

## SOLAR PV PROPOSAL

<b><u>Client</u></b>	Fenland District Council
<b><u>Contact</u></b>	Mark Wedge
<b><u>Site</u></b>	Fenland Hall
<b><u>Quote Ref</u></b>	Q2557 - Lower Rate FIT (6.38p/kWh)
<b><u>Date</u></b>	28/11/2014
<b><u>Annual Electricity Consumption</u></b>	10000 kWh
<b><u>Electricity Supply Price</u></b>	12 p/kWh

System Specification			
<b>ECO Futures</b>			
System Size	36	kWp	
Number of panels required	144		
Approximate Total Area	234.72	m <sup>2</sup>	
Approximate Total Weight	2592	kg	
<b>Generation</b>			
Annual Power Production	31039.2	kWh	
Usage Percentage	80%	24831	kWh
Export Percentage	20% <small>less than 30kW deemed 50%</small>	6207.84	kWh
<b>Year One Savings Forecast</b>			
FIT Revenue	£ 1,980.30		
Sale Back Grid Revenue	£ 296.11		
Self Generation Saving	£ 2,979.76		
<b>Total Savings</b>	<b>£ 5,256.18</b>		
<b>Costings</b>			
Projected Year One savings	£ 5,256.18		
Projected Twenty Year savings	£ 96,602.81		
Total Cost of works exc VAT	£ 61,677.14		
Nett Financial position after Twenty Years <small>(No inflation or interest)</small>	£ 34,925.67		
Payback period	<b>11.73</b>	Years	

### MCS Disclaimers

***For all quotations and / or estimates:***

*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 standard MCS procedure and is given as guidance only. It should not be considered as a guarantee of performance.*

***Additionally where data has been estimated or taken remotely (clause 3.7.1):***

*This system performance calculation has been undertaken using estimated values for array orientation, inclination or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.*

## SYSTEM FIGURES and FINANCIALS

### Solar PV System - SAP - PVGIS (2013) Calculator

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<b>Panel Specified:</b>	ECO Futures

**CALCULATION kWh = kWp x Kk x SF**

where:

kW<sub>p</sub> Total sum of data plate value (Wp@STC)  
 Kk Radiation value incorporating Orientation&Inclination  
 SF Shading Factor, see procedure 3.7.7

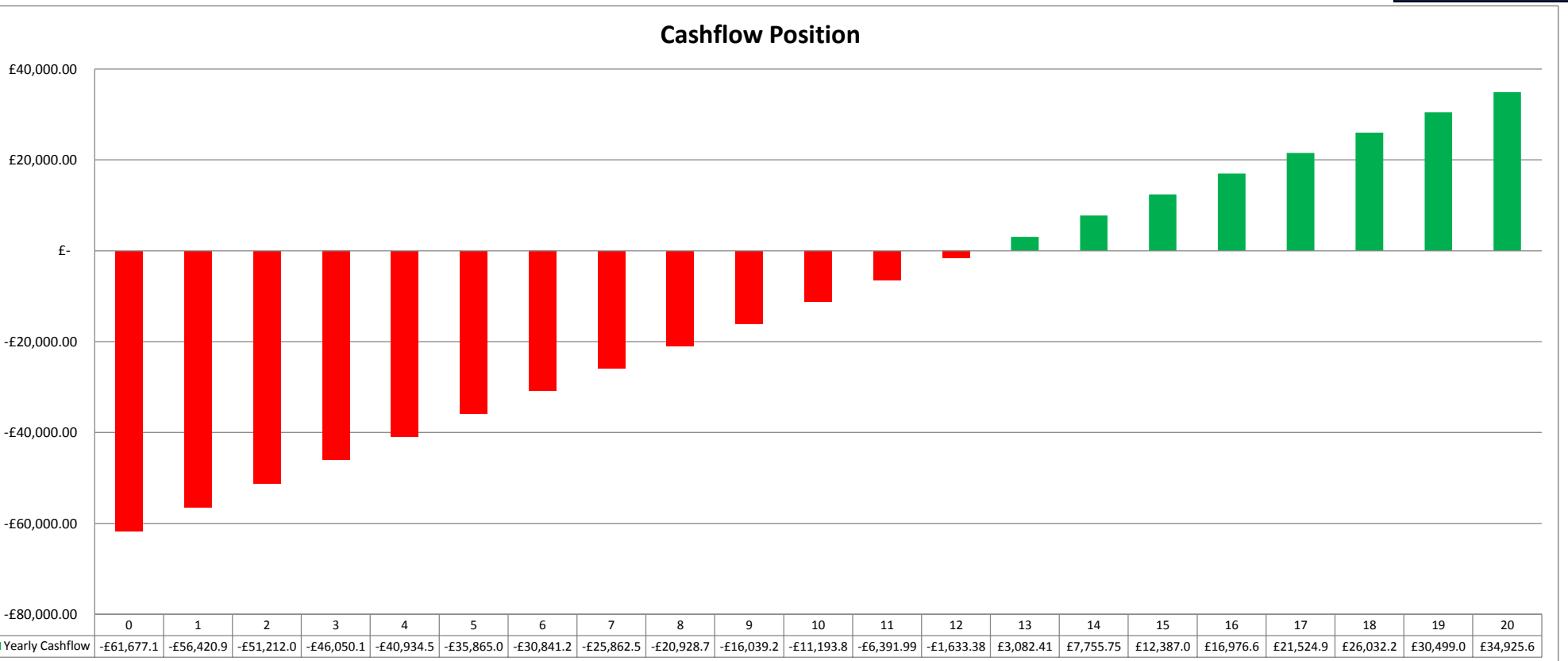
<b>Wp per panel</b>	<b>250</b>
<b>Number of panels</b>	<b>144</b>
<b>kW<sub>p</sub></b>	<b>36</b>
<b>Kk</b>	<b>958</b> <small>Radiation value from appropriate specific table. See Link below</small>
<b>SF</b>	<b>0.9</b> <small>Shading Factor. Produced from Shading analysis (procedure 1 or 2)</small>
<b>Power of system</b>	<b>31039.2</b> kWh

