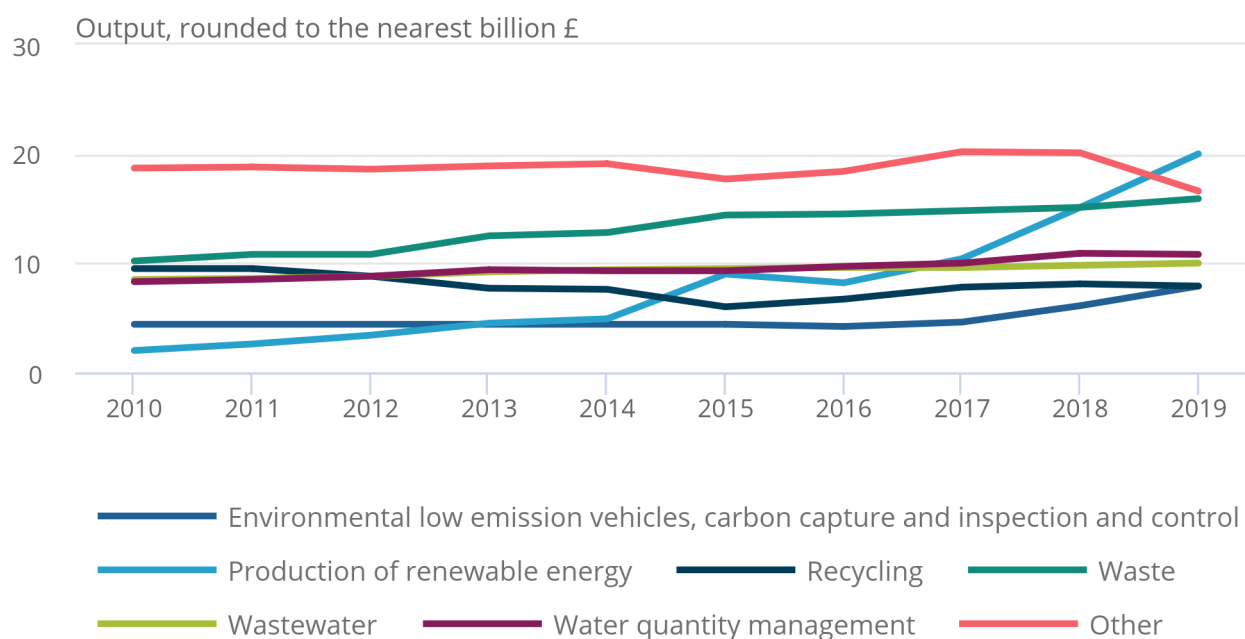
Figure 1 shows the output of different environmental goods and services sector (EGSS) activities in British pounds in billions.

Figure 1: Production of renewable energy now has the highest share of output in the environmental goods and services sector (EGSS)

Output in EGSS from the six largest activities, with all other activities in "Other", UK, 2010 to 2019

Figure 1: Production of renewable energy now has the highest share of output in the environmental goods and services sector (EGSS)

Output in EGSS from the six largest activities, with all other activities in "Other", UK, 2010 to 2019



Source: Office for National Statistics – environmental goods and services sector estimates

Notes:

1. The "Other" category comprises 11 EGSS activities: energy saving and sustainable energy systems, environmental charities, environmental consultancy and engineering, environmental related construction, environmental related education, in-house environmental activities, insulation activities, management of forest ecosystems, managerial activities of government bodies, organic agriculture and production of industrial environmental equipment.

Between 2010 and 2019, output has increased steadily, increasing by 44.2% to £89.0 billion in 2019. This has been led by production of renewable energy, waste, water quantity management and wastewater.

Production of renewable energy

Output from the production of renewable energy, which includes the production of renewable electricity, heat and biofuels for transport, reached £20.0 billion in 2019. It became the activity with the largest share of EGSS output in 2019, having increased by 886% since 2010, when output was £2.0 billion.

There were particularly large increases in output between 2014 and 2015 (83.1%) and between 2017 and 2019 (93.0%). The [Digest of UK Energy Statistics \(DUKES\)](#) from the Department for Business, Energy and Industrial Strategy shows that renewables' share of electricity generation reached a record high in 2019 at 37.1%, up from 33.1% in 2018.

Waste

Waste is an EGSS activity that includes the collection, treatment and disposal of non-solid and solid waste. It excludes recycling, which is captured separately. Output from waste increased by 55.0% between 2010 and 2019.

