

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	15
Size of Panels (Watt)	240

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

9.35%

SOLAR PV SYSTEM PRICE

£7,019.88

inc VAT

FIT rate p/kWh

15.44

FIT export rate p/kwh

4.5

System Size kWp

3.6

kWh / Year

3,090

CO <sub>2</sub> Emission Savings kgCO <sub>2</sub>	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
1,621.14	<b>Year 1</b>	3090 kWh	15.44 p/kWh	£477.13	14.00 p/kWh	£302.84	4.5 p/kWh	£69.53	<b>£849.51</b>	<b>£849.51</b>
1,613.03	<b>Year 2</b>	3075 kWh	16.15 p/kWh	£496.59	15.26 p/kWh	£328.45	4.7 p/kWh	£72.37	<b>£897.40</b>	<b>£1,746.91</b>
1,604.97	<b>Year 3</b>	3059 kWh	16.89 p/kWh	£516.83	16.63 p/kWh	£356.22	4.9 p/kWh	£75.32	<b>£948.37</b>	<b>£2,695.27</b>
1,596.94	<b>Year 4</b>	3044 kWh	17.67 p/kWh	£537.90	18.13 p/kWh	£386.34	5.2 p/kWh	£78.39	<b>£1,002.63</b>	<b>£3,697.90</b>
1,588.96	<b>Year 5</b>	3029 kWh	18.48 p/kWh	£559.83	19.76 p/kWh	£419.00	5.4 p/kWh	£81.58	<b>£1,060.42</b>	<b>£4,758.32</b>
1,581.01	<b>Year 6</b>	3014 kWh	19.33 p/kWh	£582.66	21.54 p/kWh	£454.43	5.6 p/kWh	£84.91	<b>£1,121.99</b>	<b>£5,880.31</b>
1,573.11	<b>Year 7</b>	2999 kWh	20.22 p/kWh	£606.41	23.48 p/kWh	£492.85	5.9 p/kWh	£88.37	<b>£1,187.63</b>	<b>£7,067.95</b>
1,565.24	<b>Year 8</b>	2984 kWh	21.15 p/kWh	£631.14	25.59 p/kWh	£534.52	6.2 p/kWh	£91.97	<b>£1,257.63</b>	<b>£8,325.58</b>
1,557.42	<b>Year 9</b>	2969 kWh	22.13 p/kWh	£656.87	27.90 p/kWh	£579.72	6.4 p/kWh	£95.72	<b>£1,332.31</b>	<b>£9,657.88</b>
1,549.63	<b>Year 10</b>	2954 kWh	23.14 p/kWh	£683.65	30.41 p/kWh	£628.73	6.7 p/kWh	£99.62	<b>£1,412.00</b>	<b>£11,069.88</b>
1,541.88	<b>Year 11</b>	2939 kWh	24.21 p/kWh	£711.52	33.14 p/kWh	£681.89	7.1 p/kWh	£103.69	<b>£1,497.10</b>	<b>£12,566.98</b>
1,534.17	<b>Year 12</b>	2924 kWh	25.32 p/kWh	£740.53	36.13 p/kWh	£739.54	7.4 p/kWh	£107.91	<b>£1,587.99</b>	<b>£14,154.97</b>
1,526.50	<b>Year 13</b>	2910 kWh	26.49 p/kWh	£770.72	39.38 p/kWh	£802.07	7.7 p/kWh	£112.31	<b>£1,685.11</b>	<b>£15,840.07</b>
1,518.87	<b>Year 14</b>	2895 kWh	27.71 p/kWh	£802.14	42.92 p/kWh	£869.89	8.1 p/kWh	£116.89	<b>£1,788.92</b>	<b>£17,628.99</b>
1,511.28	<b>Year 15</b>	2881 kWh	28.98 p/kWh	£834.85	46.78 p/kWh	£943.44	8.4 p/kWh	£121.66	<b>£1,899.94</b>	<b>£19,528.93</b>
1,503.72	<b>Year 16</b>	2866 kWh	30.31 p/kWh	£868.88	50.99 p/kWh	£1,023.20	8.8 p/kWh	£126.62	<b>£2,018.70</b>	<b>£21,547.64</b>
1,496.20	<b>Year 17</b>	2852 kWh	31.71 p/kWh	£904.31	55.58 p/kWh	£1,109.72	9.2 p/kWh	£131.78	<b>£2,145.80</b>	<b>£23,693.44</b>
1,488.72	<b>Year 18</b>	2838 kWh	33.17 p/kWh	£941.18	60.59 p/kWh	£1,203.54	9.7 p/kWh	£137.15	<b>£2,281.87</b>	<b>£25,975.31</b>
1,481.28	<b>Year 19</b>	2824 kWh	34.69 p/kWh	£979.55	66.04 p/kWh	£1,305.30	10.1 p/kWh	£142.74	<b>£2,427.59</b>	<b>£28,402.90</b>
1,473.87	<b>Year 20</b>	2810 kWh	36.29 p/kWh	£1,019.48	71.98 p/kWh	£1,415.66	10.6 p/kWh	£148.56	<b>£2,583.71</b>	<b>£30,986.61</b>
<b>30,927.95</b>		<b>58955 kWh</b>		<b>£14,322.16</b>		<b>£14,577.35</b>		<b>£2,087.10</b>	<b>£30,986.61</b>	
<b>TOTAL Benefit over 20 years</b>										<b>£30,986.61</b>

\* 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.