

Article

UK Environmental Accounts: UK nuclear power sector, 2014

In 2015 the ONS launched a new survey collecting data on the Low Carbon and Renewable Energy (LCRE) economy. The first high level results were published in December 2015. In order to produce timely estimates and be responsive to demand for greater detail, this is the second in a series of sector specific articles prior to final results scheduled to publish in May 2016. This article provides estimates of activity in the nuclear power sector in 2014.

Contact:
Nicola Pearce
nicola.pearce@ons.gsi.gov.uk

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Correction

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A correction has been made to the regional breakdown in UK nuclear power sector 2014. This was due to a small error in disclosure control. We apologise for any inconvenience.

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1 . Main points

In 2014, the nuclear power sector¹ generated almost £3.5 billion turnover and employed 15,500 full-time equivalent (FTE) workers.

Almost a quarter of low carbon electricity group acquisitions of capital assets were in the nuclear power sector.

The nuclear power sector accounts for a greater proportion of the low carbon economy in Scotland than in England for both turnover and FTE employees.

Notes for main points

1. The nuclear power sector includes businesses producing electricity, but also those supporting these activities through consultation, producing or installing infrastructure. This includes operations and maintenance. However, decommissioning and waste processing activities are excluded as their primary purpose is not within the scope of the LCRE economy. Research and development from public organisations is also out of the scope of the LCRE survey. Companies involved in new build developments will be included in the estimates if they had turnover, employment or acquisitions of capital assets. Businesses that provide consultancy advice to the nuclear sector will be captured by the low carbon services group. Estimates on the low carbon services group activity will be available in the Final Estimates Statistical Bulletin. However, consultancies that are providing advice on nuclear sector design activities will be captured by these nuclear power sector estimates.

2 . Introduction

The Office for National Statistics (ONS) launched a new survey in 2015, collecting data on the low carbon and renewable energy (LCRE) economy. The first high-level results were published in December 2015. In order to produce timely estimates and respond to demand for greater detail, this is the second in a series of sector-specific articles prior to final results scheduled to publish in May 2016. The first article, published in March 2016, focussed on the UK solar photovoltaic sector and can be found here: [UK environmental accounts: UK solar photovoltaic sector 2014](#). In this article, comparisons are made between the nuclear power sector and solar photovoltaic sector. Comparisons to additional sectors will be made as more data are published.

In 2014, low carbon sources generated 132.2 terawatt hours (TWh), which accounted for 39% of UK electricity generation. Low carbon energy sources are approximately evenly split between nuclear (48.4%) and renewable energy sources (51.6%) such as solar photovoltaic, offshore wind, onshore wind, hydro, landfill gas, and other bioenergy. The nuclear power sector generated 64 TWh of electricity¹.

The nuclear power sector includes businesses producing electricity, but also those supporting these activities through consultation, production or installation of infrastructure. This also includes operations and maintenance; however, decommissioning and waste processing activities are excluded as their primary purpose is not within the scope of the LCRE economy.

The main statistics for 2014 are presented in Table 1.

Table 1: UK nuclear sector estimates, 2014

	UK nuclear power sector
Turnover (£ thousands)	3,473,000
Exports (£ thousands)	43,500
Imports (£ thousands)	303,000
Employees (FTEs)	15,500
Acquisitions of capital assets (£ thousands)	1,422,000

Source: Office for National Statistics

Notes:

1. All numbers have been rounded to the nearest 500,000 except for FTE Employees, which has been rounded to the nearest 500.
2. Accompanying coefficients of variation (CV) can be found in main nuclear power sector statistics. CVs can be used as a guide to the accuracy of the estimate. The lower the coefficient of variation, the greater the accuracy of the estimate. The ranges used for the purposes of the article are: very good, good, acceptable, and treat with caution.
3. Estimates are of direct nuclear power sector only; indirect activities are not in the scope of the publication.

In 2014, there were 15,500 full-time equivalents² (FTEs) engaging in nuclear power activity. Of those, 30.3% (4,500) were working in businesses where nuclear power activities were the businesses' primary activity (defined as more than 50% of business employees engaged in nuclear power activities). These businesses generated just 8.9% (£0.3 billion) of nuclear power sector turnover and were primarily involved in engineering and consultancy activities. These results show that businesses where nuclear power was their primary activity have a relatively high proportion of employment compared with the proportion of turnover generated.

