

Article:

UK Environmental Accounts: UK Solar Photovoltaic Sector 2014

This is the first in a series of sector specific articles using results from the Low Carbon and Renewable Energy Economy Survey. This article provides estimates of activity in the Solar Photovoltaic sector in 2014.

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Release date:
2 March 2016

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1. Main points

In 2014, around 19,000 businesses operated in the solar photovoltaic sector. They generated £2.5 billion turnover and employed 9,500 full time equivalent (FTE) workers.

The solar sector accounted for 20% of low carbon and renewable energy (LCRE) businesses and 4% of the LCRE workforce. Many of these businesses were generating electricity which requires fewer employees compared with other LCRE activities.

Imports in the solar sector accounted for over a third of low carbon electricity group imports, but only 1% of exports.

Almost 30% of low carbon electricity group acquisitions of capital assets were in the solar sector.

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 be responsive to demand for greater detail, this is the first in a series of sector-specific articles prior to final results scheduled to publish in May 2016.

In 2014, 19.1% of UK electricity generation came from renewable sources with 64.7 terawatt hours (TWh) generated. The solar photovoltaic sector accounted for 6.3% of this, with 4.0 TWh of electricity generated¹.

The solar photovoltaic sector includes businesses generating electricity, but also those supporting these activities through designing, producing or installing infrastructure.

The main statistics for 2014 are presented in Table 1.

Main statistics 2014, solar photovoltaic sector, UK

UK Solar Photovoltaic Sector	
Businesses	19,000
Turnover (£ thousands)	2,470,500
Exports (£ thousands)	9,500
Imports (£ thousands)	380,500
Employees (FTEs)	9,500
Acquisitions of Capital Assets (£ thousands)	1,847,000

Table source: Office for National Statistics

Table notes:

1. Coefficients of Variation (CV) can be used as a guide to the reliability of the estimate. The ranges used for the purposes of the article are very good, good, acceptable and treat with caution.
2. Regional figures and accompanying CVs can found in main solar photovoltaic sector statistics but should be treated with caution due to high CVs.
3. The Exports estimate should be treated with caution due to high CVs.
4. Estimates are of direct solar photovoltaic sector only; indirect activities are not in scope of the publication.

There were 9,500 full-time equivalents² (FTE) engaging in solar photovoltaic activity. Of those, 81.0% (7,700) were working in businesses where solar activities were the businesses' primary activity, defined as more than 50% of business employees engaged in solar photovoltaic activities. These businesses generated 51.2% of solar sector turnover (£1.3 billion). Many of the primary solar businesses were carrying out design or installation activities, these activities require greater employment than electricity generation activities.

Businesses that operated in the solar sector but not as their primary activity employed only 19.0% of solar sector FTE workers, but generated 48.8% of solar sector turnover. Many of these businesses were likely to be involved in electricity generation, which requires fewer employees compared to other activities in this sector, such as installation.

