

Renewable electricity in Scotland, Wales, Northern Ireland and the regions of England in 2015

Introduction

This article updates that published in the September 2015 edition of *Energy Trends* on the amount of electricity from renewable sources, disaggregated below UK level. It includes information on capacity, generation and number of operational sites, as well as derived load factors, for the four UK countries, and the nine English regions.¹ In addition, from 2014, statistics are also available at Local Authority level.^{2 3}

The data are consistent with that published for the UK as a whole in Table 6.4 of the Digest of United Kingdom Energy Statistics 2016 (DUKES), and use similar categories.⁴ The data covers all renewable electricity schemes, including those accredited under the Renewables Obligation (RO) and Feed in Tariff (FiT) support mechanisms, as well as those not eligible, such as large-scale hydro (commissioned before 1 April 2002), and Energy from Waste (non-CHP) schemes.

The tables in this, and previous *Energy Trends* articles, show snapshots of the position as at the time of publication, for the latest year (2015 in this case). Consistent time-series data for each year from 2003 (comparable to the data shown in Tables 1 to 3) are available as Excel spreadsheets at: www.gov.uk/government/statistics/regional-renewable-statistics.

Key points – 2015:

- England had the most renewable capacity and generation, largely due to the three biomass units (including one high-range co-firing) at Drax in Yorkshire and the Humber.
- Scotland had the highest capacity and generation per £ of GVA.
- The highest technology growth in capacity was solar PV, notably in South-West England, driven by large-scale schemes (supported by the Renewables Obligation).
- For the first time (in 16 years), England had the highest onshore wind load factor (and Scotland the lowest).

UK country summary

Table 1 and Chart 1 show that there were 4,945 non-PV sites in England generating electricity from renewable sources, with 3,611 non-PV sites in Scotland, 812 in Wales and 902 in Northern Ireland. In addition, there were 639,979 PV sites reported for England, 49,913 for Scotland, 48,850 for Wales and 18,712 for Northern Ireland. No geographical information was available for a further 85,383 PV schemes, 488 wind schemes, 80 hydro schemes and 44 other bioenergy (including anaerobic digestion) schemes.

In capacity terms, England had almost two and a half times more renewable electricity capacity than Scotland (Table 2 and Chart 3). This is mainly because of England's considerable bioenergy (90 per cent of the UK's bioenergy capacity) and PV capacity (85 per cent of the UK's PV capacity). Generation from renewable sources in England during 2015 was similarly higher than Scotland, with the higher utilisation rates of bioenergy offset by the lower rates of, the more intermittent, solar PV (which accounted for 12 per cent of English renewable generation).

¹ Offshore wind is allocated to the region to which its output is connected. The exception is Robin Rigg which comes ashore at Seaton, Cumbria but whose generation is associated with Scotland.

² Part of the tables published by BEIS that show a range of renewable electricity data for the devolved administrations and the regions of England: www.gov.uk/government/statistics/regional-renewable-statistics

³ Where disclosure of confidential generation data was likely at the site level, this has been addressed, where possible, by replacing this with data from publicly available sources. Where this is not possible, the data has been removed, and added to the unallocated row at the bottom of the Local Authority listings.

⁴ On occasion, it has been necessary to combine some renewable sources into categories so that information about individual sites provided in confidence (rather than from publicly available sources) to Ricardo Energy & Environment and the Department for Business, Energy & Industrial Strategy (BEIS) is not disclosed.

Table 1: Number of sites generating electricity from renewable sources, 2015¹

	Wind ²	Wave and tidal	Solar PV	Hydro	Landfill gas	Sewage gas	Other bioenergy ³	Total excluding PV	Total
England	3,726	2	639,979	276	361	161	419	4,945	644,924
East Midlands	378	-	74,784	25	39	15	59	516	75,300
East of England	848	-	90,318	6	69	14	50	987	91,305
North East	254	-	41,600	11	19	7	16	307	41,907
North West	464	-	74,856	51	49	24	60	648	75,504
London	31	-	19,943	-	5	8	16	60	20,003
South East	105	-	96,814	18	70	32	42	267	97,081
South West	744	1	107,726	106	39	17	57	964	108,690
West Midlands	164	-	60,757	20	30	19	67	300	61,057
Yorkshire and the Humber	738	1	73,181	39	41	25	52	896	74,077
Northern Ireland	780	1	18,712	61	15	2	43	902	19,614
Scotland	3,041	10	49,913	459	46	8	47	3,611	53,524
Wales	564	-	48,850	189	24	16	19	812	49,662
Other Sites	488	-	85,383	80	-	-	44	612	85,995
UK Total	8,599	13	842,837	1,065	446	187	572	10,882	853,719

Table 2: Installed capacity of sites generating electricity from renewable sources, 2015¹

	Wind ²	Wave and tidal	Solar PV	Hydro	Landfill gas	Sewage gas	Other bioenergy	MW Total
England	6,559.5	0.1	7,775.0	33.5	878.8	196.1	3,531.4	18,974.4
East Midlands	786.6	-	1,004.7	4.5	67.9	20.2	135.0	2,018.9
East of England	1,461.7	-	1,499.7	0.1	185.5	17.4	177.0	3,341.5
North East	433.6	-	142.4	7.8	44.6	11.5	167.8	807.8
North West	1,449.1	-	326.2	6.4	134.8	27.0	201.3	2,144.9
London	11.2	-	82.1	-	25.8	38.6	191.7	349.4
South East	1,161.9	-	1,516.7	0.7	166.6	28.7	274.1	3,148.8
South West	283.5	-	2,334.8	9.9	100.5	13.6	81.4	2,823.7
West Midlands	7.6	-	493.7	1.1	60.9	22.8	155.3	741.3
Yorkshire and the Humber	964.5	0.1	374.6	2.9	92.1	16.3	2,147.7	3,598.2
Northern Ireland	730.7	1.2	105.3	9.1	18.9	0.2	58.1	923.6
Scotland	5,564.9	7.6	213.1	1,531.9	116.3	7.0	234.5	7,675.3
Wales	1,358.0	-	626.4	161.1	47.2	13.1	90.8	2,296.5
Other Sites	78.0	0.0	467.6	23.0	0.0	0.0	26.5	595.2
UK Total	14,291.1	8.9	9,187.4	1,758.7	1,061.3	216.3	3,941.2	30,465.0
Co-firing ⁴							20.9	20.9

For notes to Table 1 and 2, see below Table 3.