For much of this time period, waste had the largest share of EGSS output, until it was surpassed by the production of renewable energy in 2018. Waste still had the second-largest share of EGSS, with 17.8% of total output at £15.9 billion in 2019.

4 . Employment

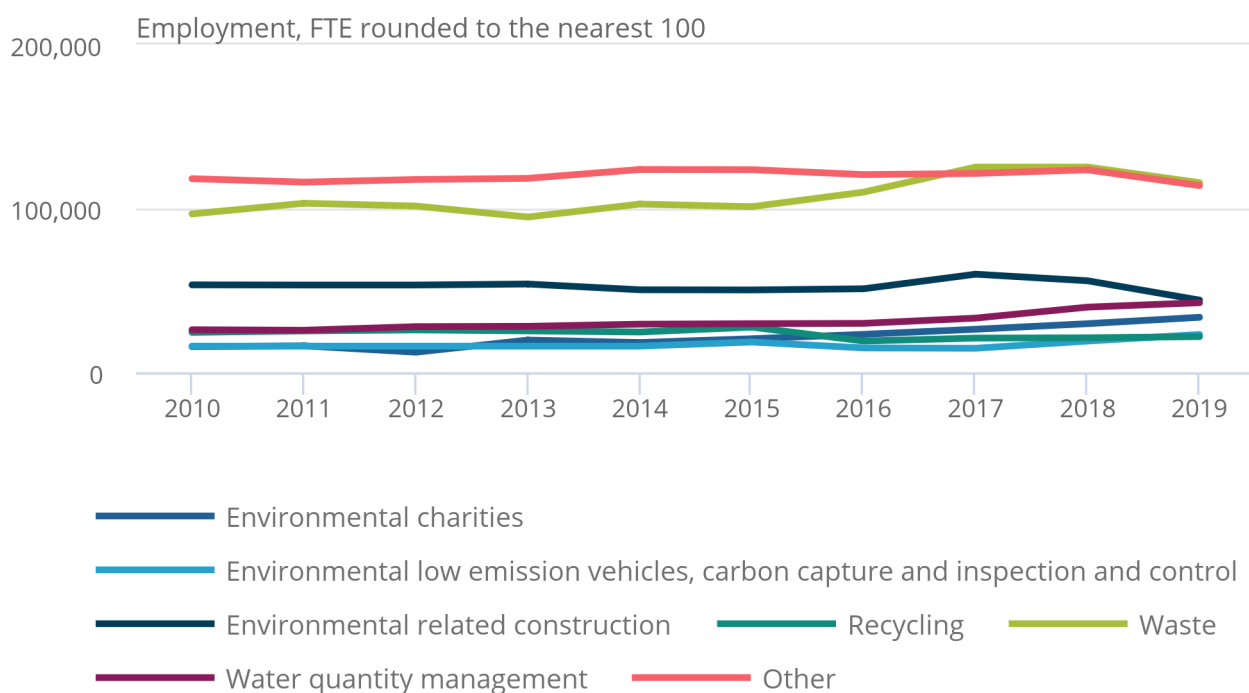
Figure 2 shows the employment (in full-time equivalent employees) in different environmental goods and services sector (EGSS) activities.

Figure 2: In 2019, waste had the largest share of employment in the environmental goods and services sector (EGSS)

Employment in EGSS from the six largest activities, with all other activities in "Other", UK, 2010 to 2019

Figure 2: In 2019, waste had the largest share of employment in the environmental goods and services sector (EGSS)

Employment in EGSS from the six largest activities, with all other activities in "Other", UK, 2010 to 2019



Source: Office for National Statistics – environmental goods and services sector estimates

Notes:

1. The "Other" category comprises 11 EGSS activities: energy saving and sustainable energy systems, environmental consultancy and engineering, environmental-related education, in-house environmental activities, insulation activities, management of forest ecosystems, managerial activities of government bodies, organic agriculture, production of industrial environmental equipment, production of renewable energy, and wastewater.

Historically full-time equivalent (FTE) employment in EGSS increased in most years apart from 2012 and 2016, which saw small declines. In 2019 it fell by 4.7% to 394,900.

Employment in some EGSS activities such as water quantity management and environmental low emission vehicles, carbon capture and inspection and control did increase in 2019. However, these increases were not enough to offset the fall in FTE employees in waste and environmental related construction.

Production of renewable energy

Employment in production of renewable energy increased consistently from 2010 to 2018, then fell by 7.5% to 16,700 in 2019. It accounted for a small proportion of total EGSS employment (4.2% in 2019).