Businesses that operated in the nuclear power sector but not as their primary activity employed 69.7% (11,000) of nuclear power sector FTE workers and generated 91.1% (£3.2 billion) of nuclear power sector turnover. These businesses were predominantly involved in electricity generation but operated in multiple power-generating sectors rather than specialising in nuclear electricity generation.

The majority of employment and turnover for the nuclear sector was in electricity generation by businesses where nuclear power was not their primary activity. This can be contrasted to the solar photovoltaic sector, where the majority of employment (81.0% of FTE workers) and turnover (51.2%, £1.3 billion) were in businesses where solar activities were their primary activity, most commonly design or installation activities.

Notes for introduction

1. Further information for 2014 is available from the [Digest of United Kingdom Energy Statistics \(DUKES\) 2015](#)

Estimates for nuclear generation in 2015 are available at [Digest of the United Kingdom Energy Statistics \(DUKES\) Energy Trends: Electricity](#)

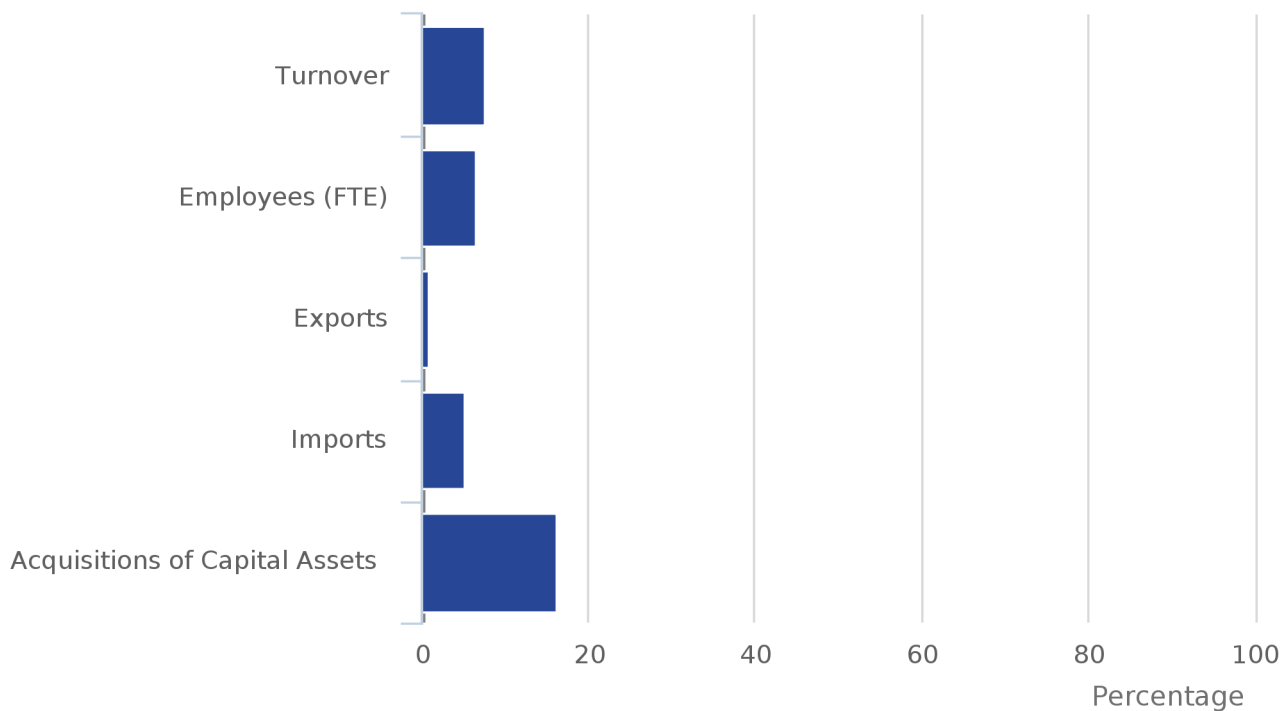
2. One FTE may be thought of as one person year. For example, a person who normally spends 30% of their time in one sector and the rest in other sectors should be considered as 0.3 FTE.