Table 3: Generation of electricity from renewable sources, 2015¹

	Wind ²	Wave and tidal	Solar PV	Hydro	Landfill gas	Sewage gas	Other bioenergy ⁵	GWh Total
England	20,917.0	-	6,570.3	102.5	4,106.4	808.7	21,487.6	53,992.5
East Midlands	2,478.9	-	826.5	13.5	299.5	86.9	680.0	4,385.3
East of England	4,999.0	-	1,282.6	0.3	852.3	76.4	1,041.2	8,251.8
North East	1,196.7	-	111.7	33.6	159.1	47.7	742.5	2,291.3
North West	5,032.7	-	259.1	19.3	493.7	132.5	819.7	6,757.0
London	20.1	-	70.0	-	169.0	81.3	648.2	988.7
South East	4,009.7	-	1,332.7	1.9	888.8	136.1	947.8	7,317.0
South West	670.5	-	2,000.0	23.2	473.4	49.6	268.7	3,485.4
West Midlands	15.7	-	395.6	3.1	334.0	121.0	2,669.9	3,539.3
Yorkshire and the Humber	2,493.9	-	292.1	7.4	436.6	77.1	13,669.6	16,976.7
Northern Ireland	1,859.6	0.0	78.7	29.0	83.2	0.6	185.8	2,236.9
Scotland	13,833.5	2.0	173.9	5,757.1	503.4	26.2	1,331.4	21,627.4
Wales	3,546.9	-	524.9	351.6	179.2	52.1	527.9	5,182.6
Other Sites	152.7	-	213.0	48.6	-	-	95.9	510.2
UK Total	40,309.7	2.0	7,560.8	6,288.8	4,872.2	887.6	23,628.6	83,549.6

Notes to Tables 1 to 3

Components may not add exactly to totals because of rounding.

1 As at 31 December 2015.

2 Offshore Wind is allocated to regions/countries according to where the cabling comes ashore.

3 Six of these sites are sites that co-fire renewables with fossil fuels (see also note 4, below).

4 This is the proportion of non-fossil fuelled capacity used for co-firing of renewables based on the proportion of generation accounted for by the renewable source. This estimate has not been disaggregated into regional values since the figure will vary annually, and is not dedicated renewable capacity.

5 Includes bioenergy sources co-fired with fossil fuels.

Regional analysis

In England, the number of sites (excluding PV) in each region varies from 60 in London to 987 in the East of England (Table 1 and Chart 2). The highest capacity in England (including PV) is in Yorkshire and the Humber, followed by East of England and the South East (Table 2 and Chart 4). In Yorkshire and the Humber, 60 per cent of capacity is from other bioenergy (mostly from Drax dedicated biomass), 27 per cent from wind and 10 per cent is from PV. In the East of England, 44 per cent of capacity is from wind (mostly offshore), 45 per cent from PV, and 6 per cent from landfill gas. In the South East, 48 per cent of capacity is from PV, 37 per cent from wind and 9 per cent from other bioenergy.

The East of England has 17 per cent of the UK's landfill gas capacity. The South East (with 16 per cent of the UK's landfill gas capacity), and the North West (with 13 per cent of the UK's landfill gas capacity), are the other English regions with notably large shares. The East of England, North West and the South East regions together accounted for 46 per cent of UK generation from landfill gas.

England has 85 per cent of the total UK solar capacity and 87 per cent of the total UK generation. The South West accounts for 25 per cent of the total UK solar capacity (26 per cent of the generation), the South East 17 per cent (18 per cent of the generation) and the East of England 16 per cent (17 per cent of the generation), reflecting the increased solar irradiance in these areas⁵.

⁵ JRC Solar radiation and photovoltaic electricity potential http://re.jrc.ec.europa.eu/pvgis/cmeps/eu_cmsaf_opt/G_opt_UK.png. More detailed analysis also available from Met Office www.metoffice.gov.uk/renewables/solar

Chart 1: Number of sites by country¹

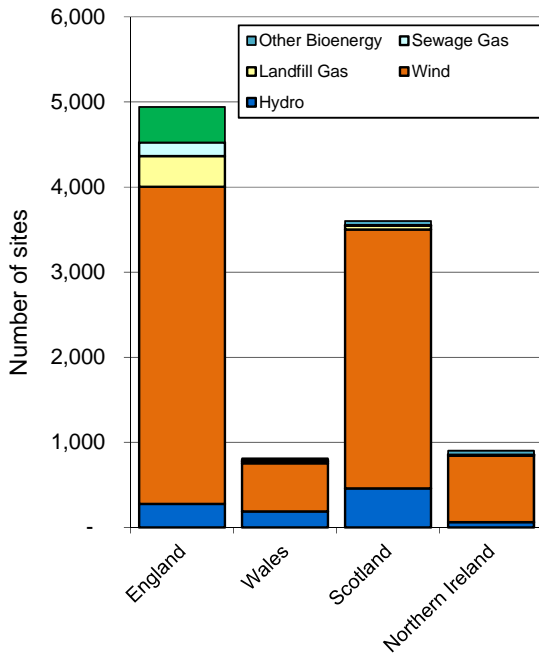
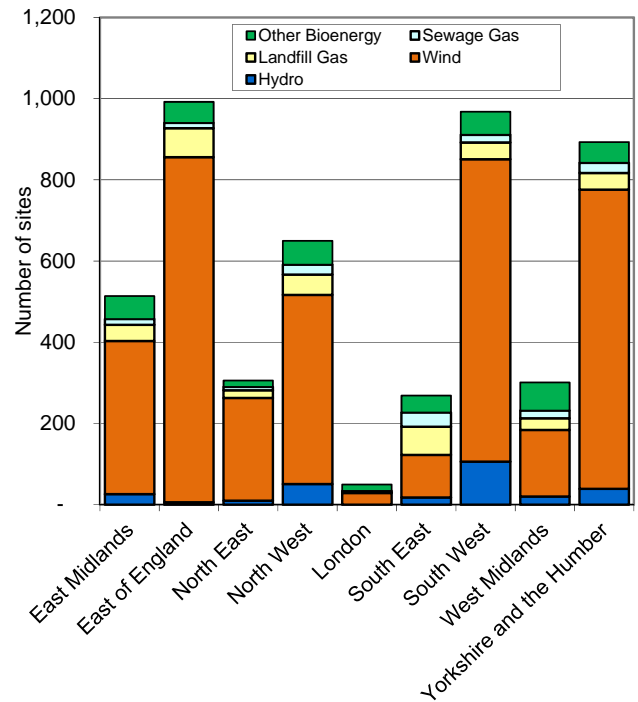


