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NG9 6DZ

Mr Simon Astle
Apollo Fire Detectors Ltd
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Date: 02/09/2013
Ref: 77-00064

Dear Simon

Re: Solar Photovoltaic (PV) system at Havant, PO9 1JR

Thank you for your enquiry into solar PV with EvoEnergy.

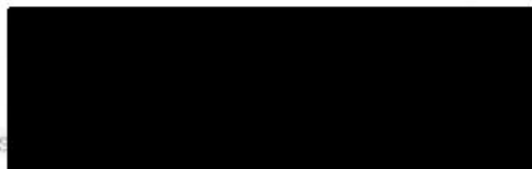
This proposal is based on the installation of high quality modules and a balance of system with a long design life and excellent warranties.

Our price is based on information provided at time of quoting. A breakdown of what is included can be found within this proposal.

As an MCS installer the solar PV system shown in this proposal are eligible for the governments Feed-in-Tariff scheme. The rate of FiT you will receive will depend on the system size and date of final commissioning. This proposal talks you through the expected FiT rates and financial benefits.



If you have any questions or require additional information regarding this quotation please do not hesitate to contact me.



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 sue.sharp@evoenergy.co.uk

Site

Havant, PO9 1JR

Fixing Method



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System Performance

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.

The MCS standard assessment method is based on the size of the system in kWp and how much light is predicted to hit your roof (otherwise known as irradiance) in W/m^2 . If your roof happens to be slightly shaded we take this into account too.

The MCS standard assessment method is required for all systems up to 50kWp. But it is still used as a guideline for systems above this.

The proposed PV array has near shading objects which may significantly affect annual performance of the PV system. The standard performance estimation procedure does not fully address the impact of near shading and as a consequence actual performance may be worse than the figure quoted.

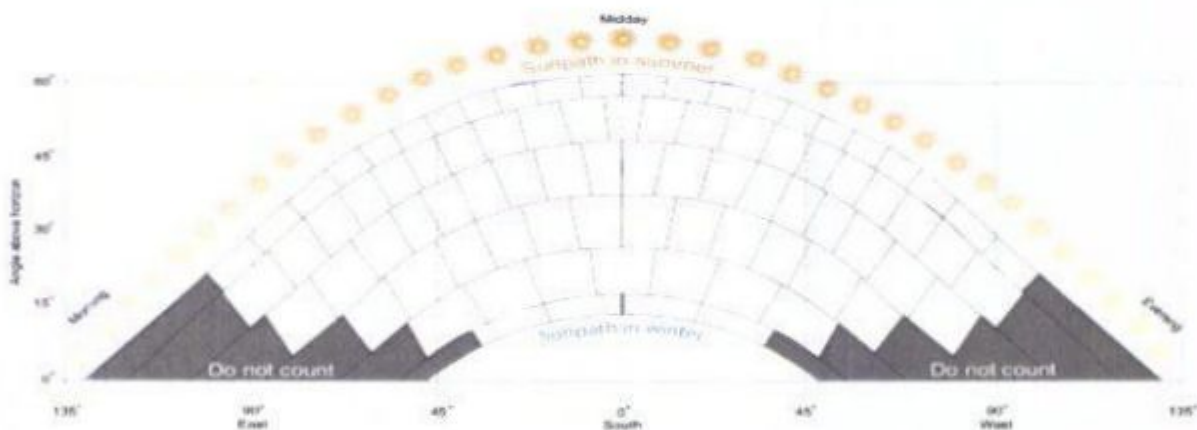
Option	kWp	kWh/kWp (Kk)	Shade factor (SF)	Estimated annual output (kWp x Kk x SF)
1	249.0	980	0.95	237209

Shading

Where there is potential for shading, it shall always be analysed and the reading shall be taken from a location that represents the section of the potential array that is most affected by any shade. This will be done from the safest closest point to the array.

It is intended that this assessment provides an indicative estimate of the potential shading on the solar array. This is done by indicating how much of the potential irradiance could be blocked by objects on the horizon at differing times of the day and of the year (as indicated by the different arcs – horizontal bars indicate months, vertical bars indicate time of day).

