T4 Sustainability Ltd

Unit 1A Manners Court, Manners Avenue, Ilkeston, Derbyshire DE7 8EF.

Photovoltaic Installation Quotation
2.66 kW

Laura Brindley
114 Bridge Street
Belper
DE56 1AZ

24/10/2022

Dear Laura.
We are pleased to enclose our quotation for the design, supply and installation of a photovoltaic system and battery. The installation would consist of 7 panels, a 3.6kW hybrid inverter and a 2.4 kWh battery. The photovoltaic modules would be installed on the south facing roofs of the house, 4 on the high slate roof and 3 on the rosemary tile roof in the garden. The inverter and battery will be installed in the celler. The panels would be fixed within 200mm of the roof surface, and below the ridge of the roof to comply with permitted development rights.



Such an on-roof system would have an appearance similar to the photograph above which is one of our previous installations.

We have designed the system using good quality equipment from reputable manufacturers with long warranties (Canadian Solar, Solis, Pylon and Schletter).

The outline specifications and costs of the system are as follows:

Panels (7 Canadian Solar 380W)

Inverter (Solis 3.6kW hybrid)

Battery (Pylon 2.4kWh)
On-roof fixings
Electrical components
Installation
Commissioning
Scaffolding

£/kW (commonly used to compare systems): £4,056 /kW

Ignoring any applied discount rates or inverter replacement this equates to an energy cost of 20.6 p/kWh which can be compared to the current typical electricity price of 36p/kWh. This has been calculated by dividing the capital cost by twenty five years of predicted output.

The system is expected to produce:	2,099	kWh/year
This equates to a carbon dioxide reduction of:	594	kg/year
Income and energy bill reduction from this installation is estimated as:	£660	/year

This will increase if energy prices continue to rise as expected, so that the return on your capital is likely to improve over time. Also we have over estimated for the potential shading so the system will likely have higher energy output and greater savings that stated above.

Size of system (kW peak)	2,660
Cost of system (inc VAT)	
Annual energy (kWh per year)	2,099
Bill reduction (£ per year)	£642
Estimated annual income (£ per year)	£17
Carbon dioxide reduction (kgCO2)	594

Client responsibility
It is your responsibility to ensure that any relevant planning permissions have been obtained prior to placing an order. Placing of an order will be seen as confirmation that planning permission has been granted. For the majority of domestic installations a photovoltaic system will fall under permitted development, however it is the client's responsibility to contact the local authority and get them to confirm this is the case in writing. It is understood that the system will be eligible for the Smart Export Tariff.

This price includes for improvement to the existing earthing at the property.

It is understood that the installation would be eligible for the Smart Export Tariff as T4 are MCS approved contractors and only use MCS approved equipment. The installation would comply with Building Regulations and T4 are Part P approved contractors. We have assumed that the installation does not require submission of a Building Control notice. If the Local Authority require submission of a Building Control Notice T4 would prepare the Building Control notice free of charge but would pass on the application fee (typically £220 inc VAT).

Programme
We hope to start the installation within one month of place of contract, assuming the parts are available, and all necessary work has been undertaken by the client. Installation should take around four days, and dependant on weather may require a return visit for commissioning. Whilst many companies may install systems faster we do not pressure our staff to rush work and take pride in paying attention to detail and doing the best job possible as the system should operate for over 25 years.

Maintenance and insurance
The system should not require maintenance other than occasional cleaning of the panels (optional but recommended) and replacement of the inverter if it fails. Inverters generally last at least ten years and their cost is expected to fall over time. We suggest that you add the PV system to your house/building insurance policy.

Inverter
Solis inverters are praised by clients and customs all over the world due to the high quality and reliability with the feature of ultra wide input voltage, precise MPPT algorithm, and Max. efficiency over 97%, which made the brand one of the best performance-cost inverters in the world.

Panels
CANADIAN SOLAR INC. is committed to providing high quality solar products, solar system solutions and services to customers around the world. Canadian Solar was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey, and is a leading PV project developer and manufacturer of solar modules, with over 46 GW deployed around the world since 2001.

Warranty
The panels are covered by a linear performance warranty to 84.25% of rated power after 25 years and a product workmanship warranty of 12 years. In addition, a 2 year guarantee is provided as on all labour supplied by T4. T4's warranty is insurance backed. We would remove tiles and install brackets (rather than drilling though tiles) to fix the rails. Any slates or tiles removed would be replaced and made good as required to ensure the integrity of the roof. The roof fixing equipment comes with a 10 years manufacturers warranty. The inverter and battery each carry a five year warranty.

T4 Sustainability Ltd
We are a local company based in Ilkeston meaning we can respond to your needs quickly and with minimal environmental impact. Our main company objective is to offer expert impartial advice and install appropriate technologies which have the best possible performance and longevity.

Our company have been installing photovoltaic systems for over ten years which has given us the expertise to design systems that provide the maximum yields and require the least maintenance. All of our systems are individually designed taking into account structural and shading issues and matching the inverter to the panels.

The company is owned by its directors and all of our installations are undertaken by our staff and supervised by a director to ensure the best possible quality and durability of workmanship. We are independent of any manufacturer which enables us to offer you the technology that best meets your needs in term of space, performance, environmental impact and cost. For more information and examples of our work, please see our website (www.T4SLtd.co.uk).

We are Microgeneration Certification Scheme approved installers, are members of the Renewable Energy Consumer Code scheme and have completed several hundred consultancy and installation projects .

Customer references

We pride ourselves on the quality of our customer service. If you would like contact details for previous customers, these are available on request. We were recently awarded a 100% customer satisfaction rating in a survey by our insurers QANW.