3 . Low carbon and renewable energy economy

The low carbon and renewable energy economy survey¹ was designed to provide statistics on 17 low carbon sectors², including the nuclear power sector. Figure 1 shows the contribution that the nuclear power sector made to the LCRE economy. Comparisons can be made with our first high-level estimates published here: [Low Carbon Survey, First Estimates 2014](#)

Figure 1: Nuclear power contribution to low carbon economy, 2014

UK



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

Notes:

1. All figures have been rounded to one decimal point.

The nuclear power sector generated £3.5 billion turnover in 2014, which was 7.5% of total LCRE turnover and £1 billion more than the solar photovoltaic sector.

FTE employees in the nuclear power sector made up 6.5% of total FTE employees in the LCRE economy. This is 2.5 percentage points higher than the solar sector and reflects the fact that nuclear power activities are more labour-intensive than solar activities.

The nuclear power sector exported £43.5 million in goods and services in 2014, which accounted for 0.9% of total LCRE exports; this was 0.7 percentage points higher than the exports of the solar sector (£9.5 million). In contrast, the sector imported £303 million, accounting for 5.1% of LCRE imports, which was 1.4 percentage points lower than the imports by the solar sector (£380.5 million). The high imports in both the nuclear power sector and solar sector are likely to be acquisitions of capital assets, with the nuclear power sector investing £1.4 billion in capital assets in 2014 and the solar sector investing £1.8 billion. The nuclear power sector accounted for 16.3% of overall LCRE acquisitions of capital assets whilst the solar sector accounted for 21.2%.

Notes for Low carbon and renewable energy economy

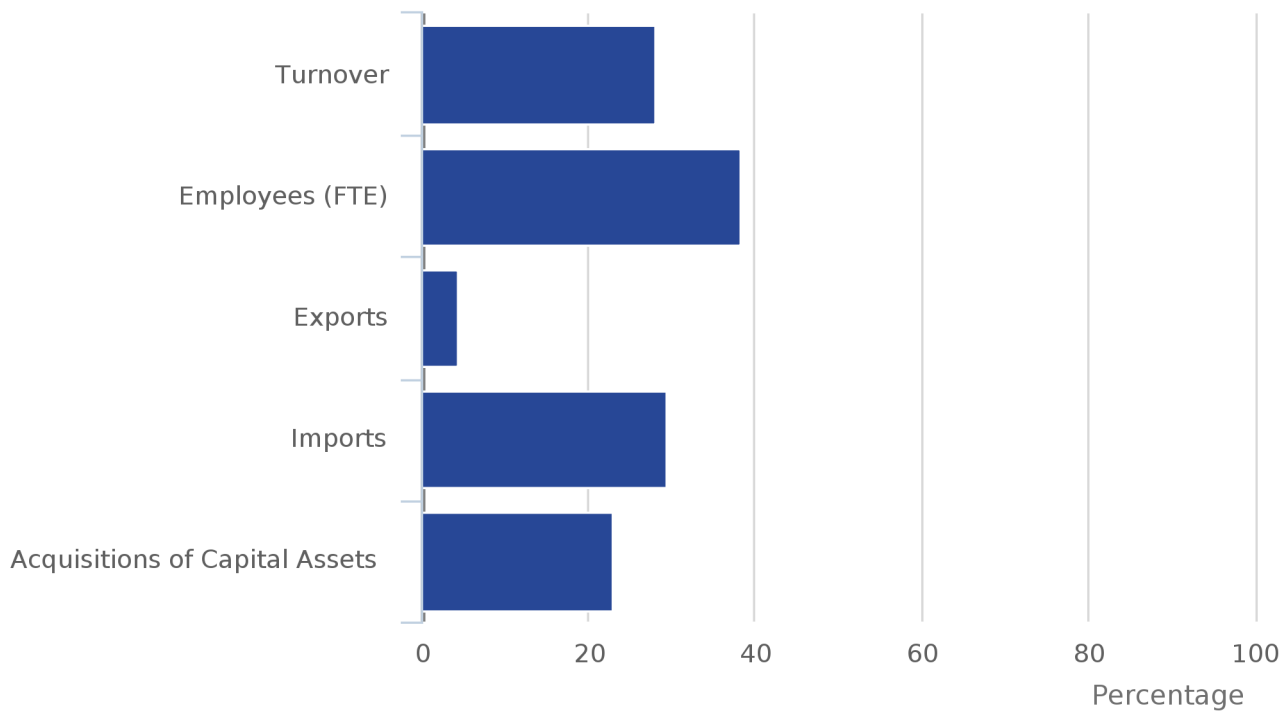
1. Information on the Low Carbon and renewable Energy Economy Survey methodology and first estimates resulting from the survey can be found in: [Low Carbon Survey Methodology](#)
2. The 17 sectors reported in the Low Carbon and Renewable Energy Economy Survey are: offshore wind; onshore wind; solar photovoltaic; hydropower; other renewable electricity; bioenergy; alternative fuels; renewable heat; renewable combined heat and power; energy efficient lighting; energy efficient products; energy monitoring, saving, or control systems; low carbon financial and advisory services; low emission vehicles and infrastructure; carbon capture and storage; nuclear power; fuel cells and energy storage systems.

