

Renewable Energy Progress 2016

A digest of the RegenSW [2016 Renewable Energy Progress Report](#)

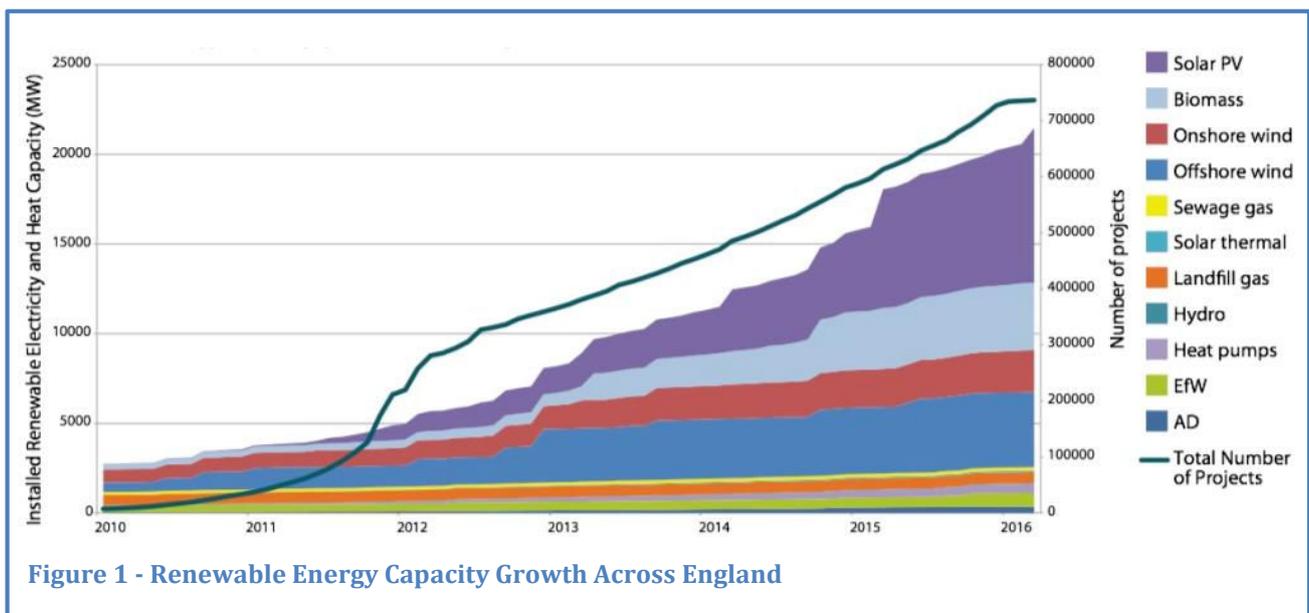
Summary

- Almost 20% of England's electricity is from renewable sources.
- The South West is a leading region in which Devon generates the most renewable energy.
- Three of the top five local authorities in England by percentage of households with solar PV are in Devon.
- Short term prospects in the South West are constrained by the grid, but the medium term is very positive.

England

This decade has seen remarkable growth in renewable energy in England; 19% of our electricity now comes from renewable sources. In contrast, renewable energy provides just 3% of domestic heating in England.

Investment started to slow in 2015/16 as cuts in support took effect; a third less capacity was installed than the previous year. Biomass heat was the technology that saw the greatest drop in its growth rate (Figure 1).



South West

The South West is at the forefront of renewables in England, with the highest onshore installed capacity of any region - 3.47 GW, thanks largely to 2.5 GW of solar PV. The south west is also the region that added the greatest onshore capacity this year, with 538.5 MW of new capacity. However, due to the day time nature of power from solar PV, other regions of England with renewable technologies that produce power around the clock generated more energy than the south west (Figure 2).

Cornwall continues to lead on installed capacity in the south west, with a total installed capacity of 768 MW, and followed closely by Devon with 752 MW. Due to a different technology mix, Devon generates a slightly higher quantity of renewable energy than Cornwall – 876GWh compared to 864GWh. Devon leads the south west on biomass, energy from waste, heat pumps, hydro and landfill gas capacity (Figure 3).