Where there is an obvious clear horizon and no near or far shading, the assessment of SF can be omitted and an SF value of 1 used in all related calculations.



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Financial Savings & the Feed-in Tariff

1. Electricity generation

In 2009, the UK government introduced the Feed-in Tariff to incentivise the installation of solar PV. Your FIT supplier is obliged to pay you the following rates for every unit of electricity you generate from your solar PV system, regardless of whether you use this or not. These rates are linked to RPI and are guaranteed for 20 years. We will submit your application for you to ensure you receive your FIT payments.

Size of PV System	FIT (p/kWh)*
<4kW	14.90
>4-10kW	13.50
>10-50kW	12.57
>50-150kW	11.10
>150-250kW	10.62
>250kW - 5MW	6.85
Off Grid System	6.85

* assumed 3.5% depression on previous FIT rates.

2. Exporting to the grid

For systems over 30kWp an import/export meter is required to claim any export tariff. An import/export meter must be fitted by your grid provider. This approximately costs £500 and has an annual MOP (meter operator) fee of approximately £20 per year per meter.

3. Saving on your electricity bill

While your panels are generating electricity, you will save around 10p for every unit you use. If you need more electricity, you will buy it from the grid at your normal rate.

PV Returns

PV Summary	System 1
Peak Output (kWp)	249.90
Estimated Energy Production (kWh/year)	237,209
Capital Cost excl VAT (£)	£249,965
FIT Generation Rate Applicable (p/kWh)	10.62p
Electricity Saving Rate (p/kWh)	10p
Percentage of Electricity Exported	0%
FIT Money Earned (£/year)	£25,192
Export Money Earned (£/year)	£0
Electricity Money Saved (£/year)	£23,721
Total (£/year)	£48,913
Year 1 Return	19.57%

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Design 1 **77-00064 Apollo Fire Detectors Ltd, Havant - 249.9kWp**

System Summary		Layout
PV Angle	10°/15°	
PV Orientation from South	45°/45°	
Annual energy Generation, kWh/year (MIS 3002)	237,209	
Carbon Savings (based on 0.529kgCO ₂ /kWh)	125,484	
PV Active Area (sqm)	1670	
Year 1 Return on investment	19.57%	

Project Breakdown			
Stage	Description	Details	Responsibility
Design	Planning permission submission	Drawing Only**	EvoEnergy
	Wind load calculations	Not included	N/A
	Structural calculations	Site visit and report	EvoEnergy
	Building EPC survey	Included	EvoEnergy
	Roof asbestos survey	Not included	N/A
	Health and safety information	Method and risk assessments	EvoEnergy
	Mechanical and electrical fixing design	Included	EvoEnergy
	DNO application for PV connection - G59	Application form and submission	EvoEnergy
	Subtotal of Design costs		£ 2,445
Equipment	Modules	1020 x Trina TSM-245 PC/PA05	EvoEnergy
	Mechanical install	Clenergy Trap Landscape Only mounting frame	EvoEnergy
	Inverter(s)	Kaco inverter selection	EvoEnergy
	Inverter(s) housing	Not applicable	EvoEnergy
	Electrical install	Tier 1 equipment and connection points	EvoEnergy
	AC G59 protection	G59 No Witness ¹	EvoEnergy
	Generation meter	Ofgem approved	EvoEnergy
Installation	Labour	Installation and commissioning	EvoEnergy
	Management	Engineering design & project management	EvoEnergy
	Access equipment	Scaffold	EvoEnergy
	Lifting equipment	Hoists	EvoEnergy
	PV system explanation	Included on day of commissioning	EvoEnergy
	Testing and commissioning	Included	EvoEnergy
Aftercare	Warranty*	Included	EvoEnergy
	MCS certificate		EvoEnergy
	Operation & Maintenance Manual		EvoEnergy
	FiT application and submission		Client

Subtotal of design costs (Client to be invoiced separately if project does not progress to install) £2,445

Total Cost (excluding VAT) £249,965

*see CS001.1 - EvoEnergy Commercial Terms and conditions

¹Additional fees may apply subject to DNO approval **upto 0.1ha in application scope. £385 for each additional 0.1ha or part thereof

Sign here to progress your Order and we can start the Design stage*

Name (please print)	Signed	Date signed	Install month requested
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20 Year Financial Projections

These calculations take into consideration the following: annual changes due to degrading system performance, RPI adjustments & energy cost rises.