Chart 2: Number of sites by English region¹



1. Excludes Solar PV, due to the high numbers of small-scale schemes, disproportionate to all other technologies. Wave and Tidal are included with offshore wind.

In 2015, Scotland had 39 per cent of the UK’s wind capacity and produced 34 per cent of the output (Tables 2 and 3; Charts 5 and 9). 3,037 Scottish onshore wind sites (including the UK’s largest, Whitelee, at 539 MW) represent 96 per cent of its total wind capacity, and 38 per cent of total UK wind capacity. After Scotland, the East of England has the next largest share of both wind capacity and generation (10.2 per cent and 12 per cent, respectively), largely due to Greater Gabbard (504 MW) and Sheringham Shoal (316 MW) offshore wind farms. This is followed closely by the North West (10.1 per cent of the capacity and 12 per cent of generation) and Wales (9.5 per cent of capacity and 9 per cent of generation) and the South East (8 per cent of capacity and 10 per cent of generation) (Tables 2 and 3; Charts 4, 6, 8 and 10)⁶. England, as a whole, accounts for 46 per cent of wind capacity and 52 per cent of generation. Almost two-thirds of England’s wind capacity is offshore (4.2 GW); this also represents 82 per cent of the UK’s 5.1 GW of offshore capacity.⁷

⁶ A map of wind farm installed capacities in the UK at the end of 2015 was published in the renewables chapter of the 2016 edition of the Digest of UK Energy Statistics www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes

⁷ Wind capacity figures, disaggregated by onshore and offshore, are available in quarterly Energy Trends table, ET 6.1, available at: <https://www.gov.uk/government/statistics/energy-trends-section-6-renewables>