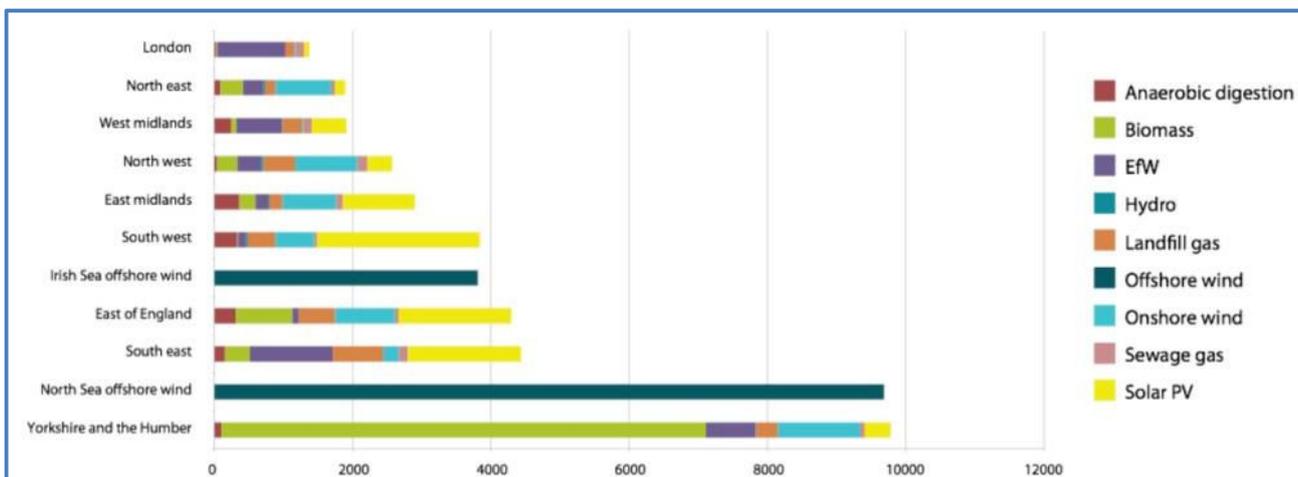


Figure 3 - Geographical Spread of Electricity Generation (GWh)

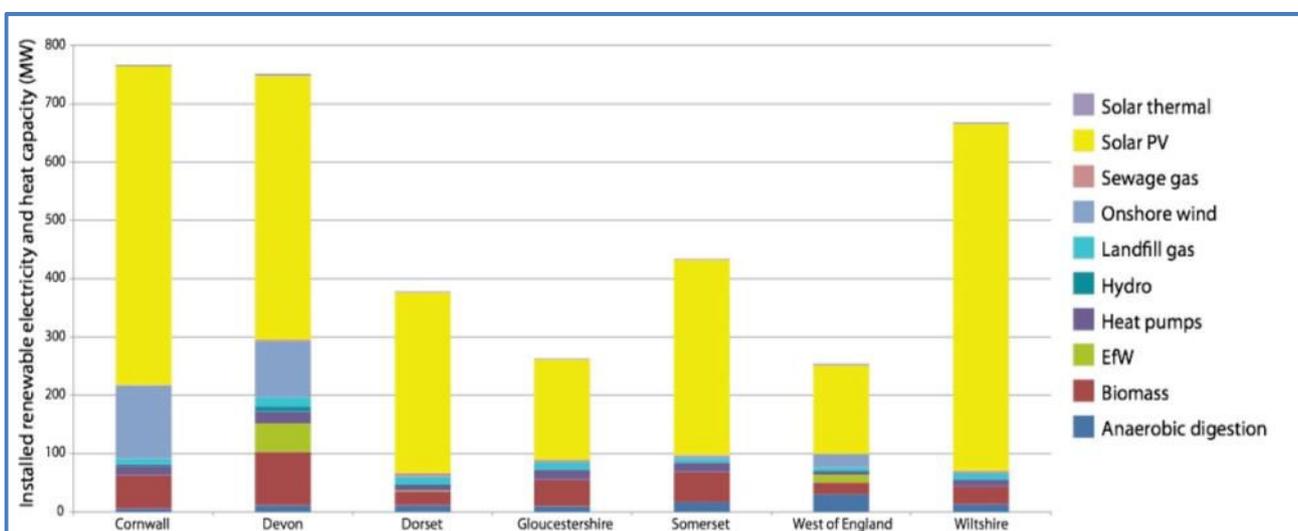


Figure 2 - Geographical Spread of Renewable Energy Capacity in the South West

The South West leads England for the percentage of domestic heat consumption met from renewable heat generation (5%). For the percentage of electricity consumption met by onshore renewable electricity generation the South West compares well with the North East and East of England, but is surpassed by Yorkshire and the Humber due to the co-firing of Drax power station with biomass (Table 1).