4 . Low carbon electricity group

The LCRE economy can be divided into several groups that carry out similar activities. The nuclear power sector forms part of the low carbon electricity group, which includes other sectors producing electricity from renewable sources, namely wind, hydropower, solar photovoltaic, other renewable, and carbon capture and storage.

Figure 2: Nuclear power contribution to low carbon electricity group, 2014

UK



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

Notes:

1. All figures have been rounded to one decimal point.

The nuclear sector accounted for 27.9% of low carbon electricity group turnover and 38.3% of low carbon electricity group FTE employees.

The nuclear power sector exported £43.5 million in 2014, which accounted for 4.4% of low carbon electricity group exports. In contrast, the nuclear power sector imported £303 million, accounting for 29.5% of low carbon electricity group imports. The high imports in this sector are likely to be acquisitions of capital assets, with the nuclear power sector accounting for 23.0% of low carbon electricity group acquisitions of capital assets.

5 . Regional breakdown

Results for the two most robust indicators (based on CV values), turnover and employment, are presented in Table 2.

Table 2: Regional statistics 2014, nuclear power sector

	Turnover (£ thousands)	Employees (FTEs)
UK	3,473,000	15,500
England	2,797,000	13,500
Scotland	660,500	2,000
Wales	15,000	<500

Source: Office for National Statistics

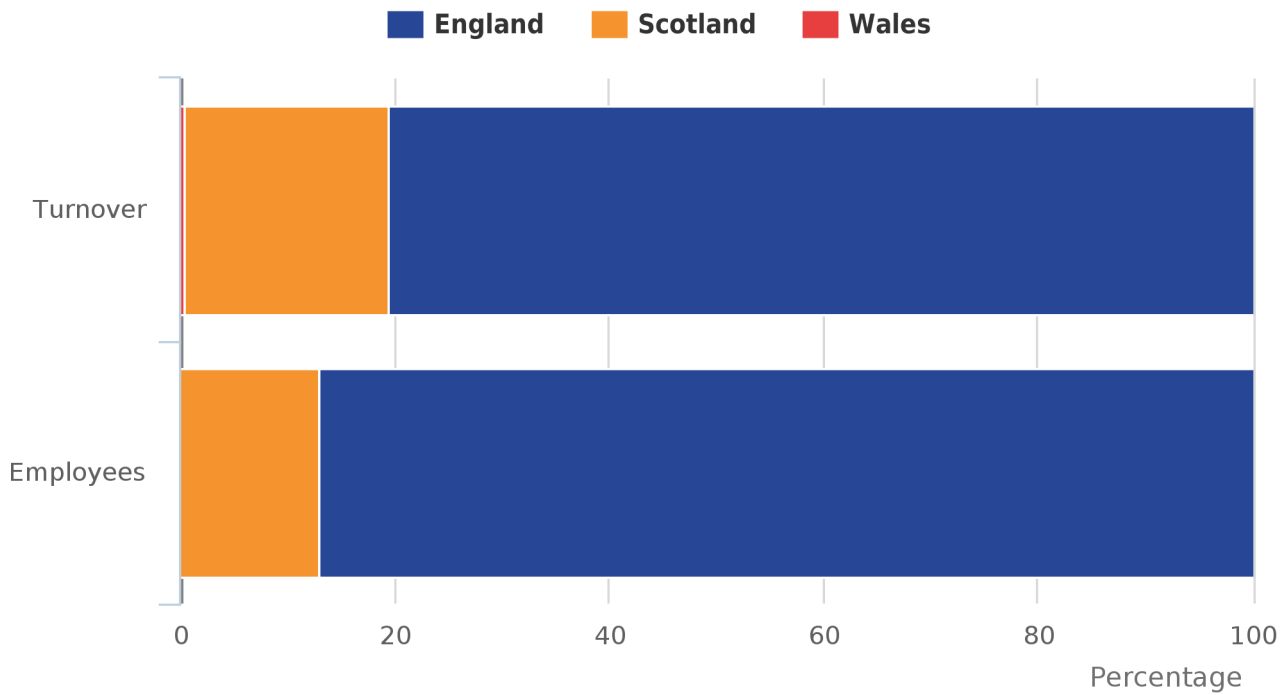
Notes:

1. All numbers have been rounded to the nearest 500,000 except for FTE Employees which has been rounded to the nearest 500.
2. The figures and accompanying CVs for all regional indicators can be found in main nuclear power sector statistics. CVs can be used as a guide to the accuracy of the estimate. The lower the coefficient of variation, the greater the accuracy of the estimate.
3. The estimates for Wales should be treated with caution due to high CVs.
4. Figures for Northern Ireland are not presented here due to disclosure control.

The percentages contributed by each region to the indicators are presented in Figure 3 below. England contributed the majority to both total turnover (80.5%) and total employment (87.1%) of the nuclear power sector. This reflects that the majority of nuclear power activity is based in England. Scotland was the second biggest contributor, accounting for 19.0% of turnover and 12.9% of FTE workers.

Figure 3: Regional contribution to the nuclear power sector, turnover and employment 2014

UK



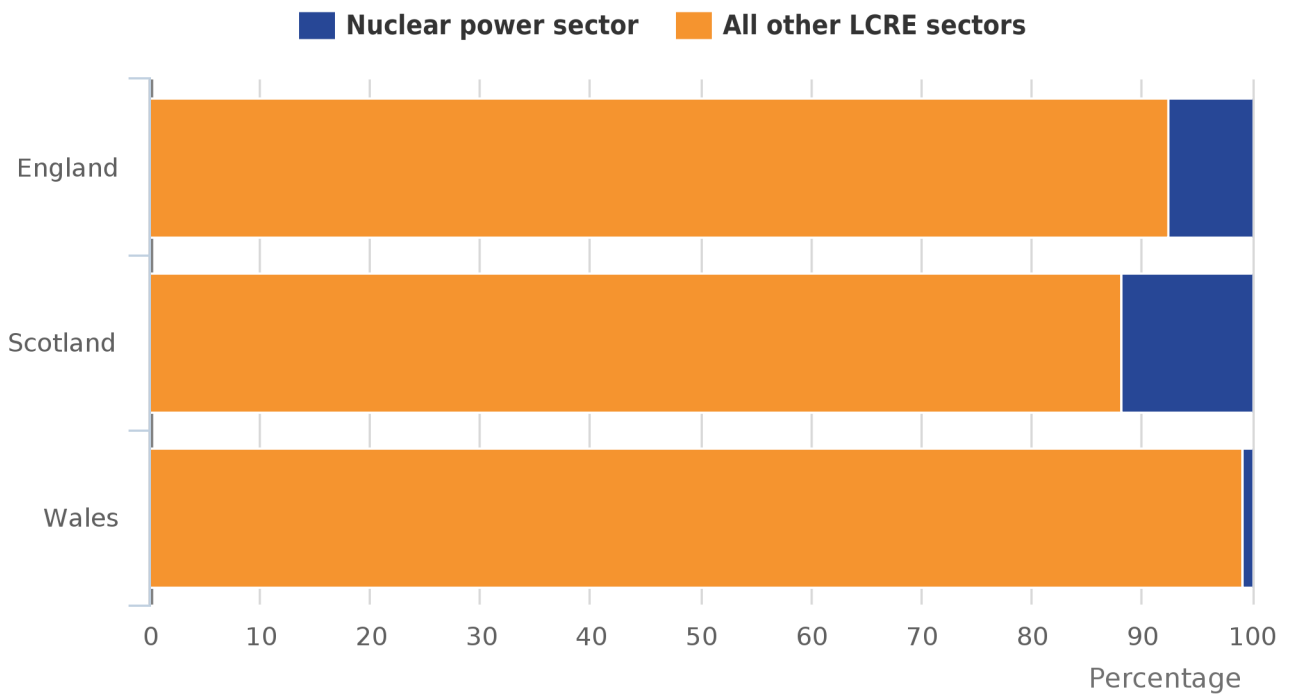
Source: Office for National Statistics: Low Carbon and Renewable Energy Economy Survey

Notes:

1. All figures have been rounded to one decimal point.
2. Figures for Northern Ireland are not presented here due to disclosure control.