Chart 3: Renewable capacity by country

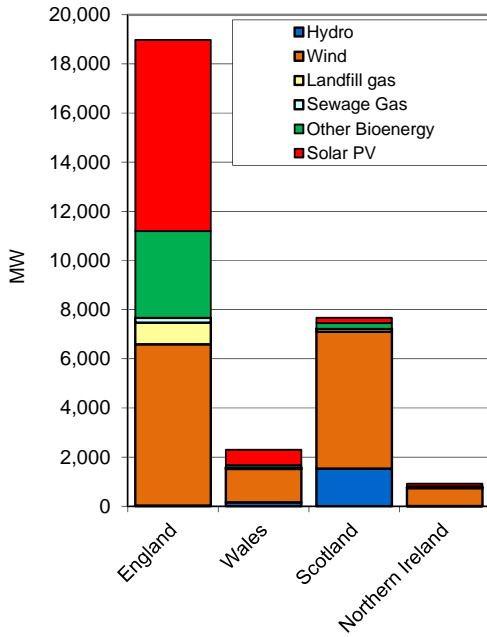


Chart 4: Renewable capacity by English region

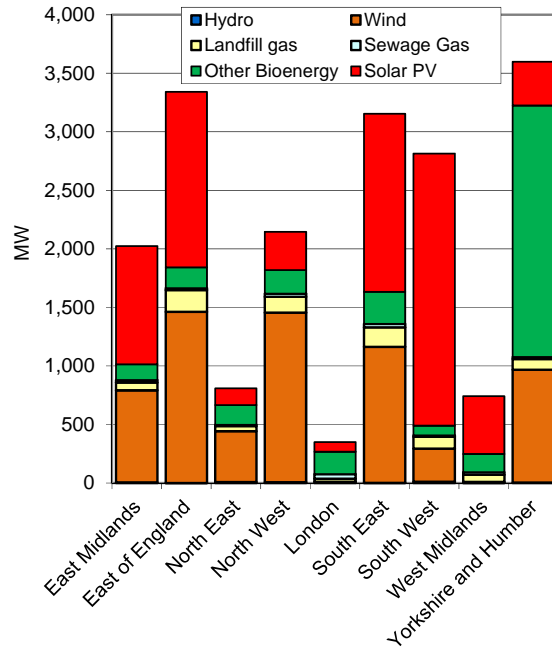


Chart 5: Wind capacity by country

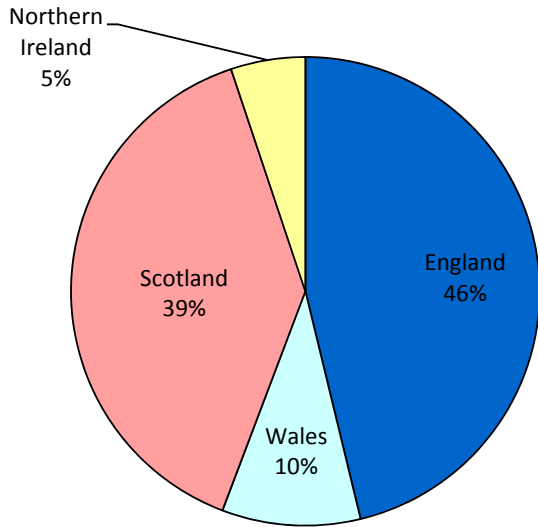


Chart 6: Wind capacity by English region

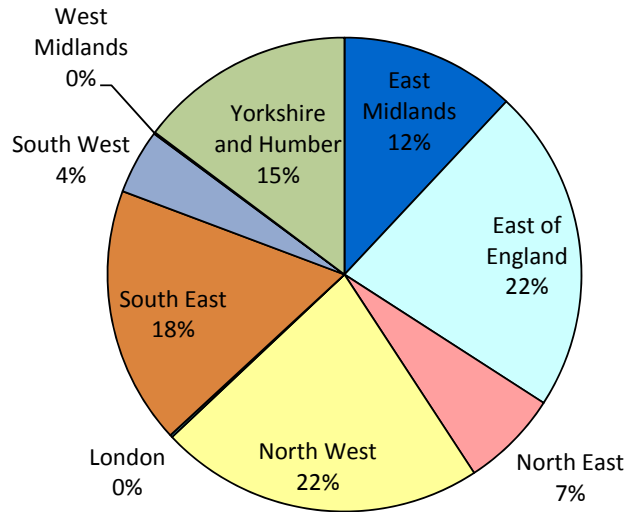


Chart 7: Renewable generation by country

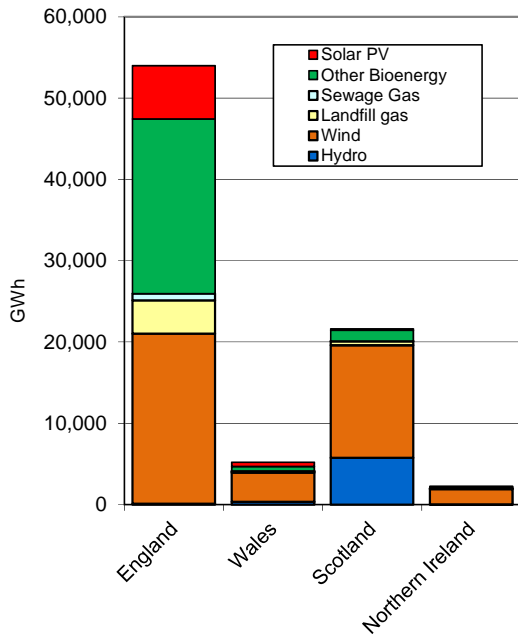


Chart 8: Renewable generation by English region

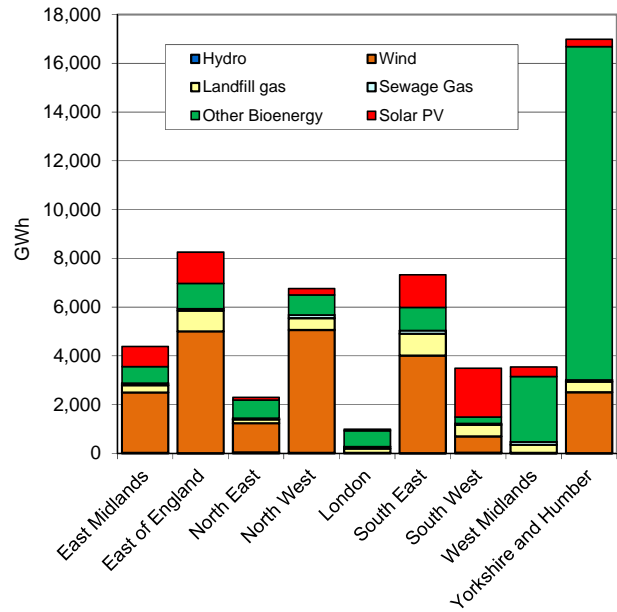


Chart 9: Wind generation by country

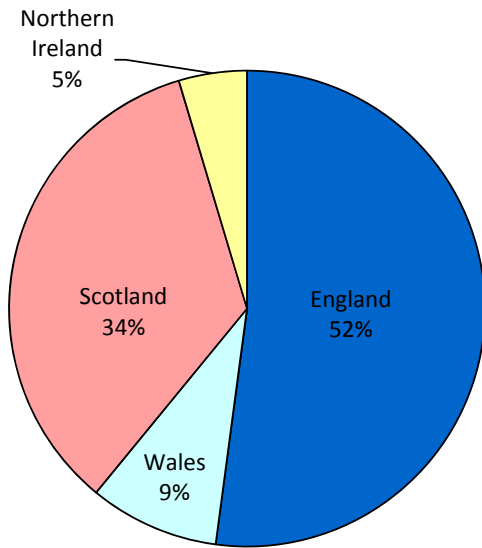
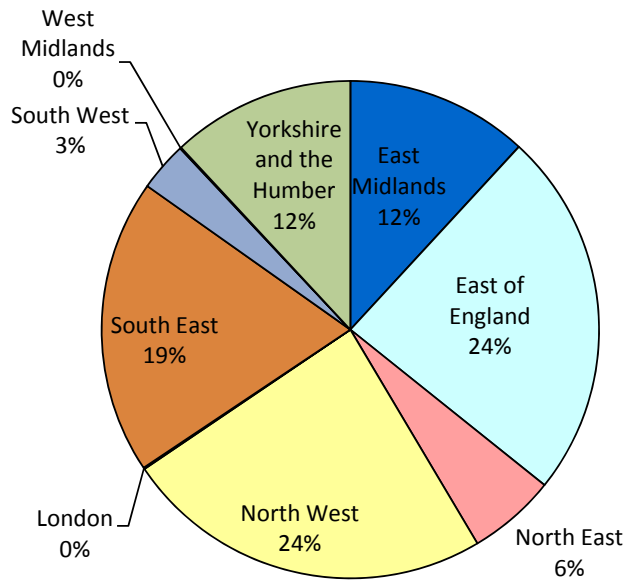


Chart 10: Wind generation by English region



Regional trends: 2015

Ninety-one per cent of the UK generation from sewage and 91 per cent of the UK generation from other bioenergy (including that used for co-firing) took place in England. The major sewage gas generating regions were the North West jointly with the South East (15 per cent each), the West Midlands (14 per cent) and the East Midlands (10 per cent). London was the highest in terms of sewage gas capacity (18 per cent), followed by the South East (13 per cent), the North West (12 per cent) and the West Midlands (11 per cent).

In the other bioenergy category, Yorkshire and the Humber (58 per cent) had the largest share of the generation, (mostly from Drax, where a third 645 MW biomass conversion unit became operational as high-range co-firing, in 2015), followed by West Midlands (11 per cent) and Scotland (6 per cent). Excluding bioenergy sources used for standard co-firing (which cannot be allocated to regions – see note 4 to Table 2), Yorkshire and the Humber has the largest capacity to generate from bioenergy (54 per cent of the UK total), mostly from the three 645 MW converted units at Drax. This is followed by the South East (7 per cent) and Scotland (6 per cent).