Waste

Waste had the largest share of total EGSS employment across the 17 activities, with a share of 29.3% in 2019. This increased by 19.8% between 2010 and 2019, but fell from 125,300 in 2018 to 115,800 in 2019, a 7.5% decrease. Our source data suggest that this was not because of any one single cause.

Environmental-related construction

Environmental-related construction includes activities related to construction for the benefit of the environment and management of natural resources. From 2010 to 2019, employment in this activity tended to fluctuate noticeably. Data for 2010 to 2014 have been modelled using a three-year average because of source data availability.

In 2019 employment fell by 21.1% compared with 2018. This fall needs to be treated with caution, as the main data source for this activity - [our Low Carbon and Renewable Energy Economy Survey](#) - found no significant change in employment in construction-related activities. The change in the estimate was not greater than what can be explained by sampling variability.

5 . UK environmental goods and services sector data

[Environmental goods and services sector \(EGSS\) estimates](#)

Dataset | Released 21 March 2022

First estimates of the UK environmental goods and services sector (EGSS) for 2019 and revised estimates for 2010 to 2018. Included are estimates of output, gross value added, employment and exports.

6 . Glossary

Environmental goods and services sector

The environmental goods and services sector (EGSS) framework, which follows the [UN System of Environmental-Economic Accounting \(SEEA\)](#), measures areas of the economy engaged in producing goods and services for environmental protection purposes, as well as those engaged in conserving and maintaining natural resources.

Output

Output is the total value of the goods and services produced in the given time period, such as in one year.

Gross value added

Gross value added (GVA) is the value of an industry's outputs minus the value of intermediate inputs used in the production process.

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.

Exports

Goods or services sold to agents in other countries.

7 . Measuring the data

These data are from a wide range of sources - major sources include Supply and Use tables, the Low Carbon and Renewable Energy Economy Survey (LCREE), the Annual Business Survey (ABS) and the Business Register and Employment Survey (BRES). These, in conjunction with additional activity-specific sources, are used in different ways to compile estimates of output, gross value added, employment, and exports for 17 activities.

For more information see the [Quality and Methodology Information report](#) and the [methodology annex](#).

8 . Strengths and limitations

The environmental goods and services sector (EGSS) framework follows the [UN System of Environmental-Economic Accounting \(SEEA\)](#). SEEA is an international statistical system that aims to improve the availability and comparability of data on the links between the environment and the economy. Following this international framework, the UK has identified 17 different areas of activity that make up the overall EGSS of the UK economy.

All estimates are broken down by activity as well as the [classifications of environmental protection activities \(CEPA\) and resource management activities \(CReMA\)](#) and [standard industrial classification \(SIC\)](#). The use of CEPA or CReMA and SIC allows for comparisons in an international and national context.

Where possible, National Accounts source data are used to compile EGSS estimates, aligning them with wider economic statistics to allow for more analysis.

The EGSS estimates are published three years after the reference year. Estimates are provided from 2010, allowing for time series analysis.

Methodology varies for each of the 17 activities considered, and so the robustness of estimates also varies. The scope of the accounts increases complexity, and it is unlikely that every activity that could qualify as part of the EGSS is captured.

Estimates for the activities of energy saving and sustainable energy systems, environmental consultancy and engineering, environmental low emission vehicles and carbon capture and storage and inspection and control, environmental related construction, and production of industrial environmental equipment use the [Low Carbon and Renewable Energy Economy](#) survey. These estimates should therefore be treated with caution because of the small sample size for these activities.

The estimates for the activity environmental charities are less robust because the source data for this activity are limited. Therefore they should be treated with caution.

The methodology used to develop EGSS is under constant development. The estimates included as part of this bulletin are experimental and should be interpreted in this context. [Experimental Statistics](#) are those that are in the testing phase and have not been submitted for assessment to the UK Statistics Authority.

For more detail see [the Quality and Methodology Information report](#) and the [methodology annex](#), which accompanies the dataset.

9 . Related links

[Nature jobs using environmental goods and services sector data: 2019](#)

Article | Released on 21 March 2022

Assessing what the environmental goods and services sector framework shows about nature jobs in the UK for 2010 to 2019 and opportunities for further research

[Low carbon and renewable energy economy. UK: 2020](#)

Bulletin | 17 February 2022

Estimates in the size of the green economy from the Low Carbon and Renewable Energy Economy Survey, including turnover and employment.

["Green jobs". current and upcoming work: March 2022](#)

Article | Released on 7 March 2022

How the ONS has contributed to understanding "green jobs" through regular estimates and research articles, and what our future work on "green jobs" will include.