Terms and conditions

Invoices would only be raised for items once they have been supplied (i.e. for parts when they are supplied and installation once installed). This quotation is subject to our standard terms and conditions (enclosed). Any complaints about services should be made following the procedure set out in the Renewable Energy Consumer Code.

Please contact us if you have any questions or require further information.
Yours sincerely,



Ed Sears MSc, BSc
Operations Director

Enclosures: Panel specification, inverter specification, terms and conditions.
RECC consumer guide.

RECC
RENEWABLE ENERGY CONSUMER CODE

Recommended on YouGen

Investors in the Environment Green Award 2015

APPROVED CONTRACTOR
MCS CERTIFIED
NICEIC

APPENDIX 1 – ENERGY OUTPUT AND DISPLACED ENERGY

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.

Standard Estimation Method

Referring to the guide to the installation of PV systems:

1. Annex D is used to decide the kWh/kW figure using the azimuth (orientation of PV module), inclination and postcode region. This value is defined as “Kk”.

For a roof facing:	0	degrees from south
At an angle of:	34	degrees from horizontal
In postcode region:	DE	
This gives:	789	kWh/kW

2. Section 3.7.7. is used to decide which over-shading factor applies:
Shading segments estimated as:

Therefore shade factor (SF) is :

3. The peak output of the PV modules :	380	W
Multiplied by the number of modules:	7	
Gives peak power of the system:	2.66	kW

4. The annual energy yield of the system is calculated as:

kWp x Kk x SF	= 2,099	kWh/year
This can be compared to the estimated current electricity consumption of:	3,731	kWh/year

This system assesment has been undertaken using the standard MCS procedure - it is estimated that this method will yield results within 10% of the actual energy yield for most systems.

Expected bill reduction

The expected electricity bill reduction is calculated as:

Percentage of electricity used on-site:	85%	
Electricity used on-site:	1784	kWh/yr
Electricity rate:	36	p/kWh
Annual saving:	£642	per year

This amount would increase as a result of any electricity prices rises.

Predicted income

Assuming an income is available from the Smart Export Tariff:

Estimated export	315	kWh/year
Estimate for export rate	5.5	p/kWh
Gives annual income:	£17	per year

The Smart Export Tariff is only offered by a limited number of electricity suppliers and requires that there is a smart meter installed at the property.

Therefore total expected income is:

Bill reduction:	£642	
Smart Export Tariff	£17	
TOTAL	£660	per year

The return on capital and payback period are simple figures included for information only and not adjusted for any electricity price rises or net present value.

CO2 Displacement

This is calculated by multiplying the Government's conversion factor for electricity generation:

0.283 kg per kWh

with the annual generation:

2,099 kWh per year

Giving an estimated carbon dioxide equivalent saving:

594 kg per year

Savings:

You will also save on your electricity bill because you will be able to use less electricity from your electricity supplier.

To work out how much you might get, we have estimated how many kWh your system will produce, we have assumed that you will export 50% of this, and that you will use 50% at home. [As the system only generates in daylight hours, you can only use its output in daylight hours. If you are not at home much of the day and/or cannot put appliances on timers to run during the day, you may use a smaller proportion of its output, maybe only 25%].

APPENDIX 2 - CANCELLATION FORM

Under the terms of the RECC Assurance Scheme Consumer Code (The Code) you have fourteen days after you sign the contract during which you may cancel the contract without paying a penalty. This is known as the 'cooling off period'. If you would like to cancel the contract you should fill in this form and return it to the company at the address given below.

The laws that govern the length of the 'cooling off period' differ depending on how and where the agreement takes place. For example:

1. Consumer Protection (Distance Selling) 2000 Regulations (as amended) and E-Commerce Regulations 2002: for goods purchased by telephone, mail order, fax, digital TV, the Internet, you have the unconditional right to cancel an order fourteen days after you receive the goods.

2. Consumer Credit Act 1974: if you enter into a credit agreement you have a right to a five day cooling off period from the date of the agreement regardless of whether the visit was pre-arranged. If you don't receive a copy of the 'executed agreement', the cooling off period extends to the end of the fourteenth day following the day you signed the agreement.

3. Consumer Protection (Cancellation of Contracts Concluded Away From Business Premises) Regulations 1987: if you enter into a contract away from business premises you have a right to cancel the contract within fourteen days. In the case of doorstep selling, companies must give you written notice that you can cancel the contract. If they do not, they may be committing a criminal offence.

If the relevant law requires a longer cooling-off period, then this should take precedence over the requirements of the Code.

It is not advisable for the company to start to install the system during the cooling-off period. If they do you should be aware that there may be some problems if you later decide to cancel the contract. For example, it is possible that you may incur some costs in making good the property.

The company must set out clearly in the contract the conditions and costs that will apply should you want to cancel after the cooling off period. These must comply with the Unfair Terms in Consumer Contracts Regulations.

Complete, detach and return this form to your provider ONLY if you wish to cancel the contract you have signed within the 'cooling off period'.

To Managing Director,

I/We (delete as appropriate) hereby give notice that I/we (delete as appropriate) wish to cancel my/our (delete as appropriate)

Order date: ……..…….....……....

Name(s): ……..…….....……....

Address: ……..…….....……....

Signed:* ……..…….....……....

Date: ……..…….....……....

<u>*YOU SHOULD NOT SIGN THIS FORM UNLESS YOU WISH TO CANCEL THE CONTRACT WITHIN FOURTEEN DAYS OF SIGNING IT</u>