Feed-in Tariff load factor analysis

Introduction

This article updates the FIT load factor analysis presented in the September 2014 edition of Energy Trends[1] with data for FIT year 4 (financial year 2013/14) and also presents regional analysis of solar PV for the 3 years that data has been published (FIT years 2-4). All the data in this article is also available in excel format at the following link:
www.gov.uk/government/statistics/quarterly-and-annual-load-factors

The data should be treated as provisional, although basic QA has been carried out, a more detailed look at the data needs to carried out, especially on the larger schemes as their data has a bigger impact on the weighted mean load factor. The methodology used was described in detail in the September 2014 article.

Main Findings – FIT year 4 (FY 2013/14)

Table 1 gives the median load factors and the associated percentiles for each technology. Anaerobic digestion is not shown given the small number of installations but had a median load factor of 66.8 in 2013/14.

Table 1: FIT Year 4 (2013/14) load factors by technology, Great Britain

			Percentile				
Technology	Count	Weighted Mean	5th	25th	50th (median)	75th	95th
Hydro	151	42.8	12.0	30.5	41.9	52.1	75.2
MicroCHP	62	15.8	5.9	9.4	14.5	18.0	30.9
Solar PV	155,003	10.2	7.1	9.3	10.4	11.4	12.9
Wind	2,585	27.2	5.7	12.8	20.5	29.8	43.4

Solar PV load factors

The solar PV load factors are linked to the number of sun hours recorded (see Table 2 below).

Table 2: Solar PV load factors and average sun index

Year	Median load factor	Average daily sun hours
2011/12	10.5	4.5
2012/13	9.6	3.7
2013/14	10.4	4.5

Regional load factors

Solar PV load factors for each Government Office Region have also been published for FIT years 2-4.

Solar PV installations in Scotland have lower average load factors compared to England and Wales. The load factors seen in Wales are in line with those seen in England. The average scheme in Scotland would generate enough electricity to receive £348 a year in generation payments compared to £401 a year for the average scheme in England[2].

[1] The article published in September 2014 can be found at the following link: www.gov.uk/government/statistics/energy-trends-september-2014-special-feature-article-analysis-of-feed-in-tariff-generation-data

[2] This is based on a 3Kw scheme, paid at 14.38p/kWh (the tariff from 1st Oct -31st Dec 2014).

Of the English regions London and the North West have the lowest load factors in all three years. The South West, South East and East of England had the highest median load factor in all 3 years. The low load factors seen in London are surprising given that solar radiation in this region is in line with that seen in the South East. Possible reasons for the low load factor include pollution/particles settling on the solar panels or shading from tall buildings nearby.

Table 3: Regional Solar PV load factors for FITs years 2-4

	2011/12		2012/13		2013/14	
Region	Count	Median	Count	Median	Count	Median
East Midlands	855	10.7	7,520	9.6	12,936	10.6
East of England	1,465	11.0	10,521	10.0	16,306	10.9
London	523	9.9	3,283	9.0	4,117	9.7
North East	224	10.5	3,460	9.5	5,805	10.3
North West	718	9.6	8,867	9.1	13,024	9.8
South East	2,764	10.9	17,378	9.9	23,235	10.7
South West	2,649	10.8	24,445	10.2	31,965	11.2
West Midlands	974	10.4	7,139	9.3	11,118	10.2
Yorkshire and The Humber	798	10.3	7,292	9.3	11,299	10.2
Total England	**10,970**	**10.6**	**89,905**	**9.7**	**129,805**	**10.6**
Scotland	**508**	**9.3**	**7,722**	**9.0**	**11,531**	**9.2**
Wales	**645**	**10.2**	**9,882**	**9.6**	**13,643**	**10.4**

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