The rapid uptake of solar dominated renewables in 2015, accounting for almost two thirds of the growth in capacity, driven by the RO and FIT financial support mechanisms as well as decreasing technology costs. Biomass has also grown in capacity as the result of the further Drax unit conversion, while offshore wind capacity has increased due to new schemes and extensions to existing schemes.

In terms of change to total renewables generating capacity, Yorkshire and the Humber (+1289 MW), South West (+900 MW), East of England (+689 MW), South East (+683 MW), East Midlands (+534 MW) and Wales (+473 MW) have all shown considerable growth this year. The growth in overall renewables capacity in these regions has primarily come from solar, biomass and offshore wind. Table 4 below summarises the schemes that accounted for the majority of capacity growth in 2015. Capacity in all areas increased, with the exception of the West Midlands, which fell by 113 MW, a result of the closure of the Ironbridge biomass conversion plant (360 MW).

Table 4: Regional capacity growth

Region	Key Technology	Growth (MW) Key Schemes
Yorkshire and the Humber	Biomass	720 Additional Drax unit conversion (to high range co-firing)
	Offshore wind	405 Westernmost Rough, Humber Gateway
	Solar PV	127 Raventhorpe Farm
South West	Solar PV	833 Bradenstoke Solar Park, Orta Port Farms Solar, Hill House Solar Farm
East of England	Solar PV	628 Waterloo Solar Farm, Daisy No 1 Limited, Melbourn, West Raynham
South East	Solar PV	623 Owls Hatch Road, Southwick Solar Farm, Elms Farm
East Midlands	Solar PV	488 Chelveston Renewable Energy Park Extension, Morton Solar
Wales	Offshore wind	148 Gwynt y Mor
	Solar PV	253 Mainly medium and small-scale projects

Comparison with economic activity

Economic activity in each country or region can be measured in terms of Gross Value Added (GVA). Table 5 shows that Scotland continues to show the largest generating capacity from renewables in terms of capacity per unit of GVA and generation per unit of GVA. Among the English regions, Yorkshire and the Humber is highest in generating capacity per unit of GVA terms followed by the East of England, with the South West very close behind, and then the East Midlands. In terms of Generation/GVA, Yorkshire and the Humber is the highest, followed by the East of England and the North East, with the East Midlands and the North West very close behind.

Table 5: Density of renewables generation in different areas

	Electrical generating capacity from renewable sources kW/GVA (£million) ^{1,2}	Electricity generated from renewable sources kWh/GVA (£million) ¹
England	13.77	39,186
East Midlands	21.21	46,074
East of England	24.07	59,450
North East	16.93	48,034
North West	14.31	45,086
London	0.96	2,714
South East	13.14	30,526
South West	23.32	28,789
West Midlands	6.46	30,843
Yorkshire and the Humber	33.80	159,455
Northern Ireland	26.86	65,057
Scotland	62.13	175,060
Wales	42.26	95,380
UK average	18.46	51,311

1. GVA is Gross Value Added as published as Total GVA in Regional Gross Value Added (Income Approach), December 2015 at: www.ons.gov.uk/file?uri=/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedincomeapproach/december2015/00a9b4de.xls

2. Excludes capacity attributable to co-firing of bioenergy which has not been allocated to regions (see footnote 4 to Table 2).

Regional trends: 2003-2015

Between 2003 and 2015, there was a 688 per cent increase in generation from renewables in the UK, but faster rates of growth were recorded in Yorkshire and the Humber (2,507 per cent), Northern Ireland (2,045 per cent), the East Midlands (914 per cent) and the South East (823 per cent) (see charts 11 and 12). The reason for these differences in growth rates is not only dependent on the local resource (such as wind and solar), but also (notably in the case of Drax), the availability of existing fossil fuel capacity suitable for conversion to biomass. Furthermore, there was very little use of some technologies in various regions.

Chart 11: Trends in generation from renewables by country

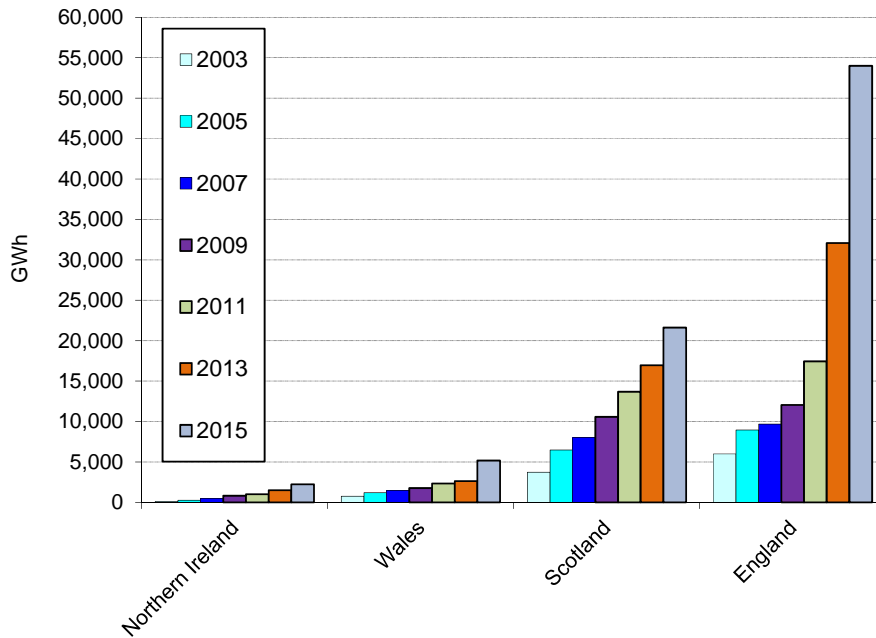
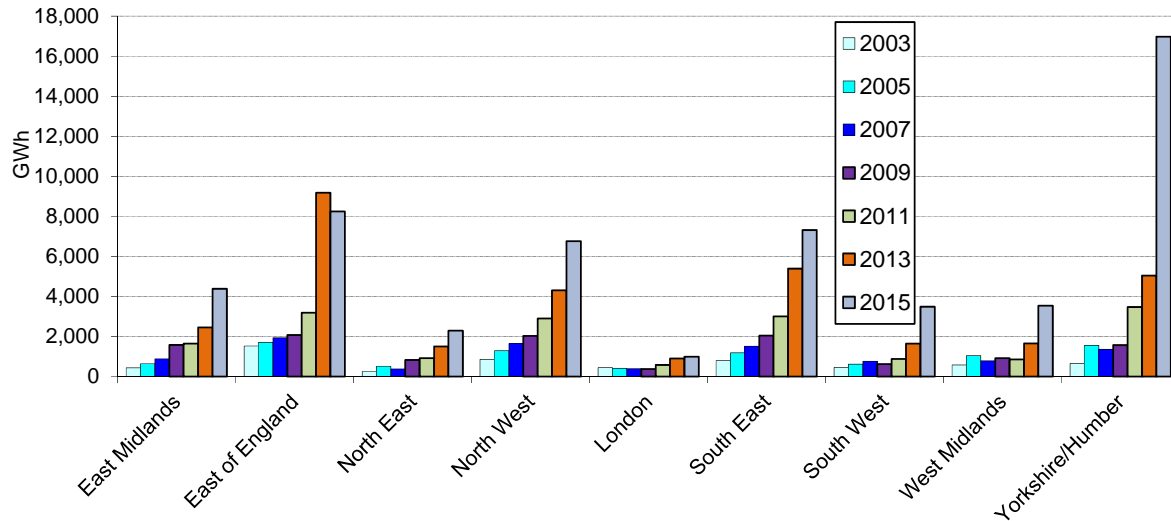