Notes for introduction

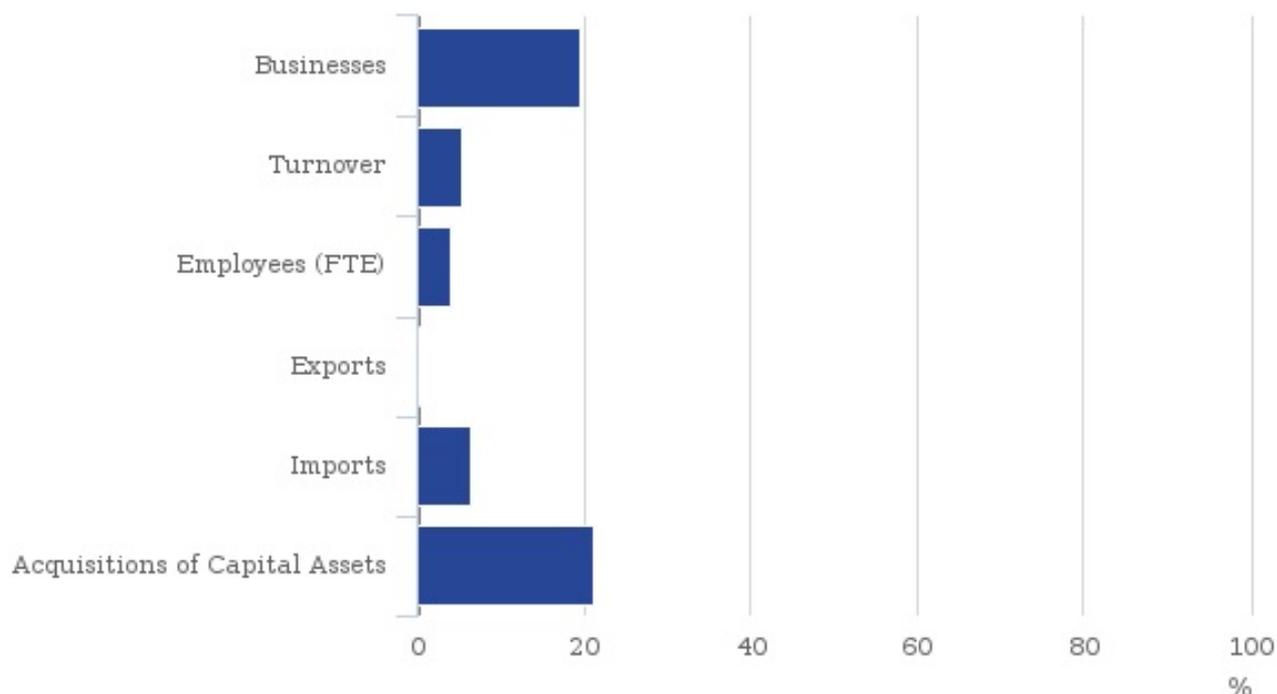
1. Further information is available from the [Digest of United Kingdom Energy Statistics \(DUKES\) 2015](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/450302/DUKES_2015.pdf) (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/450302/DUKES_2015.pdf).
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 solar sector. Figure 1 shows the contribution that the solar sector made to the LCRE economy. Comparisons can be made with our first high level estimates published in: [Low Carbon Survey, First Estimates 2014](http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/low-carbon-and-renewable-energy-economy-survey--2014/index.html) (<http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/low-carbon-and-renewable-energy-economy-survey--2014/index.html>).

Figure 1: Solar photovoltaic contribution to low carbon economy, 2014

UK



Source: Office for National Statistics

Notes:

1. Survey - Low Carbon and Renewable Energy Economy Survey

Of all the UK businesses operating in the LCRE economy in 2014, 19.7% were working in the solar sector in a primary or secondary capacity (Figure 1). The main activity of many of these businesses fell outside of the LCRE economy; however, turnover was generated through the production of electricity from solar panels. For example, farming businesses may utilise land to generate income from solar panels. To be included in the estimate a business had to be receiving at least £1,000 (rounded) in turnover or feed-in tariff (FIT) payments from solar sector activities. Businesses that were using all the electricity generated from solar panels and thus not receiving a turnover, or were generating less than £1,000 in FIT payments, were excluded.

Turnover generated in this sector however, which includes FIT payments, was relatively small compared with some of the other low carbon sectors. The solar sector generated £2.5 billion turnover in 2014, which was 5.4% of total LCRE turnover.

FTE employees in the solar sector made up 4.0% of total FTE employees in the LCRE economy. This reflects that many of the businesses operating in this sector were generating electricity, which requires fewer employees than other sectors in the LCRE economy.

The solar sector exported £9.5 million in 2014, which accounted for 0.2% of total LCRE exports. In contrast, the sector imported £380.5 million, accounting for 6.5% of LCRE imports. The high imports in this sector are likely to be acquisitions of capital assets, with the solar sector investing £1.8 billion in capital assets in 2014. This accounted for 21.2% of overall LCRE acquisitions of capital assets.

