

SAP 2009 / FIT November 1st 2012

Payback Calculations for Solar PV Systems

Energy Rating Data

Assumed annual rate of inflation	4.60%
Annual increase in energy cost	9.0%
Percentage of export	50%
Percentage of self consumption	70%
Annual Drop in system efficiency	0.5%
Imported electricity cost p/kwh	14

SAP Details

Roof Orientation	South
Roof Pitch	30°
Overshadowing	0 or very little <20%
EPC efficiency rating	EPC Cert =>D
Number of Panels	16
Size of Panels (Watt)	250

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% Return on investment APR over 20 years (on FIT income)

8.79%

SOLAR PV SYSTEM PRICE

£8,300.00

inc VAT

FIT rate p/kWh

15.44

IT export rate p/kwh

4.5

System Size kWp

4

kWh / Year

3,434

CO ₂ Emission Savings kgCO ₂	Benefit over 20 years	kWh/annum	FIT Rate (Inc Inflation)	FIT Annual income	Cost of Electricity	Saving on Electricity Used	Export FIT Rate (Inc Inflation)	Export FIT revenue	Savings and Income per	Cumulative Benefit
1,801.27	Year 1	3434 kWh	15.44 p/kWh	£530.15	14.00 p/kWh	£336.49	4.5 p/kWh	£77.26	£943.90	£943.90
1,792.26	Year 2	3416 kWh	16.15 p/kWh	£551.76	15.26 p/kWh	£364.94	4.7 p/kWh	£80.41	£997.11	£1,941.01
1,783.30	Year 3	3399 kWh	16.89 p/kWh	£574.26	16.63 p/kWh	£395.80	4.9 p/kWh	£83.68	£1,053.74	£2,994.75
1,774.38	Year 4	3382 kWh	17.67 p/kWh	£597.67	18.13 p/kWh	£429.26	5.2 p/kWh	£87.10	£1,114.03	£4,108.78
1,765.51	Year 5	3365 kWh	18.48 p/kWh	£622.04	19.76 p/kWh	£465.56	5.4 p/kWh	£90.65	£1,178.24	£5,287.02
1,756.68	Year 6	3349 kWh	19.33 p/kWh	£647.40	21.54 p/kWh	£504.92	5.6 p/kWh	£94.34	£1,246.66	£6,533.68
1,747.90	Year 7	3332 kWh	20.22 p/kWh	£673.79	23.48 p/kWh	£547.61	5.9 p/kWh	£98.19	£1,319.59	£7,853.27
1,739.16	Year 8	3315 kWh	21.15 p/kWh	£701.26	25.59 p/kWh	£593.91	6.2 p/kWh	£102.19	£1,397.37	£9,250.64
1,730.46	Year 9	3299 kWh	22.13 p/kWh	£729.85	27.90 p/kWh	£644.13	6.4 p/kWh	£106.36	£1,480.34	£10,730.98
1,721.81	Year 10	3282 kWh	23.14 p/kWh	£759.61	30.41 p/kWh	£698.59	6.7 p/kWh	£110.69	£1,568.89	£12,299.87
1,713.20	Year 11	3266 kWh	24.21 p/kWh	£790.58	33.14 p/kWh	£757.66	7.1 p/kWh	£115.21	£1,663.44	£13,963.31
1,704.64	Year 12	3249 kWh	25.32 p/kWh	£822.81	36.13 p/kWh	£821.71	7.4 p/kWh	£119.90	£1,764.43	£15,727.74
1,696.11	Year 13	3233 kWh	26.49 p/kWh	£856.36	39.38 p/kWh	£891.19	7.7 p/kWh	£124.79	£1,872.34	£17,600.08
1,687.63	Year 14	3217 kWh	27.71 p/kWh	£891.27	42.92 p/kWh	£966.54	8.1 p/kWh	£129.88	£1,987.69	£19,587.77
1,679.19	Year 15	3201 kWh	28.98 p/kWh	£927.61	46.78 p/kWh	£1,048.26	8.4 p/kWh	£135.18	£2,111.04	£21,698.81
1,670.80	Year 16	3185 kWh	30.31 p/kWh	£965.42	50.99 p/kWh	£1,136.89	8.8 p/kWh	£140.69	£2,243.00	£23,941.82
1,662.44	Year 17	3169 kWh	31.71 p/kWh	£1,004.79	55.58 p/kWh	£1,233.02	9.2 p/kWh	£146.42	£2,384.22	£26,326.04
1,654.13	Year 18	3153 kWh	33.17 p/kWh	£1,045.75	60.59 p/kWh	£1,337.27	9.7 p/kWh	£152.39	£2,535.41	£28,861.45
1,645.86	Year 19	3137 kWh	34.69 p/kWh	£1,088.39	66.04 p/kWh	£1,450.33	10.1 p/kWh	£158.61	£2,697.33	£31,558.78
1,637.63	Year 20	3122 kWh	36.29 p/kWh	£1,132.76	71.98 p/kWh	£1,572.96	10.6 p/kWh	£165.07	£2,870.79	£34,429.57
34,364.39		65506 kWh		£15,913.51		£16,197.06		£2,319.00	£34,429.57	
TOTAL Benefit over 20 years										£34,429.57

* The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. This estimate is based upon the Government's standard assessment procedure for energy rating of buildings (SAP) and is given as guidance only. It should not be considered as a guarantee of performance.