Chart 12: Trends in generation from renewables by English region



Load factor analysis

Load factors for the various technologies are shown in Table 6 from data provided in Tables 2 and 3 of this article. These are presented on an unchanged configuration basis^{8 9}.

The load factors for hydro range from 44.3 per cent in the North East to 17.6 per cent in the South East, with the UK average (mean) and median values for the UK overall of 39.5 and 33.1 per cent respectively. Rainfall for 2015 was the highest since 2011, and this is reflected in the highest load factor for large-scale hydro since 1999 and the highest load factor ever recorded for small-scale hydro.

Load factors for solar PV range from 8.8 per cent in Scotland to 11.6 per cent in the South East, reflecting solar irradiance levels in the UK. The UK average is 11.2 per cent, with Yorkshire and the Humber and West Midlands jointly occupying the median of 10.6 per cent.

For landfill gas, the load factors vary from 79.2 per cent for London to 40.7 per cent in the North East, with UK mean and median values of 52.6 and 51.4 per cent respectively. For England, Wales and Scotland, the landfill gas load factor has been steadily decreasing each year and this could be attributed to reductions in the quantity of waste landfilled since the early 2000s leading to less efficient gas abstraction. In the case of Northern Ireland, there has been a growth in capacity and load factors as new sites have been exploited but this has now settled down to similar values to the rest of the UK.

⁸ Previously, load factors were presented in terms of installed capacity and express the average hourly quantity of electricity generated as a percentage of the average capacity at the beginning and end of the year. These can still be found in the load factor time-series spreadsheets, available at: www.gov.uk/government/collections/renewables-statistics. However, this method does not take into account the impact of new schemes being constructed but not operating fully in the year. This can result in a distorted picture, depending on the timing and magnitude of new capacity coming on stream, and can even result in values >100%. The *unchanged configuration* basis for load factor calculations has therefore been used in this article.

The term "load factor on an unchanged configuration basis" describes the amount of electricity generated from schemes that have been operating throughout the whole of the calendar year with the same installed capacity configuration. The formula for calculating this is:

$$\frac{\text{Electricity generated during the year (MWh)}}{\text{Installed capacity of schemes operating throughout the year with an unchanged capacity configuration (MW) x hours in year}}$$

In view of the interest shown nationally in this measure, this is now calculated for several renewable technologies. These data are only reported where the region contains three or more operational schemes. The England figure includes data from all English schemes regardless of how many were operational within each region of England.

⁹ A limitation of this analysis is the availability of Renewables Obligation Certificates (ROCs) data, which may not be complete when DUKES is compiled (April 2016), when 2015 data were still provisional. In particular, this can have an impact on the schemes included in the unchanged configuration definition as new data could include or remove particular schemes.

Table 6: Regional load factors on an unchanged configuration basis, 2015

	Onshore Wind	Offshore Wind	Solar PV	Hydro	Hydro (small scale)	Hydro (large scale)	Landfill gas	Sewage gas	Other bioenergy (ex cofiring, sewage, LFG)
England	30.5%	41.7%	11.2%	36.1%	32.0%	43.9%	53.5%	48.5%	74.0%
East Midlands	30.4%	41.5%	10.8%	40.2%	40.2%		50.3%	48.8%	58.3%
East of England	30.8%	42.7%	11.1%				52.5%	50.2%	76.5%
North East	30.9%	38.6%	9.4%	44.3%	53.2%	43.9%	40.7%	47.7%	74.4%
North West	32.0%	43.3%	10.1%	34.8%	34.8%		41.5%	56.3%	59.1%
London	19.9%		8.9%				79.2%	23.4%	74.8%
South East	29.9%	41.4%	11.6%	17.6%	17.6%		61.9%	55.8%	76.4%
South West	28.4%		11.3%	26.5%	26.5%		54.0%	41.8%	37.9%
West Midlands			10.8%	28.2%	28.2%		62.8%	60.8%	81.6%
Yorkshire and the Humber	30.3%	31.8%	10.4%	31.4%	31.4%		54.5%	54.2%	75.0%
Northern Ireland	29.8%		10.2%	37.0%	37.0%		50.2%		72.5%
Scotland	28.9%	31.3%	8.8%	40.9%	44.5%	40.6%	50.2%	43.6%	66.8%
Wales	29.4%	30.7%	11.1%	24.7%	34.8%	22.9%	43.2%	46.1%	70.7%
UK AVERAGE	29.4%	39.7%	11.2%	39.5%	41.8%	39.2%	52.6%	48.2%	73.5%
MEDIAN	29.9%	40.0%	10.6%	33.1%	34.8%	40.6%	51.4%	48.8%	73.4%

The regional variation in load factors for other bioenergy ranges from 81.6 per cent in the West Midlands (primarily due to the high utilisation rates of a number of municipal solid waste (MSW) schemes), to 37.9 per cent in the South West (due to the lower rates of a number of Advanced Combustion Technology (ACT) schemes in the region).