Mid Devon, Torrridge and South Hams are three of the top five local authorities in England by percentage of households with solar PV are in Devon (Table 2).

Torrridge appears in the top five local authorities by percentage of electricity met by renewables (Table 3) and is joined by Mid Devon in the top five by percentage of households with a renewable heat installation (Table 4).

Yorkshire and the Humber	41%	South west	5%
North east	16%	Yorkshire and the Humber	4%
East of England	16%	East midlands	3%
South west	15%	West midlands	3%
East midlands	13%	North west	3%
South east	11%	East of England	2%
North west	8%	North east	2%
West midlands	8%	South east	1%
London	3%	London	1%

Table 1 - Percentage of electricity consumption (left) and domestic heat consumption (right) met from onshore renewable energy

Peterborough, Cambridgeshire	10.5
Mid Devon	10
South Cambridgeshire	8.7
South Hams, Devon	7.4
Torridge, Devon	7.4

Table 2 - Top local authorities by percentage of households with solar PV

Selby, North Yorkshire	1629
East Cambridgeshire	84
Rosendale, Lancashire	81
Torridge, Devon	65
Allerdale, Cumbria	64

Table 3 - Top local authorities by percentage of electricity consumption met by renewables

Eden, Cumbria	2.4
Torridge, Devon	2
Ryedale, North Yorkshire	1.73
Stroud, Gloucestershire	1.7
Mid Devon	1.7

Table 4 - Top local authorities by percentage of households with a renewable heat installation

Outlook

National policy changes in the second half of 2015 are having a dramatic effect. Overall, the industry is entering a difficult period of low growth. Onshore wind projects in the southern sector of the North Sea will continue to be built out through the decade providing jobs and economic opportunities in eastern England.

Already, wind costs are cheaper than new fossil fuel generation

In the south west, good solar resources, an established community energy sector and a strong supply chain are coupled with severe grid constraints, meaning that continued growth is likely to be in smaller solar projects where power can be used onsite.

The medium term prospects for renewables are very positive. The sector has moved from the lab to the boardroom and, globally, investment is growing. Costs for renewables are falling rapidly, already wind costs are cheaper than new fossil fuel generation, and the cost of energy in Europe for wind and solar generators is predicted to fall by a further 50% by 2040. The key factor holding back renewables now is the massive subsidies governments continue to pay to prop up fossil fuels.

The tidal stream industry has a demonstration device operating since December 2015 in Ramsay Sound, Pembrokeshire, with a view to scaling up to a full scale device in 2017. The demonstration zones in North Devon and Anglesey offer alternative routes to market.

After a 12 month lull, there has been a noticeable increase in wave energy activity in the UK. The Cornwall Wave Hub has seen deployment of the Oceanus 2 device during summer 2016, which is expected to be followed by the Wello “Penguin” device, with further arrays planned in 2017.

Storage is a key innovation area that will provide greater flexibility and high growth potential if the barriers to the market are tackled, but some grid connected storage projects are operational (Figure 4). It is early days for domestic storage technologies which in the UK still lag behind Germany and the US.

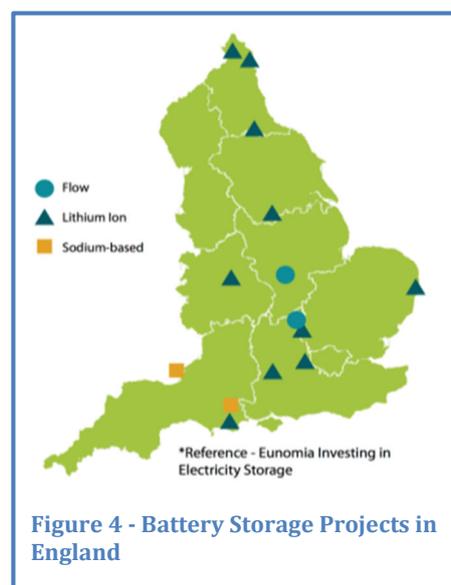


Figure 4 - Battery Storage Projects in England