- System performance drops by 0.50% per year
- Feed-in-Tariff rates increase with RPI of 3.0%/yr
- 'Real Term' electricity costs increase at 3.0%/yr

System 1

Year	FIT & Export (£/year)	Money Saved (£/year)	Cumulative Benefit (£)
1	£25,192	£23,721	£48,913
2	£25,818	£24,310	£99,040
3	£26,459	£24,914	£150,414
4	£27,117	£25,534	£203,064
5	£27,791	£26,168	£257,023
6	£28,481	£26,818	£312,323
7	£29,189	£27,485	£368,996
8	£29,914	£28,168	£427,078
9	£30,658	£28,868	£486,604
10	£31,419	£29,585	£547,608
11	£32,200	£30,320	£610,129
12	£33,000	£31,074	£674,203
13	£33,820	£31,846	£739,870
14	£34,661	£32,637	£807,168
15	£35,522	£33,448	£876,138
16	£36,405	£34,280	£946,823
17	£37,310	£35,131	£1,019,264
18	£38,237	£36,004	£1,093,505
19	£39,187	£36,899	£1,169,591
20	£40,161	£37,816	£1,247,568
Total	£642,540	£605,028	£1,247,568

Reasons to work with EvoEnergy

We pride ourselves on our ability to work alongside our clients to deliver projects on-time, within budget and to the highest quality whilst maintaining our 100% health and safety record. Here are a few reasons why you can have complete confidence in us.

Our reputation

We consistently receive good feedback from our clients; over 30% of our business comes through existing relationships or recommendations. We are specialists in every aspect of solar development from design and planning to our efficient procurement and installation capability. Work with us and you can expect a hassle-free project from start to finish. Our strong in-house design competence ensures every system we install is tailored to meet our clients' exact needs. At the same time, dedicated project management keeps projects moving smoothly and swiftly.

We've installed systems all over the UK and have a large network of commercial clients who are willing to act as references to tell you what it was like to work with us. If you require a reference please don't hesitate to ask.

Our people

EvoEnergy has been built around a team of highly skilled, like-minded technical professionals. We've continued to attract the brightest talent in the industry and invest heavily in training our teams. With so many factors affecting the performance of solar PV, no two projects are the same. Our technical and design expertise means we create bespoke solutions every time, selecting the components and panel layout that best suit the project and its energy requirements.

Our accreditations

We are Renewable Energy Assurance Listed and have a long list of nationally recognised accreditations. These include the Microgeneration Certification Scheme (MCS), the Construction Skills Certification Scheme (CSCS), the Contractors Health and Safety Assessment Scheme, NICEIC approved Contractor.



Our Awards

In the past year we've been named the Renewable Energy Association's Installer of the Year, Solar Installer of the Year at the Renewables Award, and the Solar Energy Provider of the Year at the Renewable Energy Infrastructure awards. We're also recommended by Which? magazine and the consumer website moneysavingexpert.com. Independent judges have been impressed by our combination of technical expertise and first-rate customer service - so you can be confident you're working with the best in the industry.



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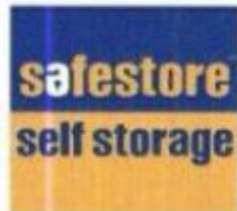
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EvoEnergy - Our clients



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LIVERPOOL



PERSIMMON
Together, we make a home



The University of
Nottingham



WILLMOTT DIXON



LAING O'ROURKE

Further Reading

Some extra information and handy resources. Just click to download each document as a pdf.

[Panel Comparison](#)

An at-a-glance look at the panels we stock

[Panel specifications](#)

Some more detailed information on the panels we've recommended for you

[Industry reviews](#)

Read more about our awards and recommendations

[Terms and conditions](#)

This quotation is valid for 30 days

Prices quoted assume no significant fluctuation in the Euro exchange rate and no changes to Government taxes, duties or levies.

CS001.1 - EvoEnergy Commercial Terms and Conditions

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