Offshore wind load factors ranged from 30.7 per cent in Wales to 41.7 per cent in England, with the North West achieving 43.3 per cent, driven by high-performing sites, including Walney, Ormonde, and West of Duddon Sands (in its first year of operation at full capacity, following completion in late 2014).

For onshore wind, the unchanged configuration load factors range from 19.9 per cent in London, to 32 per cent in the North West, with the South East occupying the median position at 29.9 per cent. For offshore wind, load factors varied from 30.7 per cent in Wales to 43.3 per cent in the North West, with the South East and North East jointly occupying the median position at 40 per cent.

Chart 13 shows the annual variation in load factor compared to the UK's average wind speed.¹⁰ Over the 15-year period from 2001 to 2015, 2015 was the windiest, slightly exceeding 2008; the least windy year was 2010. As a result, 2015's load factors for both onshore and offshore wind were the highest in that time-period.

Chart 14 shows how the onshore wind load factor has compared between the four UK countries. For most of the 16 years, the highest load factors have been experienced in the windier countries, Northern Ireland (averaging 31.0%) followed by Scotland (averaging 27.9%). However, in 2014 and 2015, Scotland's load factor fell beneath that of the other three countries, due to outages and curtailments at some of Scotland's largest wind farms. Meanwhile, in 2015, English onshore wind farms achieved the highest load factor (30.5%) for the first time in the time-series, with the North West the highest of the English regions, at 32.0%.

¹⁰ Source: Energy Trends table ET 7.2, available at: www.gov.uk/government/statistics/energy-trends-section-7-weather. Further information on the methodology used is given in Energy Trends Special feature article, Dagnall, S.P., Janes, M. and Tipping, A, March 2006, 'UK Onshore Wind capacity factors 1998-2004', Energy Trends, p28

Chart 13: Annual variation in UK onshore wind load factor on an unchanged configuration basis and wind speed

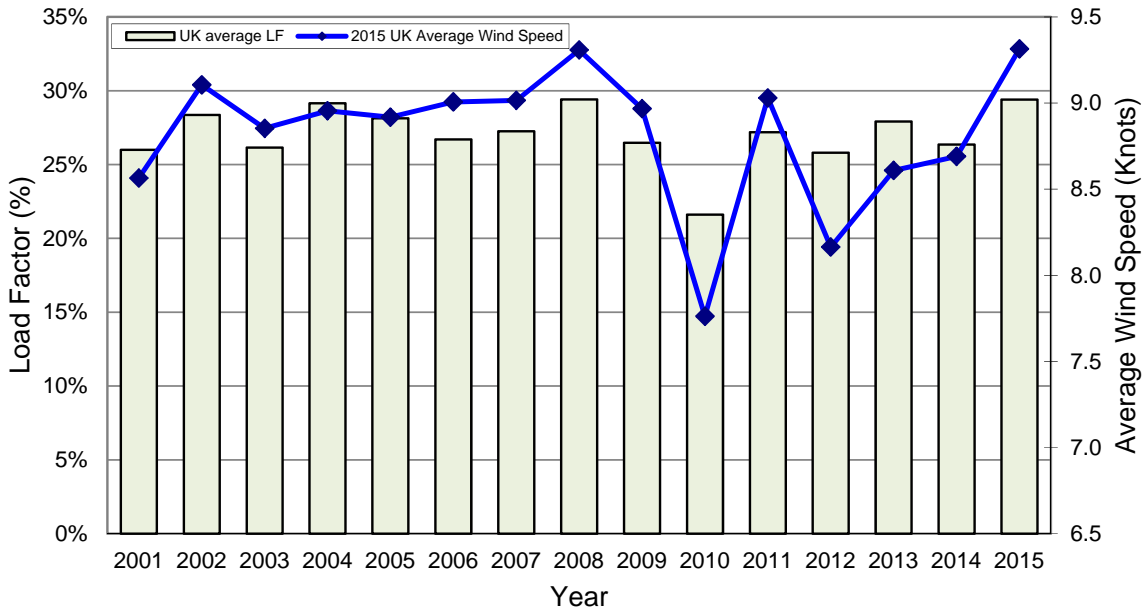
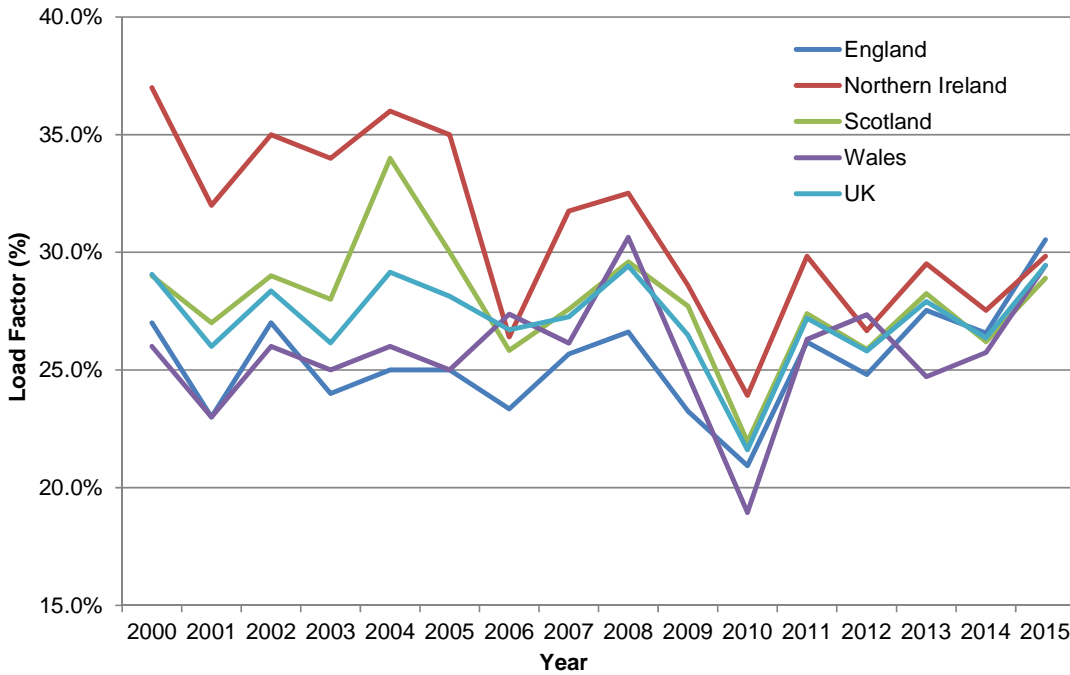