Figures 4 and 5 show the contribution of the nuclear power sector to the low carbon economy in each region, for turnover and employment respectively. Although England contributes most of the turnover and FTE employment to the nuclear power sector, this sector accounts for a greater proportion of the low carbon economy in Scotland than in England for both turnover and FTE employees.

Figure 4: Nuclear power contribution to regions, turnover 2014

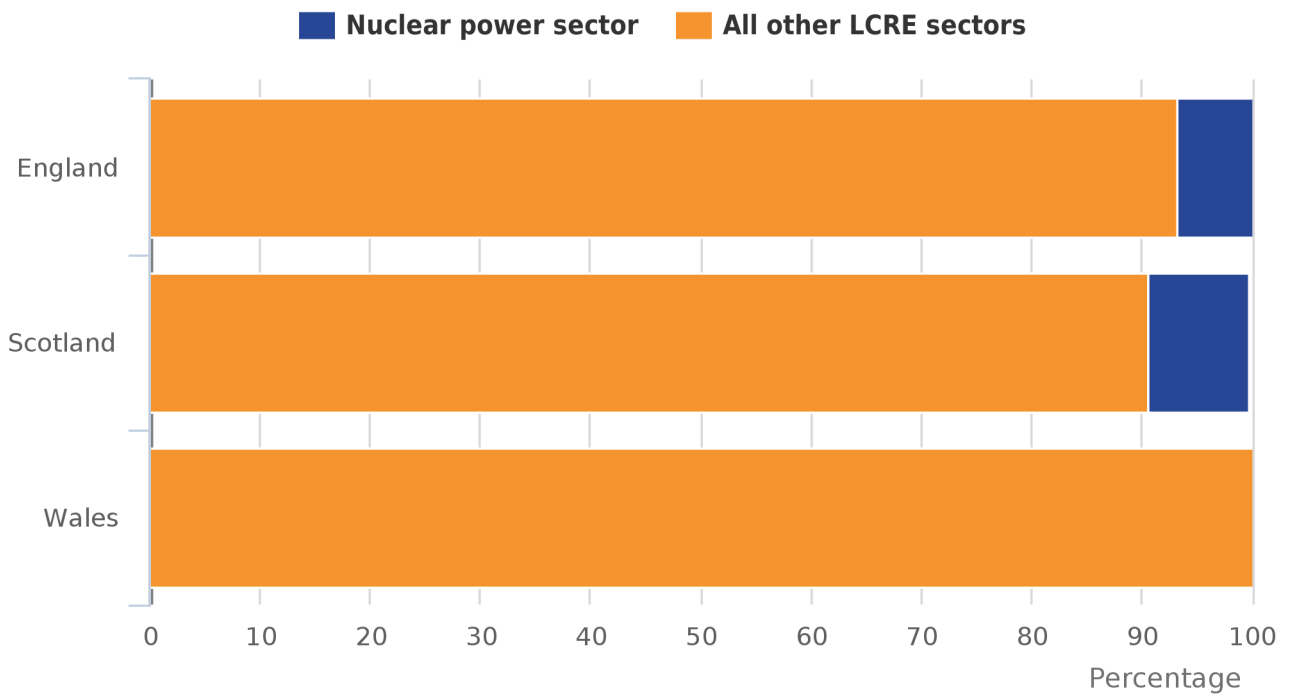


Source: Office for National Statistics: Low Carbon and Renewable Energy Economy Survey

Notes:

1. All figures have been rounded to one decimal point.
2. Figures for Northern Ireland are not presented here due to disclosure control.

Figure 5: Nuclear power contribution to regions, FTE employees 2014



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

Notes:

1. All figures have been rounded to one decimal point.
2. Figures for Northern Ireland are not presented here due to disclosure control.