A. Installation data	
Installed capacity of PV system - kWp (stc)	36 kWp
Orientation of the PV system - degrees from South	5 °
Inclination of system - degrees from horizontal	45 °
Postcode	PE15 8NQ
B. Calculations	
kWh/kWp (Kk) from table	958 kWh/kWp
Shade factor	0.9
Estimated annual output (kWp x Kk x SF)	31039.2 kWh

*Based on a cell degradation to 80% after 25 years*

*For Solar PV systems less than 30kW it is deemed to export 50%.  
 For Solar PV systems greater than 30kW export will be metered, and therefore paid for what has not been used.*

Years	FITS RETURN		EXPORT TARIFF RETURN		SAVINGS FROM ENERGY USE		Annual Savings		
	FITs Rate	6.38 p/kWh	Export Percentage	20%	Customer Use	80%			
	Average RPI increase 20 year?	No	0.0%	Export Tariff	4.77 p/kWh	Assumed rate increase?	No	0.0%	
	Power Generated	FITs Rate	FITs payment	Power Exported	Export Tariff	Export Payment	Power used	Fuel Price	Saving
Year 1	31039.20	6.3800	£ 1,980.30	6207.84	£ 0.0477	£ 296.11	24831.36	£ 0.1200	£ 2,979.76
Year 2	30759.85	6.3800	£ 1,962.48	6151.97	£ 0.0477	£ 293.45	24607.88	£ 0.1200	£ 2,952.95
Year 3	30483.01	6.3800	£ 1,944.82	6096.60	£ 0.0477	£ 290.81	24386.41	£ 0.1200	£ 2,926.37
Year 4	30208.66	6.3800	£ 1,927.31	6041.73	£ 0.0477	£ 288.19	24166.93	£ 0.1200	£ 2,900.03
Year 5	29936.78	6.3800	£ 1,909.97	5987.36	£ 0.0477	£ 285.60	23949.43	£ 0.1200	£ 2,873.93
Year 6	29667.35	6.3800	£ 1,892.78	5933.47	£ 0.0477	£ 283.03	23733.88	£ 0.1200	£ 2,848.07
Year 7	29400.35	6.3800	£ 1,875.74	5880.07	£ 0.0477	£ 280.48	23520.28	£ 0.1200	£ 2,822.43
Year 8	29135.74	6.3800	£ 1,858.86	5827.15	£ 0.0477	£ 277.95	23308.59	£ 0.1200	£ 2,797.03
Year 9	28873.52	6.3800	£ 1,842.13	5774.70	£ 0.0477	£ 275.45	23098.82	£ 0.1200	£ 2,771.86
Year 10	28613.66	6.3800	£ 1,825.55	5722.73	£ 0.0477	£ 272.97	22890.93	£ 0.1200	£ 2,746.91
Year 11	28356.14	6.3800	£ 1,809.12	5671.23	£ 0.0477	£ 270.52	22684.91	£ 0.1200	£ 2,722.19
Year 12	28100.93	6.3800	£ 1,792.84	5620.19	£ 0.0477	£ 268.08	22480.75	£ 0.1200	£ 2,697.69
Year 13	27848.02	6.3800	£ 1,776.70	5569.60	£ 0.0477	£ 265.67	22278.42	£ 0.1200	£ 2,673.41
Year 14	27597.39	6.3800	£ 1,760.71	5519.48	£ 0.0477	£ 263.28	22077.91	£ 0.1200	£ 2,649.35
Year 15	27349.01	6.3800	£ 1,744.87	5469.80	£ 0.0477	£ 260.91	21879.21	£ 0.1200	£ 2,625.51
Year 16	27102.87	6.3800	£ 1,729.16	5420.57	£ 0.0477	£ 258.56	21682.30	£ 0.1200	£ 2,601.88
Year 17	26858.95	6.3800	£ 1,713.60	5371.79	£ 0.0477	£ 256.23	21487.16	£ 0.1200	£ 2,578.46
Year 18	26617.22	6.3800	£ 1,698.18	5323.44	£ 0.0477	£ 253.93	21293.77	£ 0.1200	£ 2,555.25
Year 19	26377.66	6.3800	£ 1,682.89	5275.53	£ 0.0477	£ 251.64	21102.13	£ 0.1200	£ 2,532.26
Year 20	26140.26	6.3800	£ 1,667.75	5228.05	£ 0.0477	£ 249.38	20912.21	£ 0.1200	£ 2,509.47
	<b>570466.58</b>		<b>£ 36,395.77</b>	<b>285233.29</b>		<b>£ 5,442.25</b>	<b>570466.58</b>		<b>£ 54,764.79</b>



**Cumulative**