Chart 14: Onshore wind load factor on an unchanged configuration basis, by UK country



Special feature – Sub-national renewable electricity

Local authority analysis

Tables 7 to 9 rank the top five Local Authorities (LA), according to: number of installations, installed capacity, and generation for key technologies. In terms of the number of installations, the top ranking LAs for onshore wind, PV, hydro, landfill gas, anaerobic digestion and plant biomass are, respectively: The Orkney Islands, Cornwall, Highland, Thurrock, Shropshire and Dumfries and Galloway. For overall number of sites, Cornwall is the top ranked, reflecting the large number of solar PV schemes installed in the South West.

In terms of installed capacity, the top ranking LAs for onshore wind, PV, hydro, landfill gas, anaerobic digestion and plant biomass are, respectively: Highland, Cornwall, Highland, Thurrock, Shropshire and Selby. Selby is the top ranked for overall capacity, since this LA contains the Drax power station (including three 645 MW biomass units). Highland's overall capacity is driven by the construction of large-scale wind farms. The order of top ranked LAs is also reflected in the generation figures.

Table 7: Local Authority: Number of sites generating electricity from renewable sources, 2015¹

Onshore Wind	Solar PV		Hydro		Landfill gas		Anaerobic Digestion		Plant Biomass		Total ²		
Orkney Islands	731	Cornwall	15,490	Highland	158	Thurrock	10	Shropshire	22	Dumfries & Galloway	9	Cornwall	15,899
Aberdeenshire	485	Wiltshire	8,454	Argyll & Bute	75	North Lanarkshire	9	Herefordshire County of	14	Tameside	7	Wiltshire	8,475
Cornwall	383	Peterborough	8,355	Dumfries & Galloway	67	Doncaster	8	Dumfries & Galloway	6	Oldham	6	Peterborough	8,359
Dumfries & Galloway	267	Sunderland	7,979	Perth & Kinross	61	Warrington	8	East Lindsey	6	Highland	4	Sunderland	7,988
Highland	232	County Durham	7,485	Gwynedd	55	Wiltshire	8	Selby	6	Manchester	4	County Durham	7,593
								West Dorset	6	Derry	4		
								West Lindsey	6				
UK Total	8,568		842,830		1,065		446		351		160		853,712

Table 8: Local Authority: Installed capacity of sites generating electricity from renewable sources, 2015¹

Onshore Wind	Solar PV		Hydro		Landfill gas		Anaerobic Digestion		Plant Biomass		Total ²	MW	
Highland	962	Cornwall	486	Highland	732	Thurrock	44	Shropshire	11	Selby	1,957	Selby	2,014
South Lanarkshire	689	Wiltshire	387	Argyll & Bute	282	Central Bedfordshire	33	Herefordshire County of	8	Fife	71	Highland	1,727
Scottish Borders	562	South Cambridgeshire	217	Perth & Kinross	267	Warrington	32	South Ayrshire	7	Allerdale	49	Lancaster	848
Aberdeenshire	510	Pembrokeshire	174	Dumfries & Galloway	151	North Lanarkshire	27	East Lindsey	7	Dumfries & Galloway	48	Dumfries & Galloway	737
East Renfrewshire	371	North Norfolk	149	Stirling	69	Aylesbury Vale	21	Fife	7	Slough	47	South Lanarkshire	730
UK Total	9,188		9,202		1,760		1,061		286		2,619		30,501

Table 9: Local Authority: Generation of electricity from renewable sources, 2015¹

Onshore Wind	Solar PV		Hydro		Landfill gas		Anaerobic Digestion		Plant Biomass		Total ²	GWh	
Highland	2,383	Cornwall	446	Highland	3,244	Thurrock	210	Shropshire	58	Selby	11,479	Selby	11,639
South Lanarkshire	1,753	Wiltshire	278	Perth & Kinross	996	Warrington	155	Cannock Chase	45	Shropshire	1,728	Highland	5,751
Scottish Borders	1,492	South Cambridgeshire	196	Argyll & Bute	560	Aylesbury Vale	149	Herefordshire County of	42	Allerdale	350	Lancaster	3,180
Aberdeenshire	1,333	Pembrokeshire	151	Dumfries & Galloway	492	Central Bedfordshire	128	Fife	35	Dumfries & Galloway	333	Swale	2,548
Dumfries & Galloway	803	Vale of White Horse	139	Stirling	332	Havering	126	Doncaster	30	Fife	321	Dumfries & Galloway	2,170
UK Total	228,897		7,561		6,284		4,872		1,429		18,587		83,545

1 Top five ranked Local Authorities (LAs). Where more than five schemes are listed, this indicates that more than one LA has the same ranking.

2 Totals include offshore wind sites allocated to nearest Local Authority.

Special feature – Sub-national renewable electricity

Revisions

The use of improved georeferenced data has resulted in reallocation of some historic capacity and generation records for landfill gas and sewage gas projects bordering London, the South East, East of England and the East Midlands. This has primarily affected data for London, which shows capacity revisions (increases) for landfill gas and sewage gas of around 25 and 15 MW, respectively. For each of these regions, the time series has been revised back to 2008.

Further information

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