Notes for Low Carbon and Renewable Energy Economy

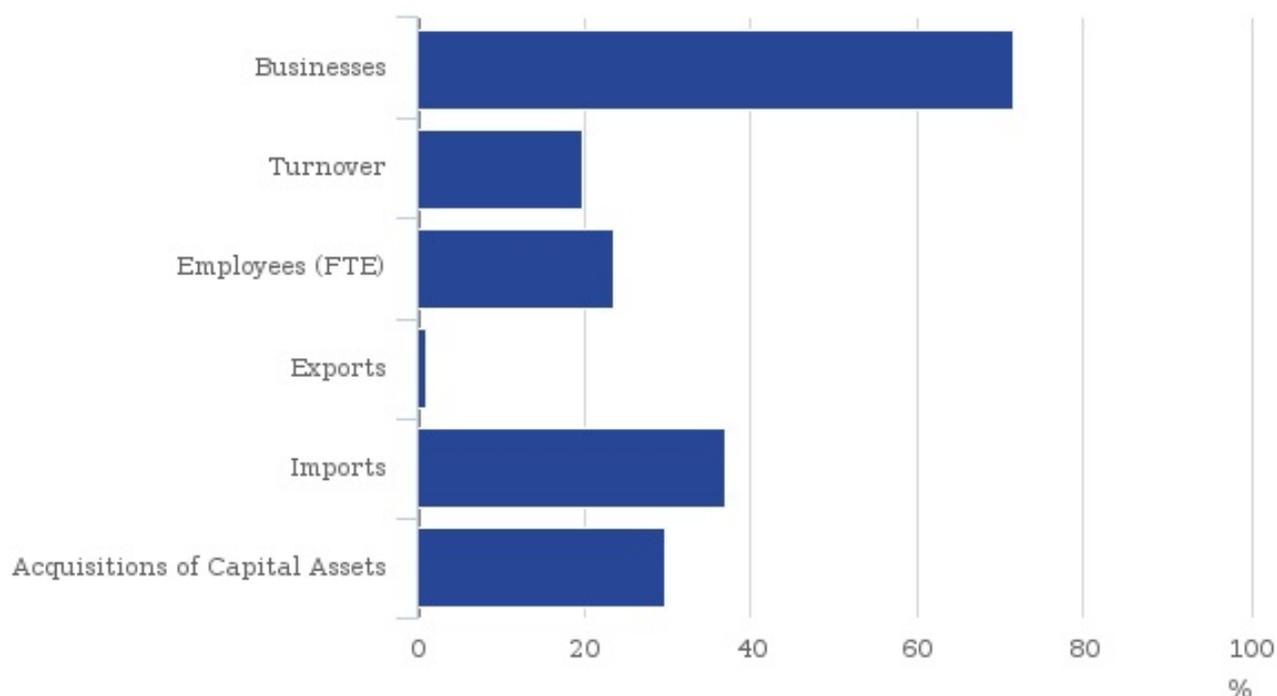
1. Information on the Low Carbon and Renewable Energy Economy Survey methodology and first estimates resulting from the survey can be found in: [Low Carbon Survey Methodology \(http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/low-carbon-and-renewable-energy-economy-survey-2014/index.html\)](http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/low-carbon-and-renewable-energy-economy-survey-2014/index.html).
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 activity. The solar sector forms part of the low carbon electricity group which includes other sectors producing electricity from renewable sources, namely wind, hydropower, nuclear power, other renewable and carbon capture & storage.

Figure 2: Solar photovoltaic contribution to low carbon electricity group, 2014

UK



Source: Office for National Statistics

Notes:

1. Survey - Low Carbon and Renewable Energy Economy Survey

The solar sector contributed the greatest number of businesses within the low carbon electricity group, with 71.7% of businesses operating in the solar sector in 2014. However, the turnover generated and number of employees was relatively small, with the solar sector accounting for 19.9% of low carbon electricity group turnover and 23.5% of low carbon electricity group full-time equivalent (FTE) employees. This reflects that many of the businesses operating in this sector were generating electricity, which requires fewer employees than other sectors.

The solar sector exported £9.5 million in 2014, which accounted for 1.0% of low carbon electricity group exports. In contrast, the sector imported £380.5 million, accounting for 37.1% of low carbon electricity group imports. The high imports in this sector are likely to be acquisitions of capital assets, with the Solar sector accounting for 29.8% of low carbon electricity group acquisitions of capital assets.

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